INVESTIGATING EOCENE TO ACTIVE TECTONICS OF THE ALASKAN CONVERGENT MARGIN THROUGH GEOLOGIC STUDIES AND 3-D NUMERICAL MODELING

by

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To my parents, for their guidance, unconditional love, and unwavering support of my dreams.

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ABSTRACT

The combination of field-based studies and numerical modeling provides a robust tool for evaluating geologic and geodynamic processes along a convergent margin. Complex and persistent tectonic activity and a novel suite of geophysical observations make the southern Alaskan convergent margin a key region to evaluate these processes through both basin analysis studies and geodynamic modeling. This conceptual approach is utilized to explore the active driving forces of surface deformation throughout southcentral Alaska, as well as the geologic record of regional Cenozoic tectonic processes.

New sedimentologic, chronostratigraphic, and provenance data from strata that crop out within the central Alaska Range document a previously unrecognized stage of Eocene – early Miocene strike-slip basin development along the northern side of the central Denali fault system. This stage was followed by Miocene-Pliocene deformation and exhumation of the central Alaska Range, and basin development and northward sediment transport into the Tanana foreland basin. This portion of the study provides insight into Cenozoic tectonics and basin development in the central Alaska Range.

How transpressional tectonics are manifest in the modern-day, in combination with shallow subduction processes, are not well understood for the southern Alaskan convergent margin. Simulations of the 3-D deformation of this region allow for investigation of the complex relationship between these tectonic processes and surface deformation. Results from this study display the far-field affect that strong plate coupling along the shallowly subducting Yakutat slab has on the surface deformation of southcentral Alaska. Our models also show that partitioning of this convergence is observed along the Denali fault system. Additionally, our results indicate the subducting slab is segmented into separate Pacific, Yakutat and Wrangell slab segments. This variation in slab structure exerts control on the upper plate response to shallow subduction.

CHAPTER 1. INTRODUCTION

1.1 Document Format and Research Objectives

In this thesis, I investigate tectonic processes along the Alaskan convergent margin from the Cenozoic to the modern day. The overarching goal of this research is gain insight into the tectonics of this region as they are manifest at the regional scale, in the geologic record, and geodynamically at the large scale, throughout the entire convergent margin. By combining field-based, geologic studies and numerical modeling, I develop a robust model for Eocene to active surface deformation observed throughout southcentral Alaska. Results of this work provide insight into the dynamics of both mid-late Cenozoic strike-slip deformation along the central Denali fault system, and ongoing surface deformation and subduction processes.

This thesis is presented in three chapters. Chapter 1 introduces the document, overarching research goals, and provides a summary of the key points from each chapter. The following chapters present the new research in detail and are organized by increasing geographic scale. Chapter 2 examines the chronostratigraphic and provenance record of strike-slip basin development along the Denali fault system. The goal of this chapter is to establish the detailed sedimentology, stratigraphy, and deformational history of a previously unrecognized stage of Eocene-Miocene basin development within the Alaska Range. In doing so, this chapter provides a constraint on the Cenozoic transition from regional shortening to strike-slip tectonics. Chapter 3 examines the transition to transpressional tectonics, established in Chapter 2, as it is manifest at a large scale in the present day. This chapter focuses on the active tectonics and geodynamics of southcentral Alaska. The goal of this research is to understand the driving forces of observed surface deformation throughout southcentral Alaska. In Chapter 3, we systematically examine the control that variations in the lithosphere and the subducting slab have on surface deformation and relate these observations to ongoing geodynamic processes. Supplementary data relevant to the main research presented in Chapters 2 and 3 are presented in the appendices at the end of this document.

1.2 Chapter Summaries

In Chapter 2 we investigate Eocene-Miocene strike-slip basin development along the central Denali fault system through examination of previously understudied sedimentary strata that crop out between the Hines Creek and Denali fault systems in the Alaska Range. Our new sedimentologic, chronostratigraphic, and provenance data establish a model for strike-slip basin development, which we informally refer to as the Denali basin. We record initial development of the Denali basin during the mid-late Eocene, marked by deposition of the Mount Galen volcanics and volcaniclastic fluvial sedimentation from rivers draining eruptive centers. A westward basin axial fluvial system and stream dominated alluvial fans comprised sedimentation processes throughout a majority of the subsequent basin development. Provenance of middle Miocene strata of the Tanana foreland basin, exposed to the north of the Denali basin, indicates excavation of the Denali basin contemporaneous with initial uplift of the Alaska Range. Our data from the Denali basin, in combination with previous studies throughout the central Alaska Range and within the northern foothills record two stages of basin development. A late Eocene – early Miocene stage of strike-slip basin development and sedimentation along the Denali fault. This stage was followed by Miocene-Pliocene deformation of the central Alaska Range and northward development of the Tanana foreland basin. Chapter 2 was coauthored with my advisor, Dr. Kenneth Ridgway, in preparation to be submitted for future publication.

Chapter 3 examines the relative driving forces of surface deformation within southcentral Alaska and investigates the role that variations in subduction processes along the Alaskan convergent margin have in controlling the upper plate response. Previous geodynamic and geologic studies suggest a complex relationship between ongoing flat-slab subduction and transpressional processes throughout southcentral Alaska. Additionally, a wealth of new geophysical data from the NSF EarthScope project has provided observational insight on the lithosphere of this region. These aspects make southcentral Alaska a type-locality to study large-scale geodynamic processes of transpression and shallow subduction. We simulate the three-dimensional (3-D) dynamics of the lithosphere and subduction zone by approximating 3-D deformation with creeping flow in a layered spherical cap. By holding boundary conditions constant and systematically varying interior parameters within the continental lithosphere and subducting slab, we test how variations in dynamics and structure of subduction affect surface deformation. Results from this study have implications on the dynamics of far-field convergence,

segmentation of the subducting slab, and the large-scale partitioning of strain along the Denali fault system. Chapter 3 was coauthored with my advisor, Dr. Lucy Flesch, in preparation to be submitted for publication in *Earth and Planetary Science Letters*.

CHAPTER 2. CHRONOSTRATIGRAPHIC, DEPOSITIONAL, AND BASIN FRAMEWORK FOR EOCENE-MIOCENE SEDIMENTARY STRATA IN DENALI NATIONAL PARK: TRANSITION FROM REGIONAL SHORTENING TO STRIKE-SLIP TECTONICS

2.1 Abstract

New sedimentologic, chronostratigraphic, and compositional data from strata that crop out within the central Alaska Range document a previously unrecognized stage of Eocene – early Miocene strike-slip basin development along the northern side of the McKinley strand of the Denali fault system. Remnants of this strike-slip basin are preserved today in >725 meters of volcaniclastic and siliciclastic strata that are presently exposed between the Hines Creek and Denali fault systems in the footwalls of south-dipping oblique-slip normal faults. Chronostratigraphic analysis of both palynology data and maximum depositional ages constrained by detrital zircons suggest deposition began in the late Eocene-early Oligocene and continued to at least the early Miocene, contemporaneous with strike-slip displacement along the Denali fault system. New measured sections define the stratigraphy of the lowermost 40 meters consisting of volcaniclastic sandstone and mudstone interpreted as fluvial and lacustrine deposits that formed syn-depositionally with the Mount Galen volcanics. These strata are overlain by mainly siliciclastic conglomerate and sandstone interbedded with mudstone and lignite deposits with intermittent beds of volcaniclastic sandstone and mudstone. The topmost ~200 meters consist of coarse-grained sandstone and pebble conglomerate that grades into cobble-sized conglomerate; direct age data is lacking from this topmost section. Provenance data from conglomerate clasts and detrital zircons indicate these strata were sourced locally from the north and south, as well as from distal sources to the east.

We interpret the late Eocene-early Miocene strata as representing deposition as a product of strike-slip deformation and displacement along the central Denali fault system. We term this previously undocumented strike-slip basin, the Denali basin. Provenance of middle Miocene strata of the Tanana foreland basin on the north side of the Alaska Range indicates excavation of the Denali basin contemporaneous with initial uplift of the Alaska Range. Our data from the Denali basin, in combination with previous studies throughout the central Alaska Range and within the northern foothills, record an episode of late Eocene – early Miocene synorogenic sedimentation

along the Denali fault and Miocene-Pliocene deformation of the central Alaska Range and Tanana foreland basin.

2.2 Introduction

The Denali fault system bisects the Alaska Range in southcentral Alaska and extends into British Columbia as one of the largest intracontinental strike-slip fault systems in the world (Grantz, 1966; Lanphere, 1978; Stout and Chase, 1980; Haeussler et al., 2017). The configuration and displacement history of this right-lateral fault system varies along its >2000 km trace and likely through time (i.e., Lanphere, 1978; Lowey, 1998; Benowitz et al., 2012; Haeussler et al., 2017). Within southcentral Alaska, the major, right-lateral Denali fault system is partitioned into western, central, and eastern segments (Figure 2.1). Specifically along the central Denali fault system, previous studies have suggested a range of tens to hundreds of kilometers of Cenozoic displacement (Reed and Lanphere, 1973; Csejtey et al., 1982; Trop et al., 2004, 2019). Estimates of Pleistocene-Quaternary slip rates for the central Denali fault system ranges from 8-13 mm/yr (Matmon et al., 2006; Haeussler et al., 2017).

The Denali fault system, as a whole, acts as an intercontinental shear zone that partitions strain from oblique and shallow subduction along the southern Alaskan margin (Jadamec et al., 2013). Along the central portion of the Denali fault, this strain partitioning has been attributed to faults and folding located to the north and south (Figure 2.1) (Trop et al., 2004; Bemis et al., 2012, 2015; Vallage et al., 2014; Burkett et al., 2016; Haeussler et al., 2017). One such fault system to the north of the Denali fault, the Hines Creek fault system, has likely accommodated some of this strain throughout the Cenozoic (Figure 2.1) (Cole et al., 1999; Nokleberg et al., 2013; Keough, 2020). The Hines Creek fault system is a complex, lithospheric-scale tectonic feature that displays complex geometries, kinematics, and displacement histories (Sherwood, 1973, 1973; Brennan et al., 2011; Nokleberg et al., 2013; Federschmidt, 2014; Bemis et al., 2015; Keough, 2020), although evidence for a significant dextral component to this system has been identified (Wahrhaftig et al., 1975; Keough, 2020).

Sedimentary strata that crop out on both the north side of the Hines Creek fault and south side of the Denali Fault system provide a rich record of basin development and deformation that has been used to better understand the tectonic evolution of this region (Figure 2.2; Table 1; Trop et al., 2004, 2019; Ridgway et al., 2007). North of the Hines Creek fault, nonmarine sedimentation

occurred throughout the Neogene in the Tanana Basin; these strata are known as the Usibelli Group and Nenana Gravel (Figure 2.1; Table 2.1; Wahrhaftig and Back, 1958; Wahrhaftig et al., 1969; Ridgway et al., 2007). South of the central Denali fault, Oligocene synthrusting sedimentation and dextral displacement is recorded in strata of the Colorado Creek basin (Table 2.1) (Trop et al., 2004). Along strike, within the western and eastern segments of the Denali fault system, Eocene-Oligocene development of the White Mountain, McGarth, Talkeetna, Burwash, Bates Lake, Sheep Creek, and Three Guardsman basins document Eocene-Oligocene strike-slip displacement (Table 2.1) (Dickey, 1984; Ridgway et al., 1993, 1999; Ridgway and Decelles, 1993). Together, these analyses of known Cenozoic basins along the Denali fault, and north of the Hines Creek fault system, suggest a major episode of Eocene-Oligocene strike-slip displacement and Neogene uplift of the Alaska Range. However, previously understudied, isolated and sporadic exposures of Cenozoic sedimentary strata also crop out between these two major fault systems (Figure 2.2; Sherwood, 1973, 1979; Hickman, 1974; Gilbert and Redman, 1975; Csejtey et al., 1986, 1992; Keough, 2020). Our new analyses of this strata presented here, suggest an additional, previously unrecognized stage of Oligocene strike-slip basin development along the Denali fault system.

Despite a lack of sufficient evaluation, Cenozoic sedimentary strata located south of the Hines Creek fault and north of the central Denali fault system have been previously assumed to be a part of the Miocene – Pliocene Tanana Basin deposits (Figure 2.1 and 2.2). Our new geochronologic, provenance, and stratigraphic data from three outcrops of this strata within Denali National Park suggest an upper Eocene – lower Miocene age and reflect deposition within a strike-slip basin. Given this new age constraint and the timing and displacement history of the Denali and Hines Creek Fault systems (Cole et al., 1999; Nokleberg et al., 2013; Keough, 2020), we conclude that Eocene – early Miocene sedimentation in the study area represents an additional stage of Cenozoic strike-slip basin development along the Denali Fault system, termed here, the Denali basin.

Initial development of the Denali basin during the mid-late Eocene is marked by deposition of the Mount Galen volcanics and volcaniclastic fluvial sedimentation from rivers draining eruptive centers. A westward basin axial fluvial system and stream dominated alluvial fans comprised sedimentation processes throughout a majority of the subsequent basin development. Syn-deformational sedimentation continued in the lower Miocene, as the northward propagating thrust belt along the southern basin margin began to exhume parts of the Denali basin, coincident

with initial uplift of the Alaska Range (Fitzgerald et al., 1995; Benowitz et al., 2011, 2014; Riccio et al., 2014; Brennan and Ridgway, 2015). This deformation continued along intra-basinal faults and resulted in excavation and recycling of a majority of Denali basin strata into the Neogene Tanana Basin. Together this data provides insight into the Mesozoic-Cenozoic transition from compressional to transpressional tectonics throughout south-central Alaska.

2.3 Geologic Setting and Previous Work

2.3.1 Geologic Location

The Denali basin is informally defined here as the outcrop distribution of gently dipping Cenozoic sedimentary strata located between the Hines Creek and Denali fault systems (Ngug and Ngng in Figure 2.1 and 2.2). Specifically, within our study area in Denali National Park, outcrops of Denali basin strata evaluated in this study are exposed east of the McKinley River and west of the Toklat River (Figure 2.2). In this area, Denali basin strata are underlain by Permian-Triassic marine sedimentary and basaltic rocks (TRPs and TRbd), the Late Cretaceous Cantwell basin (Kcp, Kcc, Kc), and Paleogene-Oligocene volcanic and igneous intrusive rocks (PgMzi and Pgmgv – the "Mount Galen volcanics"). Elsewhere in the study area, the Paleogene Teklanika Formation also underlies Cenozoic sedimentary strata (Figure 2.2). Given their spatial relationships and previous lithologic descriptions (Wahrhaftig and Back, 1958; Csejtey et al., 1986; Thoms, 2000), we associated the Cenozoic sedimentary strata in the study area located east of the Toklat River with the Denali basin strata, however, more work is needed to confirm these associations.

2.3.2 Previous Studies and Stratigraphic Correlation

Exposures of Denali basin strata in the study area were originally correlated to the Healy Creek Formation (initially referred to as the "lower member" of the coal-bearing unit – i.e., the Usibelli Group), and the Nenana Gravel (Figure 2.2) (Wahrhaftig and Back, 1958; Wahrhaftig et al., 1969; Thoms, 2000). Laterally discontinuous coal beds and an unconformable nature at the base of these deposits provided the main link between the coal-bearing deposits exposed in the study area with those north of the Hines Creek fault. The geomorphic expression, grain size, and up-section changes in petrofacies led to the correlation of the coarser grained deposits located in the study area, with the Nenana Gravel. Subsequent mapping and geologic investigations in the

study area produced subtle variations in the spatial extent of these deposits within Denali National Park, but their association with the Neogene strata north of the Hines Creek fault never changed (Figure 2.2) (Gilbert and Redman, 1975; Csejtey et al., 1986, 1992; Cole et al., 1999; Keough, 2020).

The most detailed study of Denali basin strata in the study area was by Thoms (2000). This study used unpublished pebble count and paleocurrent data and conducted stratigraphic analyses on the coarser-grained deposits in the study area (Figure 2.2), previously mapped as the Nenana Gravel. Similar to prior studies, Thoms (2000) maintained the association of these sedimentary strata in the study area to the Neogene Tanana basin deposits.

An important caveat to the correlation of exposures of Denali basin strata in the study area with the Neogene Usibelli Group and Nenana Gravel, is that analyses of the depositional age for these deposits were never conducted. Thus, these previous correlations were based solely on stratigraphic similarities, with no supporting age control.

The regional stratigraphic framework for the Neogene Usibelli Group and Nenana Gravel was initially established through early mapping expeditions by Clyde Wahrhaftig (Wahrhaftig, 1970g, 1970a, 1970e, 1970d, 1970c, 1970b, 1970f) and later refined by a more comprehensive regional analysis in Ridgway et al. (2007). These studies focused on exposures north of the Hines Creek fault, identifying a type section locality of the Usibelli Group and Nenana Gravel at Suntrana Creek (Figure 2.1; Wahrhaftig et al., 1969; Ridgway et al., 1999, 2007). Below, we provide a brief summary of the stratigraphy, age, and depositional environments of the Usibelli Group and Nenana Gravel based on that of Wahrhaftig et al. (1969) and Ridgway et al. (2007).

In total, the Usibelli Group consists of ~800 m of strata that has been subdivided into five separate formations: the Healy Creek, Sanctuary, Suntrana, Lignite Creek, and Grubstake Formations. The age of these strata were mainly constrained by palynological analyses (Wahrhaftig et al., 1969; Wolfe and Tanai, 1980; Leopold and Liu, 1994; Ridgway et al., 2007). The Healy Creek Formation is 125 meters thick and makes up the lowermost member. This formation is characterized by amalgamated trough cross-stratified sandstone interbedded with massive, imbricated conglomerate. Deposition of the Healy Creek Formation was likely diachronous across the region, ranging from Oligocene to early Miocene in regional braided fluvial systems with local peat bogs. The Healy Creek Formation in the Rex Creek area, however, appears anomalous in both age – assigned Late Eocene to early Oligocene age – and lithology, mainly

consisting of poorly sorted conglomerate and relatively thin coal seams. The Sanctuary Formation is 31 meters thick and has been assigned a late Early to early Middle Miocene age; this formation consists of laminated gray siltstone/mudstone deposited in regional lacustrine systems. The middle Miocene Suntrana Formation is ~206 meters thick and is characterized by amalgamated trough and planar cross-stratified sandstone interbedded with thick coal seams. The Sanctuary Formation has been interpreted as deposited in braided fluvial systems separated by extensive coal swamps. The Lignite Creek Formation is ~162 meters thick and consists of planar and trough cross-stratified sandstone with minor interbedded sandy conglomerate and laterally discontinuous coal seams. The Lignite Creek Formation was likely deposited in anastomosing fluvial systems with localized peat bogs. The uppermost member, the Grubstake Formation, is characterized by laminated mudstone, siltstone, and very fine sandstone that was deposited in a westward propagating fluvial deltaic system. The thickness of the Grubstake Formation varies from 23-550 meters throughout the Tanana basin. The overlying Nenana Gravel has an overall northward-thinning wedge-shape geometry in the Tanana basin, with a thickness of over 1000 meters closest to the Alaska Range. The Nenana Gravel consists of three units that are mainly characterized by trough and planar cross-stratified conglomerate and sandstone, and massive and horizontally stratified conglomerates; these grade into massive or inversely graded boulder and pebble conglomerates at the top of the second and third units. Overall, the Nenana Gravel has been interpreted as alluvial-fan and braid plain deposits

2.3.3 Previous Interpretations of Tectonic Setting

Previous interpretations of the tectonic setting of Denali basin in the study area follow their association with the Neogene Tanana basin strata. Originally, the Usibelli Group was interpreted as being deposited on a board, low-relief alluvial plain, with the overlying Nenana Gravel representing deposition in association with the uplift Alaska Range. In subsequent analyses, the Usibelli Group and Nenana Gravel have been interpreted as representing a continuum of deposition through several specific depozones within the Tanana foreland basin system (e.g., DeCelles and Giles, 1996; Ridgway et al., 1999, 2007). Following this interpretation, the associated Neogene deposits located between the Hines Creek and Denali fault system (i.e., Denali basin strata, in this study) have been considered part of the proximal, wedge-top depozone (Thoms, 2000).

2.4 Methods

2.4.1 Stratigraphy

To determine the environments of deposition for the Cenozoic strata that crop out in the study area (Figure 2.2), we have obtained stratigraphic data within three new measured sections from the most prominent exposures in this area (Figures 2.3-2.6). Stratigraphic data collected from these measured sections include bedding thickness, geometry and lateral extent, grain size, sedimentary structures, color, and compositions (Figure 2.3). Additionally, the maximum sizes of conglomerate clasts were collected within the context of our measured sections. Maximum particle size measurements were obtained by recording the measurement along the longest axis of the ten largest clasts; the average of these measurements are displayed adjacent to their location within the stratigraphic column (Figure 2.3).

2.4.2 Palynology

Seven mudstone samples were collected and analyzed for palynological analysis within the three stratigraphic sections to determine depositional age of Denali basin strata (Figure 2.3). The samples were processed at Global Geolab Limited in Medicine Hat, Alberta, Canada; subsequently, the prepared slides of recovered palynomorphs were analyzed by Dr. Pierre Zippi (Biostratigraphy.com, LLC). Palynomorph occurrence data was collected until at least 100 specimens were counted for relative abundance data; additional rare taxa with potential stratigraphic significance were also added to the count.

2.4.3 Provenance

2.4.3.1 Detrital Zircons

2.4.3.1.1 U-Pb Geochronology of Sandstone

Four sandstone samples were collected from within the context of the measured stratigraphic sections in the study area and analyzed for U-Pb geochronology of detrital zircons (Figure 2.3; samples 080719BK-01 and 080919BK-01 from the HP1 section, samples MG1-04, and MG1-104 from the MG1 section). Additionally, supplementary analyzes of detrital zircons in

two sandstone samples from Neogene strata of the Tanana foreland basin were conducted (sample HC-062407-02 from the Healy Creek Formation and sample HC-062407-08 from the lower Nenana Gravel). These samples were collected from within the context of the stratigraphic section at the Suntrana location (Figure 2.1) and originally analyzed in Brennan and Ridgway (2015). Our additional analysis was conducted to acquire larger n-values, which are desired for a more robust comparison of detrital zircon age spectra. Lastly, a new sandstone sample from the top of the stratigraphic section at the Suntrana location was collected and analyzed for U-Pb geochronology of detrital zircons (sample 071420HW01). This sample was taken from above the stratigraphically highest sample analyzed in Brennan and Ridgway (2015), within the topmost 20 meters of the Nenana Gravel exposed at the Suntrana location. Our analyses of new detrital zircon age spectra from Cenozoic strata in the study area, and comparisons with detrital zircon age spectra from the Tanana foreland basin strata, help distinguish spatial and temporal provenance changes in Cenozoic sedimentary strata north of the Denali fault system.

The U-Pb analyses of detrital zircons were conducted at the University of Arizona LaserChron Center (ALC; www.laserchron.org), including sample crushing, separation, and mounting using standardized methods of physical and chemical separation (Gehrels et al., 2008; Gehrels, 2012, 2014; Gehrels and Pecha, 2014). To ensure all selected grains were zircon and did not contain complex crystallographic domains, back-scatter electron (BSE) and SEM-generated cathodoluminescence (CL) images were used during sample picking. Additionally, this process required random grain selection and avoidance of fractures to elude sampling bias and minimize the introduction of common Pb. For detrital zircon analysis, a large n-number (>300) is desired for a more accurate distribution (Gehrels, 2012). All analyses are conducted using laser ablation-inductively coupled mass spectrometry (LA-ICPMS) using either a Thermo Element2 single collector ICMPS or a Nu Plasma multicollection ICPMS (Gehrels et al., 2008). As described in *Sundell et al. (2021)*, analyses on the Nu Plasma multicollector ICMPS utilized rapid acquisition (3s/analysis) protocols and data reduction was completed using AgeCalcML. For the analyses conducted on the Element 2, data reduction was completed using "AgeCalc" protocols developed in-house by the ALC. For all analyses, a 20-30 μm spot diameter was used, leaving a ~15 μm pit depth in each grain. The $^{206}Pb/^{238}U$ age is reported for zircon grains with ages <1.0 Ga; for grains that are >1.0 Ga, the $^{206}Pb/^{207}Pb$ age is used due to the sensitivity to Pb loss that is common in older systems (Gehrels et al., 2008; Gehrels, 2012). Detrital zircon spectra are displayed in both

probability density and histogram plots generated using Isoplot 4.15 (Ludwig, 2012); the AgePick software (Gehrels, 2012) was used to calculate age peaks.

2.4.3.1.2 U-Pb Geochronology of Modern River Sand

Two samples of modern river sand from rivers currently draining the central and eastern Alaska Range were collected and analyzed for U-Pb geochronology of detrital zircons, sample 071320HW-01 from the McKinley river and sample 070720HW-01 from the Yanert Fork river (sample locations 1 & 2 on Figure 2.1). These samples add to a collection of modern river sand samples from rivers draining the central and eastern Alaska Range, which have been analyzed for detrital zircon geochronology in previous studies (sample locations 3-11 on Figure 2.1) (Lease et al., 2016; Fasulo, 2019; Trop et al., 2019). Together, these analyses of modern river sand provide reference for the detrital zircon signature of the modern source regions.

The U-Pb analysis of detrital zircons in the two modern river sand samples collected in this study were conducted at the ALC and follow the same techniques for sandstone samples as described in the previous section, section 2.4.3.1.1.

2.4.3.2 Conglomerate

2.4.3.2.1 U-Pb Geochronology of Igneous Clasts

Three conglomerate clast samples were collected from within the context of the measured stratigraphic sections in the study area and analyzed for U-Pb geochronology of zircons (Figure 2.3; samples 080719BK-01 and 080919BK-01 from the HP1 section, and sample MG1-70 from the MG1 section). Additionally, an igneous clast sample from the topmost 20 meters of the stratigraphic section at the Suntrana location (Figure 2.1; Ridgway et al., 2007) was collected for U-Pb geochronology analysis (sample 071420HW-01). Collectively, these data add to the spatial and temporal provenance analyses of Cenozoic sedimentary strata north of the Denali fault system.

For igneous clast samples, the $^{206}Pb/^{238}U$ age of ~30 zircon grains are used to determine the final crystallization age of the sample. Because zircons within igneous clast samples are assumed to be cogenetic, a smaller n-number is needed (compared to the n-number required for detrital zircons) and the final age is determined based on the weighted mean of all single grain ages. Otherwise, the process of collecting age data from individual zircon grains in igneous clasts

is the same as the process for detrital zircons in sandstone samples. All analyses were conducted at ALC using laser ablation-inductively coupled mass spectrometry (LA-ICPMS) using either a Thermo Element2 single collector ICMPS or a Nu Plasma multicollection ICPMS (Gehrels et al., 2008). The weighted mean of zircon ages for each igneous clast sample was calculated using Isoplot 4.15 and plots displaying these data were made using IsoplotR (Vermeesch, 2018).

2.4.3.2.2 Compositional Data of Conglomerate

Clast compositional data of conglomerate were collected from seven locations in our stratigraphic sections (Figure 2.3). For every predefined area within our measured sections, clast compositional data was collected by counting at least 100 randomly selected pebble- and cobble-sized clasts. Compositions were grouped within eight categories: limestone, mafic volcanic, felsic volcanic, granitoid, argillite, quartzite, sandstone, and conglomerate. Because of the large grain size of the clasts and nature of sediment transport, these compositions are interpreted as reflecting more local sources than sand-sized detritus (Kodama, 1994; Ferguson et al., 1996).

2.4.4 Maximum Depositional Age

For portions of the strata within our measured sections without associated palynological data (lowermost portion of the MG1 section and uppermost 200 meters of the HP1 section), the depositional age of strata was estimated using the detrital zircon signature of samples within those portions. As described in Dickinson and Gehrels (2009), the maximum depositional age is determined by calculating the weighted mean age of the three youngest grains that overlap within 2-sigma error.

2.4.5 Structural Configuration

To evaluate the structural configuration of exposures of Cenozoic strata in the study area, we construct two cross-section profiles that intersect the HP1 and MG1 measured sections (A-A' and B-B' on Figure 2.2). Cross-section A-A' intersects the HP1 measured section and is referred to as the "Highway Pass Corridor"; Cross-section B-B' intersects the MG1 measured section and is referred to as the "Mount Galen Corridor" (Figure 2.2). The structural configuration displayed in

these profiles is based on previous mapping of this region, most recently presented in Keough (2020).

2.5 Results

2.5.1 Stratigraphy

2.5.1.1 HP1 section

Common lithofacies of the strata exposed at the HP1 section include moderately indurated, sandy clast-supported conglomerate and sandstone; mudstone with interbeds of coal are also common near the base (Figures 2.3a and 2.4). The lowermost 11 meters is characterized by relatively thin beds of medium-grained sandstone with thin interbeds of mudstone (Figure 2.4a). This is overlain by 9 meters of a more continuous portion of mudstone and clay with 10-15 cm-thick lignite seams (Figure 2.4b). Above this, starting at ~ 20 meters, the beds begin to coarsen with both particle- and bed-size increasing (Figure 2.3). From here, up to ~635 meters, the strata are characterized by thick (>20 m), massive, sandstone and pebble-granule conglomerate with a sandy matrix. The sandstone beds consist of medium- to coarse-grained sand and conglomerate beds consist of rounded to sub-rounded gravel- and pebble-sized grains (Figure 2.4c). Lenses of sandstone in the conglomerate beds, and vice versa, is common. This package generally coarsens upward, however, there remains crude cyclicity between the conglomerate-dominated and sandstone-dominated packages (Figure 2.3a). Slumps are common within the sandstone-dominated beds (Figure 2.4d). The uppermost ~100 meters are characterized by clast-supported, pebble- to cobble-size conglomerate (Figure 2.4e). Within this uppermost portion, maximum particle size increases significantly with distinct intervals of boulder grain sizes (>36 cm; Figure 2.3a; 2.4e).

2.5.1.2 HP2 section

Common lithofacies of the strata exposed at the HP2 section include moderately indurated granule conglomerate, coarse-grained sandstone, and carbonaceous mudstone (Figures 2.3b and 2.5). The beds exposed at this section are laterally continuous at the outcrop scale (Figure 2.5a). Evidence for volcanic activity is present with multiple bentonites (Figure 2.5b). The lowermost 16

meters is characterized by medium-coarse grained sandstone beds up to 5 meters thick, with beds of claystone and carbonaceous siltstone on the order of cm's thick. Above this, starting at 16 meters, lies a distinct green layer that is 4 meters thick. This distinct layer consists of a meter of dark, organic-rich clay overlain by a couple cm's-thick bentonite; this coarsens upward to a volcaniclastic sand with an abundance of pumice grains, at 20 meters. Together, this distinct layer is interpreted as a porphyritic volcanic flow. Overlaying the volcanic flow is a meter-thick brown siltstone abruptly overlain by 5 meters of granule conglomerate (Figure 2.3b). At 26 meters, an organic-rich siltstone with interbedded clay is exposed; additionally, within this layer a bentonite is present (Figure 2.5b). From ~30 to 38 meters, this section consists of granule conglomerate interbedded with medium-grained sand (Figure 2.3b). At 38 meters, a 4-meter-thick fining-upward sequence of granule sand and carbonaceous claystone and siltstone is abruptly overlain by granule conglomerate that fines upward to coarse sand with pebble lenses and a sticky, clay-rich mudstone (Figure 2.5c). The remaining 18 meters consists of coarse-grained sandstone with pebble lenses and cobble-sized conglomerate (Figure 2.5d).

2.5.1.3 MG1 section

Common lithofacies of the strata exposed at the MG1 section include granule conglomerate, siliciclastic and volcaniclastic sandstone, and mudstone (Figure 2.3c and 2.6). The MG1 section overlies highly weathered basalt-andesite lava and pyroclastic flow deposits associated with the Mount Galen volcanics (Figure 2.6a; Cole and Layer, 2002). The lowermost 40 meters is comprised of poorly sorted, angular to subrounded, volcaniclastic sand interbedded with clay and mudstone (Figure 2.6b). This lowermost section also contains abundant coalified woody debris both within individual beds of volcaniclastic sand and marking horizons between beds in some locations (Figure 2.6c). At 15 meters, 10 meters of granule conglomerate and coarse sandstone break up the otherwise volcaniclastic-dominated sandstone and mudstone. A 3-meter-thick bed of sticky clay at 37 meters marks the top of the volcaniclastic-dominated section. This is abruptly overlain by a 6-meter thick, pebble-sized conglomerate bed. Above this, the remainder of the section (meters 46 – 125; Figure 2.3c) is characterized by 5-10-meter-thick beds of massive, medium-grained sandstone and pebble-sized conglomerate with a sandy matrix (Figure 2.6d). Within this section, 3-to-5-meter-thick beds of carbonaceous mudstone interbedded with coal fragments occur at meters 46, 66, and 109 (Figure 2.3c).

2.5.2 Palynology

Here we present the palynology results and associated depositional ages for strata from each measured section location within this study; thereby providing the first age constraint on these strata. Seven of the nine samples analyzed for palynology yielded sufficient terrestrial palynomorphs to determine a depositional age. These include two samples from the HP1 section (HP1-2.5, HP1-18.6; Figure 2.3a), three from the HP2 section (HP2-25.5, HP2-27, HP2-38; Figure 2.3b), and two from the MG1 section (MG1-45, MG1-105; Figure 2.3c). Raw palynology data displayed in distribution charts can be found in Appendix A.

The thermal maturity of the organic residues was consistently low within all analyzed samples, ranging from 0.25-0.32%Ro. Based on the thermal gradient of the region (0.0198°F/ft), this suggests the maximum burial of these samples was between 610 and 1006 m. This implies a sufficient amount of additional overlying strata that were subsequently eroded in this area.

2.5.2.1 HP1 section

Both samples from the HP1 section (sample HP1-2.5 and sample HP1-18.6; Figure 2.3a) yielded conifer-rich assemblages of palynomorphs that lack the warmer Eocene and Miocene floral elements. Both samples consist of a similar distribution of palynomorphs, and are particularly abundant in *Picea, Pinus,* and *Alnus*. The HP1-2.5 sample, collected at meter 2.5 within the HP1 section (Figure 2.3a), is also abundant in *Conifer* and *Tsuga* palynomorphs. The HP1-18.6 sample, collected at meter 18.6 within the HP1 section (Figure 2.3a), lacks a significant amount of *Conifer* palynomorphs and contains a secondary abundance of *Tsuga* and *Osmundacidites* palynomorphs. In accordance with the previous mapping and interpretations of the strata within the study area, these samples were associated with the Healy Creek Formation of the Tanana Basin (Wolfe and Tanai, 1980). More specifically, the abundance of *Picea, Pinus,* and *Alnus*, in both samples from the HP1 section most closely matches the pollen assemblages in the Healy Creek Formation at the Rex Creek area from Ridgway et al. (2007) (Figure 2.1). Fern and fern allies present in the HP1-18.6 sample also correlate with the Healy Creek Formation at the Teklanika River location from Ridgway et al. (2007) (Figure 2.1). Both samples were assigned a Late Oligocene age.

2.5.2.2 HP2 section

The two stratigraphically lower samples from the HP2 sections, sample HP2-25.5 (collected at meter 25.5 within the HP2 section; Figure 2.3b) and sample HP2-27 (collected at meter 27 within the HP2 section; Figure 2.3b) yielded conifer-poor assemblages with thermophilic floral elements characteristic of the Early Miocene. Surprisingly, the stratigraphically highest sample, sample HP2-38 (collected at meter 41 within the HP2 section; Figure 2.3b) yielded an abundant multi-species *Tilla* occurrence in a conifer-rich assemblage, suggesting a Late Eocene-Early Oligocene age. This age and stratigraphic position (Figure 2.3b) require that either an unmapped thrust fault places stratigraphically lower strata above the HP2-27 sample, or that the pollen assemblage for sample HP2-38 consists of mainly reworked palynomorphs from older strata. Given the lateral continuity of beds (Figure 2.5a), field observations, and geologic mapping near the HP2 area (Figure 2.2), the latter interpretation is accepted to explain this anomaly. Similar to the HP1 samples, all the samples collected within the HP2 section have a relative abundance of *Picea* and *Alnus* palynomorphs. However, unlike the HP1 samples, these samples lack a significant abundance of *Pinus* palynomorphs.

2.5.2.3 MG1 section

Two samples from the MG1 section were evaluated for palynology; MG1-45, collected a meter 47 within the MG1 section, and MG1-105, collected at meter 109 within the MG1 section (Figure 2.3c). These two samples are similar to those from the HP1 section in that they yield palynomorph assemblages that lack floral elements and have abundant conifer elements. Both samples consist of a similar distribution of palynomorphs and contain a significant amount of *Picea* and *Alnus* palynomorphs. As previously described, the abundance of *Picea* and *Alnus* palynomorphs is similar to the Healy Creek Formation exposed at Rex Creek (Figure 2.1; Ridgway et al., 2007). A noteworthy difference in the MG1-105 sample, collected at meter 109 within the MG1 section (Figure 2.3c), is the rare occurrence of *Tilla.* As interpreted in sample HP2-38, this likely represents a reworking of palynomorphs from older strata. Both sample MG1-45 and MG1-105 are assigned a Late Oligocene Age.

2.5.3 Provenance

2.5.3.1 Overview

In this section we present provenance data from detrital zircons from (1) sandstone collected within the context of our measured sections (Figure 2.3) and (2) from the Suntrana location (Figure 2.1), as well as (3) modern river sand collected from the McKinley and Yanert Fork rivers (Figure 2.1). Detrital zircon age spectra from Cenozoic strata collected from our measured sections are presented in Figure 2.7. New and reevaluated age spectra for samples collected from the Suntrana location (including samples from Brennan and Ridgway (2015)) and new age spectra from modern river samples are presented in Figures 2.8 and 2.9, respectively.

We also present provenance data from igneous clasts in conglomerate in the form of both U-Pb ages of individual igneous clasts and compositional data from a collection of clasts. The weighted mean ages for igneous clasts from Cenozoic strata collected within our measured sections and from the stratigraphic section at the Suntrana location are presented in Figure 2.10. Compositional data for conglomerate, collected within the context of our measured sections, are presented in Figure 2.11.

The associated locations for all new detrital and igneous clast U-Pb samples are displayed in Appendix B; raw U-Pb data for these samples is contained in Appendix C.

2.5.3.2 Detrital Zircons

2.5.3.2.1 Sandstone from the Study Area

Detrital zircon age spectra from sandstone samples collected within the context of our measured sections are presented below. These are presented in stratigraphic order, based on mapping relationships and relative ages from associated palynology samples.

The stratigraphically lowest sample, MG1-04, collected at meter 4 within the MG1 section (Figure 2.3c), yields a unimodal distribution with a single peak population of 38 Ma (Figure 2.7). 345 out of the total 354 grains in this sample fall between the range of 30 – 45 Ma. The few remaining grains span either Mesozoic (n=6) or Precambrian (n=3).

The stratigraphically subsequent three samples show similar distributions of individual detrital zircon grain ages (Figure 2.7). In stratigraphic order, these samples include sample

080719BK-01 (collected at meter 6 within the HP1 section), sample MG1-104 (collected at meter 106 within the MG1 section), and sample 080919BK-01 (collected at meter 527 within the HP1 section) (Figure 2.3). Consistent among the three samples are two peak populations between 70-65 Ma and 113-80 Ma, while secondary peaks vary slightly between samples in both age range and number of grains (Figure 2.7).

Sample 080719BK-01 from meter 6 within the HP1 section, records three prominent peak ages of 38 Ma, 58 Ma, and 98 Ma which make up 21%, 31%, and 16% of the grains, respectively (Figure 2.7). This sample has a secondary peak at 367 Ma (8%); most of the remaining grains are dispersed throughout the Precambrian.

Dominant populations in sample MG1-104, from meter 106 within the MG1 section, shift slightly to record primary peaks around 59 Ma, making up 15% of the population, and 97 Ma, with 24% (Figure 2.7). This sample contains numerous secondary peaks at 41 Ma, 185 – 200 Ma, 350 – 375 Ma, and 430 – 450 Ma, that collectively encompass 21% of the total grains. The remaining scarce Precambrian grains reveal no prominent peak ages.

The stratigraphically highest sample, 080919BK-01 from meter 527 within the HP1 section, records prominent peak ages similar to the MG1-104 sample, at 64 and 96 Ma; two secondary peaks are recorded at 41 and 430 Ma (Figure 2.7). The two primary peaks make up 16% and 21% of the sample, respectively, while the secondary peaks, together, comprise 13%. This sample contains the highest percentage of Precambrian grains (35%), compared to the other samples from the study area, but similarly lacks considerable peaks within this age range (Figure 2.7).

2.5.3.2.2 Sandstone from the Suntrana Location

Detrital zircon age spectra from sandstone samples from the Suntrana location (Figure 2.1) are presented below. These samples were collected within the context of the measured section from Ridgway et al. (2007) and are presented in stratigraphic order (Figure 2.8). Here, we discuss in detail the age spectra of reevaluated and new detrital zircon samples. However, we include comparisons to the entire suite of samples collected from the Suntrana section as originally presented in Brennan and Ridgway (2015). Therefore, Figure 8 includes all new and reevaluated samples, as well as the remaining samples from Brennan and Ridgway (2015), including samples from the lower Suntrana Formation (HC-062407-03), the upper Suntrana Formation (HC-062407-

05), the Lignite Creek Formation (HC-062407-07), and the upper Nenana Gravel (NG-080607-02).

We first discuss the two samples previously analyzed in Brennan and Ridgway (2015) and reevaluated here with larger n-values, as discussed in section 2.4.3.1.1. These two samples were collected from the lower Miocene upper Healy Creek Formation (sample HC-062407-02) and the Pliocene lower Nenana Gravel (sample HC062407-08) (Brennan and Ridgway, 2015) (Figure 2.8). In addition to these samples, we present a new detrital zircon age spectrum from sandstone overlying the uppermost Nenana Gravel sample from Brennan and Ridgway (2015), sample 071420HW-01 (Figure 2.8).

The stratigraphically lowest sample from the lower Miocene upper Healy Creek Formation (sample HC-062407-06), is most abundant in Precambrian grains (55%) and reveals a wide range of peak ages (Figure 2.8). Compared to the detrital zircon spectra from Cenozoic sandstone in the study area (Figure 2.7), this sample contains grains of similar Phanerozoic age ranges, but lacks the prominent peaks displayed in samples from the study area (Figure 2.8). Notable differences derived from the larger n-value within this sample, compared to Brennan and Ridgway (2015), include a 5% decrease of Cenozoic grains and a slight shift of peak age populations. Overall, however, the general trend of this spectra remains consistent regardless of the n-value.

The Pliocene lower Nenana Gravel sample (HC-062407-08) displays a prominent peak of 53-75 Ma grains that makes up 61% of the population (Figure 2.8). Secondary peaks at 93-105 Ma and 180-208 Ma, as well as grains scattered throughout the Paleozoic and Precambrian, make up the remainder of the sample (Figure 2.8). The age spectrum presented here, with a larger n-value, displays a similar age spectrum to the smaller n-value presented in Brennan and Ridgway (2015). New detrital zircon provenance data from the stratigraphically highest strata at the top of the Suntrana section (sample 071420HW-01) display a similar age distribution to the upper Nenana Gravel sample from Brennan and Ridgway (2015) (Figure 2.8). The upper Nenana Gravel sample (Brennan and Ridgway, 2015) was collected ~115 meters below our new sample, which was collected from the topmost 20 meters within the Suntrana section. Both samples display a prominent peak of 93-105 Ma grains with a minor abundance of other ages (Figure 2.8). In our sample in particular (sample 071420HW-01), this prominent peak of 96-105 Ma grains makes up 70% of the sample (Figure 2.8). A notable difference between our sample (071420HW-01) and

the upper Nenana Gravel sample from Brennan and Ridgway (2015) is an increased in 30-40 Ma grains (Figure 2.8).

2.5.3.2.3 Modern River Sand

Sample 071320HW-01 from the McKinley River (Figure 2.1) yields abundant Precambrian grains (63%), mainly ranging from 2100 - 800 Ma (Figure 2.9). The remaining Cenozoic grains are dispersed in two significant peak populations from 45 – 30 Ma (10%) and 70 – 50 Ma (17%) and secondary peaks from 105 – 85 Ma and 470 – 420 Ma.

Sample 070720HW-02 from the modern Yanert Fork River (Figure 2.1) yield two peak populations that make up a majority of the grains: 30 – 45 Ma (20%) and 90 – 110 Ma (49%) (Figure 2.9).

2.5.3.3 Conglomerate

2.5.3.3.1 Geochronology of Igneous Clasts from Conglomerate in the Study Area

Two igneous clast samples from the HP1 section were collected for U-Pb geochronology; these include sample 080719BK-03, collected at meter 230 within the HP1 section (Figure 2.3a), and sample 080919BK-02, collected at meter 602 within the HP1 section (Figure 2.3a). The stratigraphically lower sample (080719BK-03; Figure 2.3a) yielded a weighted average age 64.86 +/- 0.13 Ma (n=48) (Figure 2.10a). Whereas the stratigraphically higher sample (080919BK-02; Figure 2.3a) yielded an age of 58.90 +/- 0.11 Ma (n=46) (Figure 2.10b). One igneous clast from the MG1 section was collected and analyzed, sample MG1-70 (collected at meter 70). Sample MG1-70 yielded an age of 61.52 +/- 0.11 Ma (Figure 2.10). Notably, these samples fall within the 70 – 50 Ma age range that is also a dominant population in the sandstone detrital zircon samples, aside from MG1-04 and 070720HW-02 (Figure 2.7 & 2.8).

2.5.3.3.2 Geochronology of Igneous Clasts from Conglomerate in Nenana Gravel, Suntrana Location

One igneous clast was collected from the top of the Nenana Gravel at the Suntrana location (Figure 2.1), within the top 20 meters of stratigraphic section from Ridgway et al. (2007) and above

the uppermost Nenana Gravel sample from Brennan and Ridgway (2015). This sample (sample 071420HW-01) yielded a weighted average age of 41.969 +/- 0.067 Ma (Figure 2.10d).

2.5.3.3.3 Compositional Data of Conglomerate

Clast compositional data from conglomerate was collected from seven locations within our stratigraphic sections (labeled as "Clast count" on Figure 3; Figure 2.11).

Within the HP1 section (Figure 2.3a), clast type data were collected at 42 (CC#1), 226 (CC#2), and 683 meters (CC#3). The clast compositional data from the HP1 section show an upward increase in sandstone, mafic volcanic, and limestone clasts, and a decrease in felsic volcanic, quartzite, argillite, and granitoid clasts (Figure 2.11). The percentage of clasts that are conglomerate remain constant at around 5%.

Within the HP2 section (Figure 2.3b), clast type data were collected at 11 (CC#1) and 33 (CC#2) meters (Figure 2.11). Relative abundances of most clast compositions remain constant within this section (<3% change), with the only exceptions being an upward increase in granitoid and mafic volcanic clasts and a decrease in granitoid clasts (Figure 2.11).

Within the MG1 section (Figure 2.3c), clast type data were collected at 74 (CC#1) and 120 (CC#2) meters (Figure 2.11). Compared to the clast compositional data collected within the other measured sections, compositions within the MG1 section show increased variability, although the dominant population remains consistent with sandstone clasts making up >30% of the clasts (Figure 2.11). Notable differences between the clast data within the MG1 section include an upward increase in conglomerate, felsic volcanic, and argillite clasts, and a decrease in limestone and mafic volcanic clasts.

2.5.4 Maximum Depositional Ages

Maximum depositional ages based on detrital zircon geochronology were determined for portions of the strata within our measured sections that lack an associated palynology sample (i.e., the lowermost portion of the MG1 section and the upper portion of the HP1 section; Figure 2.3).

Sample MG1-4, from meter 4 within the MG1 section, yielded a maximum depositional age of 32.38 Ma (Figure 2.7).

Sample 0809109BK-01, from meter 527 within the HP1 section, yielded a maximum depositional age of 38.95 Ma (Figure 2.7). However, based on the Late Oligocene palynology age of the sample collected at 18.6 meters within the HP1 section (HP1-18.6; Figure 2.3a), this sample is interpreted as an underestimate of the true depositional age.

2.5.5 Summary of Age Control

We constrain the age control for the Cenozoic strata in the study area through determination of depositional age from both palynology and detrital zircon samples. In summary, this data suggests that deposition of the strata within our measured sections (Figure 2.3) began in the late Eocene-early Oligocene and continued into the early Miocene.

2.5.6 Structural Configuration

2.5.6.1 Highway Pass Corridor

The structure of the Highway Pass Corridor is displayed in cross-section in Figure 2.12a. The Oligocene-early Miocene strata in this section of the Highway Pass Corridor (section HP1; Figure 2.3a), are dipping 10-15° to the north-northwest (Figure 2.12a). These strata are tilted in the hanging wall of a south-southeast-dipping oblique normal fault (Figure 2.12a) that parallels the Park Road and serves as the northern boundary for Oligocene-early Miocene strata in the Highway Pass Corridor (Figure 2.2). Strata in the footwall of this fault include Triassic pillow basalt and marine sedimentary rocks (TRbd and TRPs; Figure 2 and Figure 2.12a). The oblique normal fault that controls the tilt and juxtaposition of strata in the Highway Pass Corridor has been termed the Park Road Fault by previous studies (Figure 2.2 and 2.12a; Keough, 2020). To the north, this cross section intersects a south-dipping, north-verging thrust belt in which strata of the Cantwell Formation are deformed. Strata of the Cantwell Formation at the northernmost end of this cross-section are overlain by the Mount Galen volcanics (Figure 2.12a).

2.5.6.2 Mount Galen Corridor

The structure of the Mount Galen Corridor is displayed in cross-section in Figure 2.12b; this cross-section additionally intersects the Highway Pass Corridor. In the Mount Galen Corridor,

upper Eocene-lower Miocene strata (section MG1; Figure 2.3c) and the underlying Mount Galen volcanics are dipping 15° to the north-northeast (Figure 2.12b). These strata are located in the hanging wall of a south-southeast-dipping oblique normal fault and a north-northwest-dipping oblique normal fault (Figure 2.12b). Strata in the footwall of south-southeast-dipping oblique normal fault include the Paleogene Mount Galen volcanics. The north-northwest-dipping oblique normal fault contains Paleogene felsic intrusive rocks (Pgfi) and Triassic pillow basalts (TRbd), in the footwall (Figure 2.12b). Farther to the southeast, the structure of the Highway Pass Corridor (Figure 2.12a) is displayed, with the Park Road Fault juxtaposing Triassic pillow basalts (TRbd) in the footwall against upper Eocene-lower Miocene strata in the hanging wall.

2.6 Interpretations and Discussion

2.6.1 Depositional Interpretations

The lithologic changes recorded for the upper Eocene-lower Miocene strata are interpreted to reflect changes in nonmarine depositional systems that filled the Denali basin. The lower portion of this strata, represented by the lowermost 40 meters of the MG1 section (Figure 2.3), reflect fluvial and shallow lacustrine sedimentation deposited syn-depositionally with the Mount Galen volcanics. We interpret coarse and angular volcaniclastic sandstone that make up a majority of this section (Figure 2.3c and 2.4b) as deposition in proximal stream channels draining local volcanic centers. Local ponding and/or shallow lacustrine systems are represented by the fine-grained lenses and beds within this section (Figure 2.3c). The abundant woody detritus may represent trees/forests destroyed during eruptions and incorporated into the nearby fluvial systems.

The middle portion of this strata, represented by the lowermost 90 meters of the HP1 section (Figure 2.3a), the entire HP2 section (Figure 2.3b), and meters 40-125 of the MG1 section (Figure 2.3c), reflect deposition in braided fluvial channels flanked by vegetated floodplains. This interpretation is based on the prevalence of clast-supported conglomerate and sandstone, as well as occurrence of fine-grained carbonaceous mudstone and lignite (Figure 2.3). This section also reflects continued volcanic activity as indicated by the multiple bentonites and volcanic flows documented in the HP2 section (Figure 2.3b). Abrupt vertical facies changes reflect frequent switching of streams (Figure 2.3). Dark carbonaceous mudstone and lignite formed in vegetated

floodplain marshes, swamps, and local ponding. Overall, deposits in this middle portion are comparable to stream-dominated alluvial fan systems (Ridgway and Decelles, 1993).

The upper portion of this strata, represented by the remaining HP1 section (Figure 2.3a), reflect deposition in fluvial and alluvial systems during high velocity, streamflow and debris-flow conditions. Massive conglomerate beds with a sandy matrix are interpreted as representing reworked debris-flow deposits, whereas the relatively-better sorted, conglomerate beds with sandstone lenses (and vice versa) represent sheet flow deposits. The relatively larger grain size and clast-supported structure of the uppermost ~100 meters (Figure 2.3a) may reflect deposition in Pliocene proglacial outwash fans (i.e., Lease et al., 2018), although better age control within this section is needed to better constrain this interpretation.

2.6.2 Provenance Interpretations

2.6.2.1 Detrital Zircon Provenance Interpretations

Below we discuss the interpretation of primary and secondary sources for detrital zircons from all new samples evaluated in this study (Figures 2.7, 2.8, and 2.9). These include samples of modern river sand from the McKinley (071320HW-01) and Yanert Fork (070720HW-01) rivers (Figure 2.9); samples of upper Eocene-lower Miocene sandstone collected from within the context of our measured sections (Figure 2.7); and the sandstone collected from the top 20 meters of the Suntrana section (Figure 2.8; sample 071420HW-01). Because the age spectra of detrital zircons from the upper Healy Creek Formation (HC-062407-02) and the lower Nenana Gravel Formation (HC-062407-08) (which were reanalyzed for a higher n-value in this study) display a similar age spectrum to their analysis in Brennan and Ridgway (2015), we accept the interpretations of primary and secondary sources for these samples presented in that study.

The new modern river samples presented in this study add to a collection of previously published modern river samples from rivers currently draining the Alaska Range (black and blue numbered rectangles on Figure 2.1). For our interpretation purposes, our new samples from the McKinley and Yanert Fork Rivers, are presented and evaluated as two composite plots of samples from rivers draining either the central or eastern Alaska Range in Figure 2.13. These composite plots provide a reference for detrital zircon spectra of modern source locations.

For interpretation purposes, we present normalized probability plots of Phanerozoic grains from the new sandstone detrital zircon samples evaluated in this study, from both the study area and from the Suntrana location, in Figure 2.14. Within this figure, we additionally summarize potential primary and secondary sources.

We summarize previously published ages of potential sources for the samples analyzed in this section in Table 2.2. More detailed overviews of primary sources throughout southcentral Alaska can be found in Cole and Layer (2000), Hampton et al. (2010), Brennan and Ridgway (2015), Romero et al. (2020); for local recycled sources in and around the study area, we build off the work of Keough (2020).

2.6.2.1.1 Interpretation of Primary Sources

Mid-Cretaceous populations

We interpret mid-Cretaceous populations between 120 – 80 Ma in samples from the study area and at the Suntrana location (Figure 2.14) to reflect igneous sources presently exposed to the east and northeast of the study area, including plutons that intrude the Yukon Composite Terrane to the northeast and those in the eastern Alaska Range (Figure 2.1; Table 2.2). These plutons are related to arc magmatism and intruded Mesozoic and Paleozoic strata during their emplacement (Wilson et al., 1985; Foster, 1992; Dusel–Bacon et al., 1995; Dilworth, 2002; Day et al., 2003; Werdon et al., 2004). In the eastern Alaska Range, plutons of this age range are presently exposed both north and south of the Denali fault (Figure 2.1) (Reed and Lanphere, 1973; Nokleberg et al., 1992). Reconstruction of displacement proposed for the Denali fault throughout the Cenozoic (i.e., Trop et al., 2019) would place mid-Cretaceous plutons currently exposed south of the Denali fault in the eastern Alaska Range up to 150 km further to the east, relative to their current location (Figure 2.1). Despite this proposed displacement, the location of mid-Cretaceous plutons currently exposed on the north side of the Denali fault in the eastern Alaska Range and in the Yukon Composite Terrane would remain fixed relative to the study area and the Suntrana location (Figure 2.1), thereby remaining a constant potential source of mid-Cretaceous detrital zircon grains during

deposition of the samples collected at these locations (i.e., within the MG1 and HP1 sections, and from the topmost 20 meters at the Suntrana location; Figure 2.7, 2.8, and 2.14).

Mid-Cretaceous populations also overlap with plutons sparsely exposed in the central and western Alaska Range (Figure 2.1) (Lease et al., 2016; Jones et al., 2020), however, modern river samples eroding the western Alaska Range reveal a paucity of these ages (Lease et al., 2016). Additionally, comparison of detrital zircon samples from modern rivers currently draining the central Alaska Range show a scarcity of mid-Cretaceous grains compared to modern rivers draining the eastern Alaska Range (Figure 2.13). Therefore, we interpret the prominent peak of 95-100 Ma grains in samples from meter 106 within the MG1 section (MG1-104; Figure 2.3c), meters 6 and 527 within the HP1 section (080719BK-01 and 080919BK-01), and from the topmost 20 meters at the Suntrana location (071420HW-01) (Figures 2.7, 2.8, and 2.14), as sediment derived directly from igneous sources to the east (Figure 2.1). Such sources have also been interpreted as a primary source for the Late Cretaceous-Oligocene Colorado Creek basin (Trop et al., 2019). As the sample locations at Suntrana and within Denali National Park and Preserve are located to the west of the eastern Alaska Range, this would suggest west-northwest sediment transport. For samples in the study area in particular, given the late Eocene-early Miocene age and the proposed, large-scale southwestward drainage system for south-central Alaska throughout this time (Finzel et al., 2015; Benowitz et al., 2019), this local westward drainage may have fed a larger southwestward drainage system leading into the Susitna and Cook Inlet basins.

Latest Cretaceous – Early Eocene populations

We interpret latest Cretaceous – early Eocene detrital zircon populations in samples from the study area and at the Suntrana location to represent primary sediment derived from the McKinley sequence of plutons (70-50 Ma plutons exposed in the central Alaska Range) and possibly the Teklanika volcanics (Figure 2.1 and 2.14; Table 2.2; Reed and Lanphere, 1973; Wallace and Engebretson, 1984; Lanphere and Reed, 1985; Moll-Stalcup, 1994; Hung, 2008; Koeneman and Wilson, 2018). Plutonic rocks of the McKinley sequence (70-50 Ma) make up a majority of the igneous rocks presently exposed in the central Alaska Range and are located south of the Denali fault (Figure 1; Reed and Lanphere, 1973; Lanphere and Reed, 1985; Hung, 2008). Modern rivers draining the central Alaska Range show an abundance of 70-50 Ma grains,

reflecting erosion of the McKinley sequence of plutons (Figure 2.13). These plutons overlap in age with other upper Cretaceous – lower Eocene plutonic rocks presently distributed throughout the Alaska Range (Figure 2.1); however, these other igneous rocks may lack a sufficient amount of zircon to suggest potential for consideration as a primary source for detrital zircons (Cole et al., 2007).

The McKinley sequence of plutons is presently exposed in the central Alaska Range, however, consideration of this primary source for detrital zircon grains in the upper Eocene-lower Miocene strata within the study area (samples from the MG1 and HP1 sections; Figure 2.7 and 2.14) must also include restoration of proposed Cenozoic displacement along the Denali fault system. Proposed estimates suggest up to 150 km of displacement along the Denali fault system since the early Oligocene (i.e., Trop et al., 2019). In relation to the 70-50 Ma grains in the late Eocene-early Miocene strata exposed in the study area (Figure 2.7 and 2.14), the estimated displacement would place the McKinley sequence to the east of the study area during deposition of this strata.

Interestingly, the lower Pliocene Nenana Gravel sample from the Suntrana location, presented in Brennan and Ridgway (2015), displays a dominant 70-50 Ma peak (HC-062407-08; Figure 2.8). Following the interpretation of 70-50 Ma grains from samples in the study area, these are considered to represent erosion of the McKinley sequence. Accordingly, displacement of these plutons along the Denali fault during the Pliocene must be considered. Estimates of Miocene-Quaternary offset range from 2-13 mm/yr (Matmon et al., 2006; Mériaux et al., 2009; Riccio et al., 2014; Allen, 2016; Haeussler et al., 2017). Additionally, during this time period, increased exhumation of the McKinley sequence of plutons has been recorded beginning at 6 Ma (Fitzgerald et al., 1995). This has been interpreted as representing enhanced uplift and erosion of the McKinley sequence as it entered and persisted through the "McKinley restraining bend" (Figure 2.1) (Fitzgerald et al., 1995; Haeussler, 2008; Bemis et al., 2015; Burkett et al., 2016). In relation to the Pliocene upper Nenana Gravel sample, the prominent peak of 70-50 Ma grains in this sample (Figure 2.8) likely reflects this enhanced uplift and erosion.

Additionally, volcanic rocks of the Teklanika Formation share the 70-50 Ma age range and are presently exposed to the east of and underlying the Denali basin strata (Figure 2.1 and 2.2; Table 2.2) (Gilbert et al., 1976; Cole and Layer, 2000). It is likely that these strata were more extensively distributed throughout the Eocene-Oligocene (Keough, 2020), thereby

providing an additional, local source of sediment for late Eocene-early Miocene strata in the study area (Figure 2.7 and 2.14) as well as a potential source for samples at the Suntrana location (Figure 2.8 and 2.14).

Middle Eocene – Oligocene populations

We interpret middle Eocene – Oligocene populations between 45 – 30 Ma in samples from upper Eocene-lower Miocene strata in the study area, collected within our measured sections, to reflect erosion of the Mount Galen volcanics (Figure 2.2) and other volcanic rocks associated with Eocene-Oligocene plutons throughout the Alaska Range (labeled "Upper Eocene-Oligocene igneous rocks" in Figure 2.1; Table 2.2) (Lanphere and Reed, 1985; Moll-Stalcup, 1994; Cole and Layer, 2000; Hung, 2008; Benowitz et al., 2011). Based on the present exposure of these plutons and associated volcanic rocks, (Figure 2.1) we refer to them as the Pyramid Peak, Sugarloaf, and Nenana volcanic centers in a subsequent section.

The detrital zircon spectra for late Eocene – early Oligocene samples collected from stratigraphically lower samples (MG1-4, from meter 4 within the within the MG1 section, and 080719BK-01, from meter 6 within the HP1 section; Figure 2.3) display a relative larger abundance of 45-30 Ma grains than those collected from stratigraphically higher locations in the measured sections (MG1-104 from meter 106 in the MG1 section and 080919BK-01 form meter 527 in the HP1 section; Figure 2.3) (Figure 2.14). Specifically, the unimodal peak of 45-30 Ma grains in the MG1-4 sample (Figure 2.7 and 2.14) and the volcaniclastic sand from which this sample was collected (Figure 2.3c and 2.6b) is interpreted as syn-deposition with the Mount Galen volcanics. We interpret the up section decrease in 45-30 Ma grains (Figure 2.14) as reflecting an increase in the integration of fluvial systems providing sediment to the Denali basin.

Middle Eocene – Oligocene populations in the sample collected form the topmost 20 meters of the Suntrana section (071420HW-01; Figure 8 and 14) likely reflect erosion of both 45-30 Ma volcanic and plutonic rocks (Figure 2.1), as it has been suggested that middle Eocene – Oligocene plutons throughout the Alaska Range were exhumed during the Pliocene (Ridgway et al., 2007).

2.6.2.1.2 Interpretation of Secondary Sources

In addition to the primary igneous sources that supplied sediment to upper Eocene-lower Oligocene strata in the study area and the strata overlying the Nenana Gravel at the Suntrana section, a small component of recycled detrital zircon sources sheds light on the unroofing of former sedimentary basins, some of which underlie the upper Eocene-lower Miocene strata in the study area. Here, we use minor detrital zircon populations in the Denali basin strata to suggest recycling of Mesozoic – Paleozoic sedimentary strata presently exposed throughout the Alaska Range. These sources include the Cantwell Formation, the Kahiltna assemblage, and Devonian-Lower Cretaceous strata located along the southern and northern boarders of the study area.

Recycling of the Cantwell Formation and Kahiltna assemblage

We interpret minor mid-Jurassic-earliest Cretaceous populations as reflecting grains recycled from the Kahiltna assemblage and the Cantwell Formation (Figure 2.14). These grains likely reflect primary sources of Devonian-Mississippian plutons intruding the Yukon-Tanana terrane (Dusel-Bacon and Aleinikoff, 1985; Mortensen, 1992; Dusel-Bacon et al., 1993, 2006, 2012), the Taylor Mountains Batholith (240-160 Ma) (Dusel-Bacon et al., 2009; Day et al., 2014), the Talkeetna arc of the Peninsular terrane (201-153 Ma) (Pálfy et al., 1999; Rioux et al., 2007, 2010), the Bonanza arc of the Wrangellia composite terrane (202-160 Ma; (DeBari et al., 2011), the Chitina arc (175-135 Ma) (Plafker et al., 1989; Nokleberg et al., 1994; Roeske et al., 2003), and the Chisna arc (140-115 Ma) (Snyder and Hart, 2007). Strata of the Kahiltna assemblage and the Cantwell Formation reflect primary deposition and secondary recycling of these grains, respectively (Hampton et al., 2010; Hults et al., 2013; Link, 2017; Box et al., 2019; Romero et al., 2020). Secondary peaks of detrital zircon grains within these age ranges in the samples from the study area and from the topmost 20 meters of the Suntrana section likely reflect exhumation of the Cantwell and Kahiltna basins throughout the Oligocene-Pleistocene (Figure 2.14).

Recycling of Paleozoic-Mesozoic basement strata

Although the remaining detrital zircon ages in samples from the study area (MG1-4, 080729BK-01, and 080919BK-01) could be accounted for with recycling of the Cantwell

Formation, we suggest that 700-400 Ma grains reflect recycling from Paleozoic-Mesozoic strata along the Denali fault system in the southern part of the study area ("Southern margin") and along the Hines Creek Fault system in the northern part of the study area ("Northern margin") (Figure 2.2, 2.7, and 2.14). Grains of this age range are present in the Cantwell Formation and thus, could reflect recycling of only the Cantwell Formation. However, as displayed in Figures 2.7 and 2.14, the relative abundance of 700-400 Ma grains in upper Eocene-lower Miocene strata from the study area (particularly, samples MG1-104, and 080919BK-01) most similarly reflects recycling of the Paleozoic-Mesozoic strata from the Southern and Northern margins, rather than recycling of scarce 700-400 Ma grains from the Cantwell Formation.

2.6.2.2 Conglomerate Provenance Interpretations

Overall, our conglomerate provenance data (Figure 2.10 and 2.11) indicate coarse-grained, alluvial fluvial deposits of late Eocene – early Miocene age were locally derived from within the study area and the McKinley sequence of plutons. The compositional data is dominated by sedimentary strata (sandstone and conglomerate clasts) with a secondary component of felsic volcanic clasts. These clast types correspond with the strata that comprise the basement and adjacent flanks of exposures of upper Eocene–lower Miocene strata in the study area: the Cantwell and Teklanika Formations and the Mount Galen volcanics (Figure 2.2).

Limestone clasts are only present at the base of the MG1 section and at the top of the HP1 section (Figure 2.11). There are two potential sources for these clasts, Devonian sedimentary strata along the southern basin margin (Dillinger terrane; unit Dl on Figure 2.2; (Csejtey et al., 1992; Keough, 2020), and similar strata of the Yanert Fork sequence presently exposed in the eastern Alaska Range (Figure 2.1) (Csejtey et al., 1992; Huff, 2012). Given the significant component of limestone at the base of the MG1 section (~30%; Figure 2.11) and the large grain size of clasts at the top of the HP1 section (Figure 2.3a), it is unlikely that the limestone clasts within our measured sections were transported >60 km, from the eastern Alaska Range. Thus, we interpret limestone clasts within our measured sections as derived from the local, Devonian sedimentary source (Figure 2.2) rather than the Yanert Fork sequence (Figure 2.1).

Minor abundances of argillite and quartzite are interpreted as corresponding to erosion of sources within the study area (Cantwell Formation, and units KJf, TRPs, DOs, Pzkp, and PzpCs on Figure 2.2). Granitoid clasts were likely derived from the McKinley sequence of plutons. U-Pb

geochronology of these clasts support this interpretation, as the ages of these clasts are consistent with the 70-50 Ma age range suggested for the McKinley sequence (Figure 2.1 and 2.10) (Reed and Lanphere, 1973; Lanphere and Reed, 1985; Hung, 2008).

Provenance data from the conglomerate collected from the topmost 20 meters at the Suntrana section (sample 071420HW-02; Figure 2.10) reflect erosion of 45-30 Ma volcanic plutons and intrusions located north of the Denali fault (Figure 2.1). This sample is collected from the Pliocene Nenana Gravel, within which similar-age igneous clasts were collected and analyzed in Ridgway et al. (2007). Our data further supports their interpretation that an up-section increase of 45-30 Ma clasts in the Pliocene Nenana Gravel reflects Pliocene exhumation of middle Eocene-Oligocene plutons located north of the Denali fault.

2.6.2.3 Summary of Provenance

In summary, provenance data from conglomerate clasts and detrital zircons indicate upper Eocene-lower Miocene strata in the study area were sourced locally from (1) basement strata that underlie these deposits and are exposed along the northern and southern margins of the study area (Figure 2), as well as from (2) distal sources to the east of the study area (present-day eastern Alaska Range; Figure 2.1).

Provenance data from the Suntrana section indicate the topmost 20 meters of strata were derived from (1) sources located to the east of the Suntrana location (present-day eastern Alaska Range) and (2) from local sources to the south of the Suntrana location within the Alaska Range, north of the Denali fault (Figure 2.1).

2.6.3 Interpretation of Structural Configuration

The distribution of upper Eocene-lower Miocene strata in the study area (Figure 2.2) is controlled by multiple oblique normal faults (Figure 2.12). In particular, the Park Road Fault controls this structure throughout the Highway Pass Corridor (Figure 2.2 and 2.12). The trace of the Park Road Fault closely follows the leading edge of Late Cretaceous-Eocene thrust belt that deformed the Cretaceous Cantwell Basin (Keough, 2020) (Figure 2.2). Within the upper Eocene-lower Miocene strata in the Highway Pass Corridor, we do not observe any evidence of folds, ductile deformation, or thrust faults (Figure 2.12a). These features are common in the underlying

strata (Figure 2.2 and 2.12a). In particular, the cross-section through the Highway Pass Corridor, displays evidence of compressional structures in the northern margin of the Cantwell Basin, as defined by Keough (2020). This part of the Cantwell basin is characterized by south-southeast verging imbricate thrust stacks involving strata of the Cantwell Formation along the northern margin and a north-verging thrust belt involving Ordovician-Triassic strata in the south. The Mount Galen Corridor is characterized by an oblique graben structure with the down dropped, hanging wall block comprising Mount Galen volcanic and upper Eocene-lower Miocene strata (Figure 2.2 and 2.12b).

We suggest significant dip-slip displacement along the oblique normal faults controlling the exposures of upper Eocene-lower Miocene strata in the study area, including the Park Road Fault, initiated post-deposition of this strata. These oblique normal faults in both the Highway Pass and Mount Galen corridors crosscut the Eocene north-verging thrust system that deformed the Cantwell basin (Keough, 2020), suggesting a maximum estimate of initiation as post-Eocene. Furthermore, the paucity of mafic volcanic clasts in the late Eocene-early Miocene strata within Highway Pass Corridor (Figure 2.11) exposed in the hanging wall of the Park Road Fault (Figure 2.12a) further indicates dip-slip motion along the Park Road Fault initiated post-deposition of the upper Eocene-lower Miocene strata. This is supported because Triassic pillow basalts are currently exposed within the footwall of the Park Road Fault in the Highway Pass Corridor (Figure 2.2) and the modern detritus eroded from this ridge in comprised almost entirely of mafic volcanic clasts. Thus, if the footwall of the Park Road Fault had been uplifted prior to deposition of the upper Eocene-lower Miocene strata in the Highway Pass Corridor, we would expect to find a significantly larger amount of mafic volcanic clasts in these strata compared to what we have recorded (Figure 2.11). Additionally, the relative ages of strata exposed in the hanging wall block of the graben structure in the Mount Galen Corridor, compared to strata exposed in the footwall (Figure 2.12b), supports dip-slip displacement along the graben-bounding faults occurred post-deposition. Displacement along these faults systems appears to continue in the present (Hudson et al., 2020).

2.6.4 Late Eocene – Early Miocene Strike-slip Basin Development Between the Hines Creek and Central Denali Fault Systems

We propose that the upper Eocene-lower Miocene strata studied in Denali National Park and Preserve represent deposition in a previously unrecognized stage of strike-slip basin development. Our interpretation is based on the new age control and stratigraphic data in combination with the Eocene-Miocene displacement history along the Denali and Hines Creek fault systems. We term this late Eocene – early Miocene basin the Denali basin and will use this name to refer to this strata for the remainder of the paper.

Our interpretation of basin formation as related to strike-slip deformation is supported by the Eocene-recent displacement history of the Denali and Hines Creek fault system during deposition of the Denali basin strata. Evidence of 150-200 km of strike-slip displacement along the Denali fault system since the Eocene is suggested by Eocene-Oligocene strike-slip basin development along the Denali fault system (Table 2.2, references therein), provenance studies of displaced Cenozoic sedimentary basins (Trop et al., 2019; Allen, 2016), mafic dike swarms emplaced along the Denali fault system related to transtension ca. 38-25 Ma (Trop et al., 2019), and the reconstruction of displacement constrained by Oligocene-Pleistocene slip rates (4-7 mm/yr; Lease et al., 2016; Haeussler et al., 2017; Trop et al., 2019). Displacement along the Hines Creek Fault system during this time period is less constrained, however, several lines of evidence suggest oblique displacement. This has been constrained by previous studies of geologic mapping and structural relationships (Cole et al., 1999; Keough, 2020), as well as surficial mapping and paleoseismic investigations (Federschmidt, 2014; Bemis et al., 2015). Based on the discrepancy in displacement along these basin-bounding fault systems, we suggest the structure of the Denali basin was likely controlled primarily by the Denali fault system. Therefore, the Denali fault would have acted as the dominant strand of the strike-slip system during development of the Denali basin. This configuration is similar to that of the Ridge basin in southern California, where the San Gabriel fault was the dominant structural feature during Miocene-Pliocene basin development (i.e., Crowell, 1982 & 2003). With this structural configuration in mind, we discuss the four stages of basin development of the Denali basin below.

2.6.4.1 Stage 1 – Initial Strike-slip Basin Development and Syn-depositional Volcanic and Fluvial Sedimentation (late Eocene – early Oligocene)

The initial stage of development of the Denali basin was characterized by shallow lacustrine and fluvial depositional systems with vegetated forest ecosystems (Figure 2.15). This stage corresponds with deposition of the lower portion of Denali basin strata (section 2.6.3). As discussed in the provenance section and reflected in the unimodal distribution of 45-30 Ma grains in sample MG1-4, from meter 4 in the MG1 section (Figure 2.7 and 2.14), the fluvial systems drained nearby eruptive centers and derived sediment primarily from volcanic deposits (Figure 2.15). Following this interpretation, and that of Ridgway et al. (2007), the intrusive parts of these volcanic systems – i.e., mid-Eocene–Oligocene plutons – would remain mainly unexhumed during this time period (Figure 2.15).

Regionally, the Eocene initiation of strike-slip displacement along the Denali and Hines Creek Fault systems resulted in a truncation of Cretaceous-Paleocene structures related to shortening (Figure 2.15). These thrust-related features had incorporated the strata underlying the Denali basin (Paleozoic-Mesozoic strata, the Cretaceous Cantwell Formation, and the Upper Paleocene-lower Eocene Teklanika Formation) into thrust belts (Figure 2.15; Keough, 2020) Displacement along the Denali fault system during this time period also attributed to the emplacement of Eocene-Oligocene mafic dikes (Figure 2.15; Trop et al., 2019). We additionally note a spatial and temporal connection between increased volcanic activity and proximity of volcanic centers with the active Denali and Hines Creek fault systems (Figure 2.15). Lastly, as discussed in the provenance section, restoration of displacement along the Denali fault system would place the McKinley sequence of plutons near the present-day eastern Alaska Range during this time period. This interpretation is based on the reconstruction of 100-200 km of Cenozoic displacement along the Denali fault system, constrained by slip-rates of 4-7 mm/yr from various studies (Haeussler et al., 2017; Lease et al., 2016; Trop et al., 2019).

2.6.4.2 Stage 2 – Continued Strike-slip Basin Development and Fluvial Sedimentation in the Denali Basin (early Oligocene – lower Miocene)

During the next stage of basin development, sedimentation in the Denali basin was characterized by deposition of westward, axial fluvial systems and stream-dominated, alluvial fans derived from adjacent flanks of the basin margins (Figure 2.16). Vegetated floodplains also

included shallow lacustrine and peat bogs along the basin axis (Figure 2.16). This time period marks the primary stage of filling of the Denali basin in a regional transpressional regime setting and corresponds to deposition of the middle portion of strata, described in section 2.6.3. As described in the provenance (section 2.6.3) and reflected in detrital zircon distribution of samples from the lower HP1 section (080719BK-01; Figure 2.7 and 2.14) and the upper MG1 section (MG1-104; Figure 7 and 14), fluvial systems were draining sources presently exposed in the eastern Alaska Range and along the uplifting flanks of the Denali basin (northern and southern margins of the Denali basin) (Figure 2.16). Additionally, as indicated by 70-50 Ma peak populations in these detritus samples (Figure 2.7 and 2.14) and similar age granitoid conglomerate clasts (Figure 2.10 and 2.11), the McKinley sequence of plutons provided detritus and conglomerate clasts to the basin throughout this time. Following the interpretation of conglomerate clasts indicating a local source to the Denali basin, and restoration of displacement along the Denali fault system, during this time period the McKinley sequence of plutons would have been approximately where the present-day Nenana River intersects the Denali fault based on slip rates of 4-7 mm/yr (Figure 2.1 and 2.16; Haeussler et al., 2017; Lease et al., 2016; Trop et al., 2019).

To the north of the Hines Creek Fault system during this time period, fluvial and alluvial sedimentation in local transpressional basins was occurring in the Rex Creek and Teklanika areas (Figure 2.16; Ridgway et al., 2007). Similar to the strata of Denali basin, strata exposed in these locations have previously been mapped as associated with the Miocene Usibelli Group and Pliocene Nenana Gravel. However, based on the similar age constraints and sedimentation styles, we suggest reevaluation of these strata is required in the context of regional Eocene-Oligocene transpressional basin development.

At a larger scale, the Oligocene coincides with the initial collision and shallow subduction of the Yakutat microplate (Plafker and Berg, 1994; Arkle et al., 2013; Finzel et al., 2015). Previous studies have shown that this process was affecting the southern convergent margin of Alaska during this time period, resulting in enhanced exhumation and uplift of the Chugach Mountains (e.g., Arkle et al., 2013). However, increased exhumation and uplift within the Alaska Range likely did not initiate until the late-Oligocene – early-Miocene (Ridgway et al., 2007; Benowitz et al., 2011, 2014; Riccio et al., 2014; Brennan and Ridgway, 2015). Thus, we suggest the far inboard effects of this collision were likely manifest as enhanced strain partitioning along the Denali fault system resulting in continued strike-slip motion and transpression (Figure 2.16 and 2.17).

Continued emplacement of Oligocene mafic dikes, related to transtensional deformation along the Denali fault system, additionally supports this interpretation (Figure 2.16; Trop et al., 2019).

During the Early Miocene, fluvial and alluvial sedimentation continued in the Denali basin, however, transpressional deformation along the Denali fault system initiated excavation and reworking of this strata along the southern basin margin (Figure 2.17). This initial excavation of Denali basin strata is evident in the reworked palynomorphs from the HP2 section (as described in section 2.5.2.2). Deposition of the middle portion of Denali basin strata (section 2.6.3) continued during this time period in stream-dominated alluvial fan systems, braided fluvial systems, and shallow lacustrine systems (Figure 2.17). Sporadic volcanism throughout the region and within this basin continued during this time in certain locations, as evident by the presence of bentonite layers and a volcanic flow in the middle of the HP2 section (Figure 2.3b and 2.5). The strata underlying the Denali basin, uplifted along either side of the basin, as well as the McKinley sequence of plutons, continued to source conglomerates of the Denali basin during the lower Miocene. This is indicated by clast counts from the HP2 section (Figure 2.11). The lower Miocene likely corresponds to the period of maximum thickness of Denali basin strata, as indicated by the palynological analysis of mudstone samples. As discussed in section 2.5.2, the thermal maturity of these samples suggests burial of up to 600-1000 meters (Figure 2.17). This amount of burial is additionally supported by thermochronological analyses of a bentonite in the underlying Cantwell Formation (Trop et al., 2019). This analysis of a bentonite in the lower Cantwell Formation exposed along the East Fork River (Figure 2.2) from Trop et al. (2019) documents initial burial of at least ~8 km, ~7 km of which is accounted for by 4 km of Cantwell Formation and 3 km of Teklanika Formation (Ridgway and Trop, 1997; Cole et al., 1999; Keough, 2020). Therefore, we suggest additional burial of the bentonite in the Cantwell Formation from overlying Denali basin strata accounts for the remaining ~1 km.

North of the Hines Creek fault during the early Miocene, this time period consisted of deposition of the Healy Creek and Sanctuary Formations in the developing Tanana foreland basin (Figure 2.17) (Ridgway et al., 2007). Analysis of the detrital zircon spectrum from these formations reveals significant populations of recycled Precambrian grains, reflecting primary sources from the northern Yukon-Tanana terrane (Figure 2.8) (Brennan and Ridgway, 2015). This interpretation is also supported by the proposed large-scale south-westward drainage system that

controlled sediment pathways throughout southcentral Alaska during the Oligocene-early Miocene (Finzel et al., 2015; Benowitz et al., 2019).

2.6.4.3 Stage 3 - Excavation and Deformation of the Denali Basin (middle Miocene – Pliocene)

Initial and continued uplift throughout the Alaska Range during the middle and upper Miocene resulted in localized alluvial stream flow and debris flow deposits and contemporaneous excavation of Denali basin strata (Figure 2.18). This stage of basin development corresponds with deposition of the upper portion of Denali basin strata, represented by the topmost ~200-300 meters of the HP1 section (Figure 2.3a; section 2.5.2). Coarse-grained, massive, conglomerate and sandstone reflect continued erosion of strata uplifting along either side of the Denali basin, as well as the McKinley sequence of plutons (Figure 2.18). This is indicated by the provenance of large clasts within this section, described in section 2.6.1.3 (clast count #2 and 3 from the HP1 section in Figure 2.11; sample 080719BK-03 from meter 230 and sample 080919BK-02 from meter 602 in the HP1 section, Figure 2.10). Specifically, the increase in limestone clasts in the HP1 section (Figure 2.11), interpreted as erosion of Devonian strata exposed along the southern margin of the Denali basin, reflects initial uplift and erosion of the Alaska Range to the south (Figure 2.18). This is also supported in the influx of southern basin margin detrital zircon grains in the sandstone sample from meter 527 in the HP1 section (080919BK-01; Figure 2.14). Lastly, shortening of Denali basin strata in the form of compressional folding, likely initiated during this time (Figure 2.18). This interpretation is based on previous mapping in combination with our new age control interpretations, however, more work in exposures of Denali basin strata elsewhere between the Hines Creek and Denali fault systems is needed to further verify the timing of this deformation.

In the Tanana foreland basin during the middle and upper Miocene, the excavating Denali basin strata was likely eroded, transported, and redeposited within the Suntrana and Lignite Creek Formations (Figure 2.18). This is shown by an increase in 120-80 Ma and 70-50 Ma grains culminating in two prominent 63 Ma and 99 Ma peaks in the upper Suntrana Formation (Figure 2.8 and 2.20). Our interpretation of recycling of Denali basin strata is also supported by detailed sedimentological and geochronologic studies of middle Miocene Suntrana Formation which record an up section increase in recycled sedimentary strata located south of the Hines Creek Fault (Ridgway et al., 2007; Brennan and Ridgway, 2015). In particular, reworked Upper Cretaceous palynomorphs were found in mudstone of the Lignite Creek Formation (Ridgway et al., 2007) and

comparison of the distribution of detrital zircon grains of the Cantwell Formation with the Lignite Creek Formation display a striking similar signal (Figure 2.19; Brennan and Ridgway, 2015). Because strata of the Denali basin were deposited atop the Cantwell basin, it follows that the Tanana basin received an influx of sediment recycled from the Denali basin (dominantly 120-80 Ma and 70-50 Ma grains) during deposition of the upper Suntrana Formation, in addition to recycled Cantwell Formation (Figure 2.19). This transition to a northward drainage system has previously been interpreted as reflecting increased uplift of the Alaska Range resulting in a reorganization of drainage patters, chiefly eroding recycled strata and primary igneous sources from south of and within the Denali fault system (Ridgway et al., 1999, 2007; Brennan and Ridgway, 2015; Finzel et al., 2015; Benowitz et al., 2019).

Excavation and deformation of Denali basin strata continued during the upper Miocene, corresponding with enhanced uplift in the central Alaska Range (Figure 2.20). Furthermore, based on compositional data and our interpretation of the structural configuration of the distribution of Denali basin strata (as described in section 2.6.3), the deformation along the Park Road Fault likely initiated during this time. Following restoration of displacement along the Denali fault throughout the Miocene and exhumation studies from the central Alaska Range (i.e., Fitzgerald et al., 1995), the upper Miocene corresponds with the McKinley sequence of plutons entering the McKinley restraining bend (Figure 2.20). In the Tanana foreland basin, this time period corresponds to deposition of the Grubstake Formation in a regional deltaic system (Figure 2.20; Ridgway et al., 2007).

2.6.4.4 Stage 4 – Pliocene Sedimentation/Glaciation and Deformation (Pliocene)

Continued deformation between the Hines Creek and Denali fault systems during the Pliocene resulted in continued excavation of Denali basin strata (Figure 2.21). This excavation was likely enhanced with deformation along the Park Road Fault and the continued uplift of the central Alaska Range.

To the north of the Hines Creek fault system, sedimentation in the Tanana basin in the early Pliocene records continued uplift and transpression resulting in coarse-grained alluvial-fluvial deposits of the lower and middle Nenana Gravel (Figure 2.21; Ridgway et al., 2007). Our new data from the topmost 20 meters of the Suntrana section and the lower Nenana Gravel, in combination with data from the upper Nenana Gravel from Brennan and Ridgway (2015) (Figure 2.8), suggest

a mid-Pliocene change in drainage affected deposition in the Tanana Basin. The detrital zircon spectrum from the lower Nenana Gravel (sample HC-062407-08 of Brennan and Ridgway, 2015) is most consistent with the modern central Alaska Range drainage, displaying a prominent peak of 70-50 Ma grains with a minor amount of mid-Cretaceous grains (Figure 2.8 and 2.24). As discussed in the provenance interpretation section (section 2.6.1.1.1), this reflects erosion primarily derived from the uplifting McKinley sequence of plutons (Figure 2.21). Conversely, the detrital zircon spectrum of the upper Nenana Gravel (sample NG-080607-02 from Brennan and Ridgway, 2015) and our new sample collected from sandstone ~130 meters above the upper Nenana Gravel sample (071420HW-01) shows populations consistent with the modern eastern Alaska Range drainage (Figure 2.22). We interpret this up section shift in dominant detrital populations (Figure 2.22) as reflecting a mid-Pliocene westward deflection of drainages coming off of the uplifting Alaska Range. Previous geomorphic studies of the Tanana basin show that this is an actively deforming landscape with major areas of deformation in the western (Kantishna Hills), central, eastern, and northern parts of the basin (Lesh and Ridgway, 2007; Bemis et al., 2012, 2015; Bender et al., 2019). Additionally, stratigraphic relationships between the Usibelli Group and Nenana Gravel at various locations in the Tanana basin show that this deformation began in the Pliocene (Capps, 1930; Wahrhaftig and Back, 1958; Ridgway et al., 2007). Our data support this interpretation and our new analysis of the modern drainages of the central and eastern Alaska Range (Figure 2.13 and 2.22) provide further evidence for continued deflection of drainages into the present.

2.6.5 Implications for Cenozoic Tectonics Along the Central Denali Fault System

Our analysis of late Eocene-early Miocene Denali basin documents the first detailed report of strike-slip basin development along the north side of the central Denali fault system (Figure 2.23; Table 2.1). Provenance and stratigraphic data from Denali basin strata represent syn-depositional tectonism consistent with characteristics of other Cenozoic strike-slip basins along the Denali fault system (Figures 2.15-2.18). These include (1) coarse-grained alluvial-fluvial deposits adjacent to basin-bounding faults, (2) thick, but laterally restricted sedimentary sequences characterized by high-sedimentation rates, (3) petrofacies data indicating localized uplift along basin-bounding faults, and (4) abrupt facies variations (Trop et al., 2004). Our distinction of late Eocene-early Miocene stage of strike-slip basin development along the central Denali fault system

places an additional constraint on the Mesozoic-Cenozoic transition from compressional to transpressional tectonics in south-central Alaska (Figure 2.23; Table 1).

Prior to strike-slip formation of the Denali basin, the strata of the underlying Cretaceous Cantwell and Upper Paleocene – Lower Eocene Teklanika Formations were deposited and subsequently deformed in a regional north-south-oriented compressional tectonic regime (Ridgway and Trop, 1997; Trop and Ridgway, 1997; Keough, 2020). An early-mid Paleogene period of compression is reflected elsewhere throughout the region, with large-scale mid-crustal deformation and exhumation throughout the Alaska Range suture zone (i.e., Ridgway et al., 2002). Following this distinct deformational stage, a mid-Eocene transition to transpressional tectonics is chiefly represented as strike-slip displacement, subduction-related magmatism, and transtensional diking (Figure 2.23) (Cole et al., 1999; Cole and Layer, 2000). The temporal and spatial connection of the Denali basin with regional transpressional tectonic processes and other strike-slip basins along the Denali fault system provides further evidence of Eocene-Miocene strike-slip displacement along the Denali fault system (Figure 2.23).

Integration of our new data from the Denali basin with previous basin analysis studies of the Tanana foreland basin records Miocene-Pliocene transpressional deformation throughout the region between the Hines Creek and Denali fault systems. Deformation and excavation of the Denali basin strata along post-early Miocene structures, such as the Park Road fault, supports the proposed northward propagation of deformation associated with Neogene shortening in the Alaska Range (i.e., Ridgway et al., 2007) (Figures 2.18-2.22). This deformation contributed to the recycling of Denali basin strata into the Tanana foreland basin. Our interpretation of mid-Pliocene drainage reorganizations (Figure 2.22) adds an additional temporal marker for the propagation of transpressional deformation into the Tanana basin.

2.7 Conclusions

(1) Our new chronostratigraphic and provenance data of Cenozoic sedimentary rocks presently exposed between the Hines Creek and Denali fault systems provide evidence for a previously unrecognized stage of strike-slip basin development along the northern side of the central Denali fault system, termed here, the Denali basin. Remnants of this stage are locally preserved in isolated exposures in Denali National Park, between the Toklat and McKinley rivers. Initial basin

development was marked by strike-slip displacement offsetting Mesozoic and early Cenozoic convergent structural features.

(2) Alluvial-fluvial depositional systems dominated most of the sedimentation in the Denali basin, with numerous peat bogs and isolated lacustrine systems or ponding in vegetated floodplains. Over 610 m of sediment was deposited in the Denali basin throughout the Oligocene and early Miocene. Sediment was locally sourced from adjacent sides of the basin and from more distant sources to the east that were transported westward by a basin axial fluvial system.

(3) Exhumation and erosion of this strata into the Miocene foreland basin on the north side of the Alaska Range initiated by middle Miocene. The middle and upper Suntrana Formation reflect the start of recycling of the Denali basin into the Miocene Tanana basin. By Late Miocene, a significant portion of this strata had been removed, and the underlying Cantwell and Teklanika Formations were being recycled into the foreland basin.

(4) Structural data from the Denali basin and analysis of modern drainages reflect continued strike-slip displacement and active transpressional deformation in the foreland basin. The Pliocene – recent transition from fluvial-alluvial to glacial sedimentation in the Alaska Range coincides with regional drainage reconstructions caused by this deformation. Oblique slip along the Park Road and adjacent fault systems assisted in excavation of Denali basin strata and resulted in local preservation within fault bound grabens and half-grabens.

(5) Overall, the development and deformation of the Denali basin provides an additional marker of Cenozoic transpressional tectonics in south-central Alaska. Formation of the Denali basin is spatial and temporally coincident with the formation of several strike-slip basins along the Denali fault system. Our analysis of the Denali basin further supports the evidence for a Cenozoic transition into a regional transpressional tectonic regime throughout the Alaska Range. Subsequent exhumation of the Denali basin represents a period of increased strain partitioning as a result of the oblique and shallow subduction along the southern Alaskan margin that persists into the present (see Chapter 3).

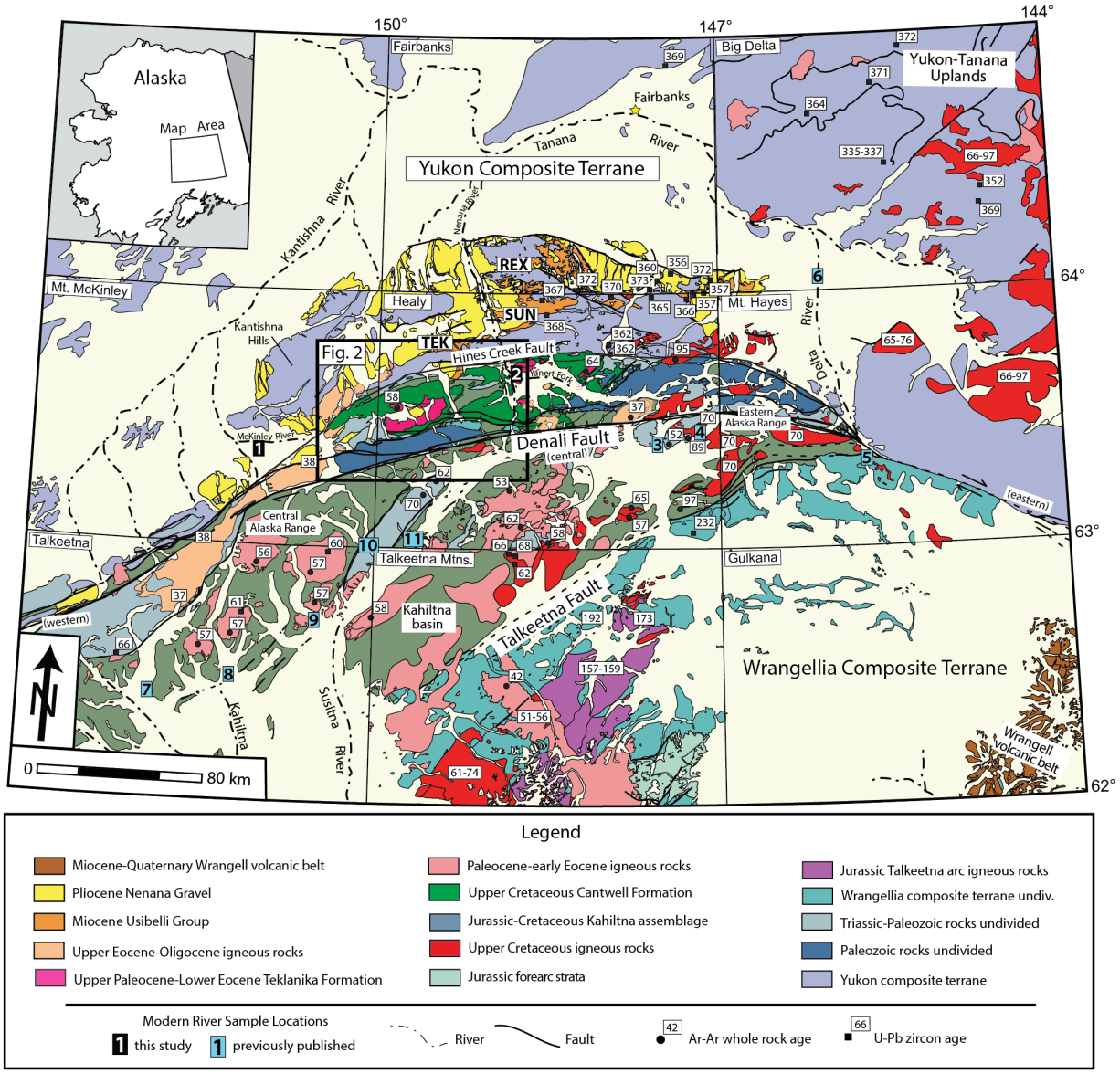


Figure 2.1: Geologic map of south-central Alaska including U-Pb and Ar-Ar geochronologic data for plutonic igneous rocks. Modified from Brennan and Ridgway (2015) and Keough (2020). Modern river samples from previous studies: 3 & 4 – West Fork & Susitna Glacier (Trop et al., 2019), 5 & 6 – Upper and Lower Delta River (Fasulo, 2019); 7-11 – Yentna, Kahiltna, Ruth, Fountain, Chulitna Rivers (Lease et al., 2016).

Figure 2.2: Geologic map of the study area, modified from Keough (2020), showing previous interpretations of Cenozoic strata (discussed in the text). Locations of measured sections referenced throughout the text are labelled using their abbreviations.

Figure 2.2 cont.

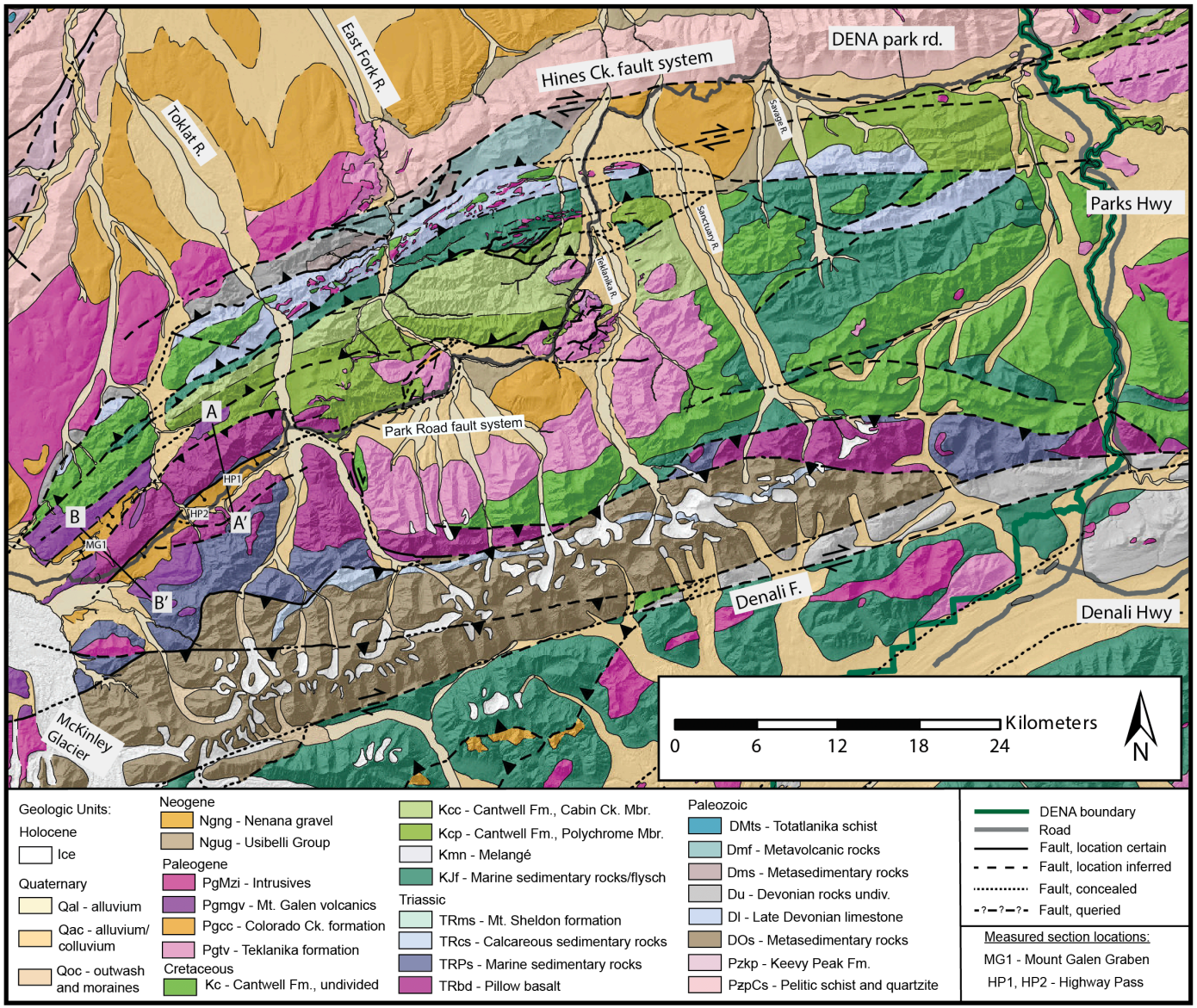
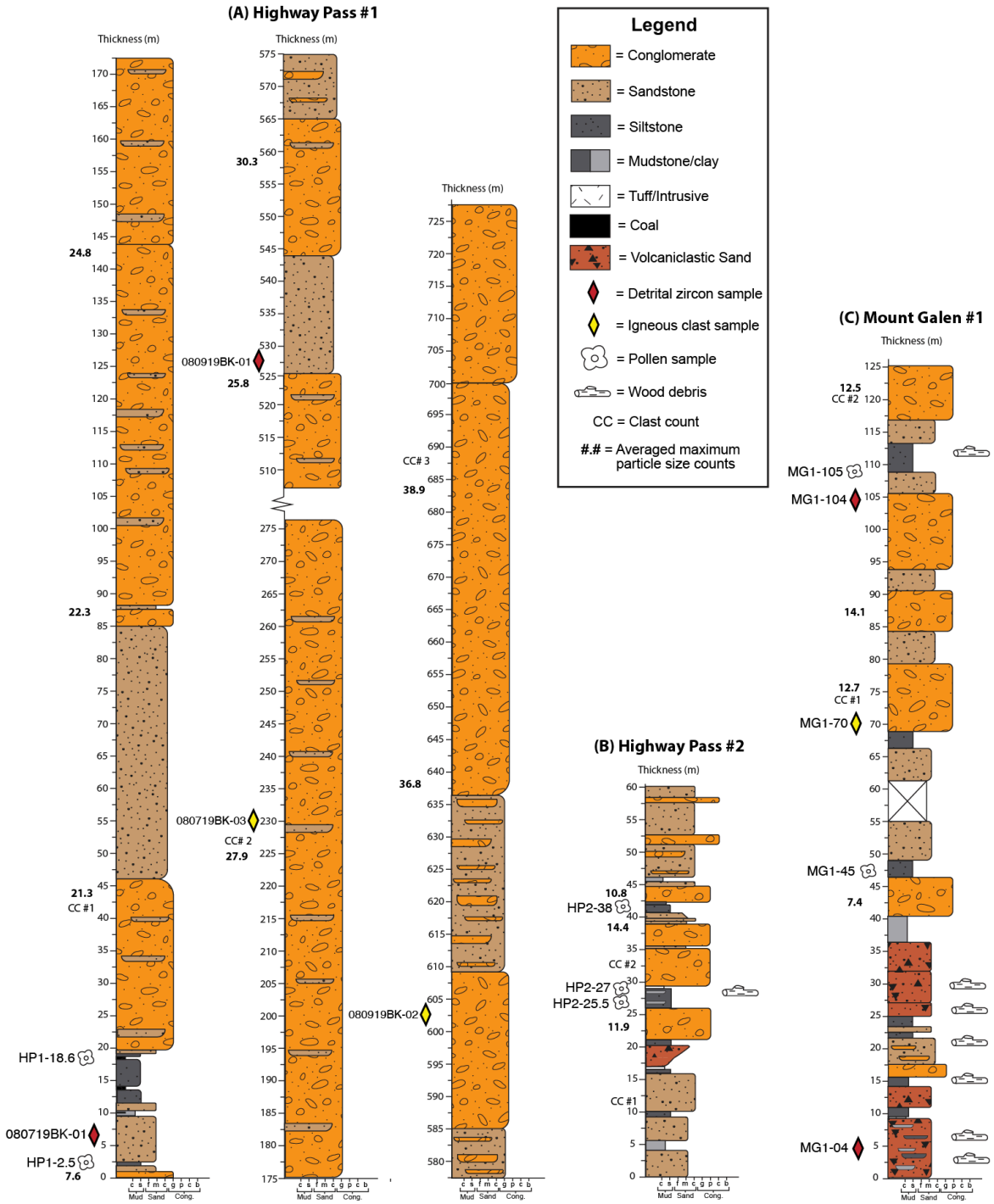


Figure 2.3: Measured stratigraphic sections from the study area displaying geochronologic sample locations and compositional data collection locations (abbreviations refer to locations shown in Figure 3.2). Breaks in the HP1 and MG1 sections reflect portions of covered strata

Figure 2.3 cont.



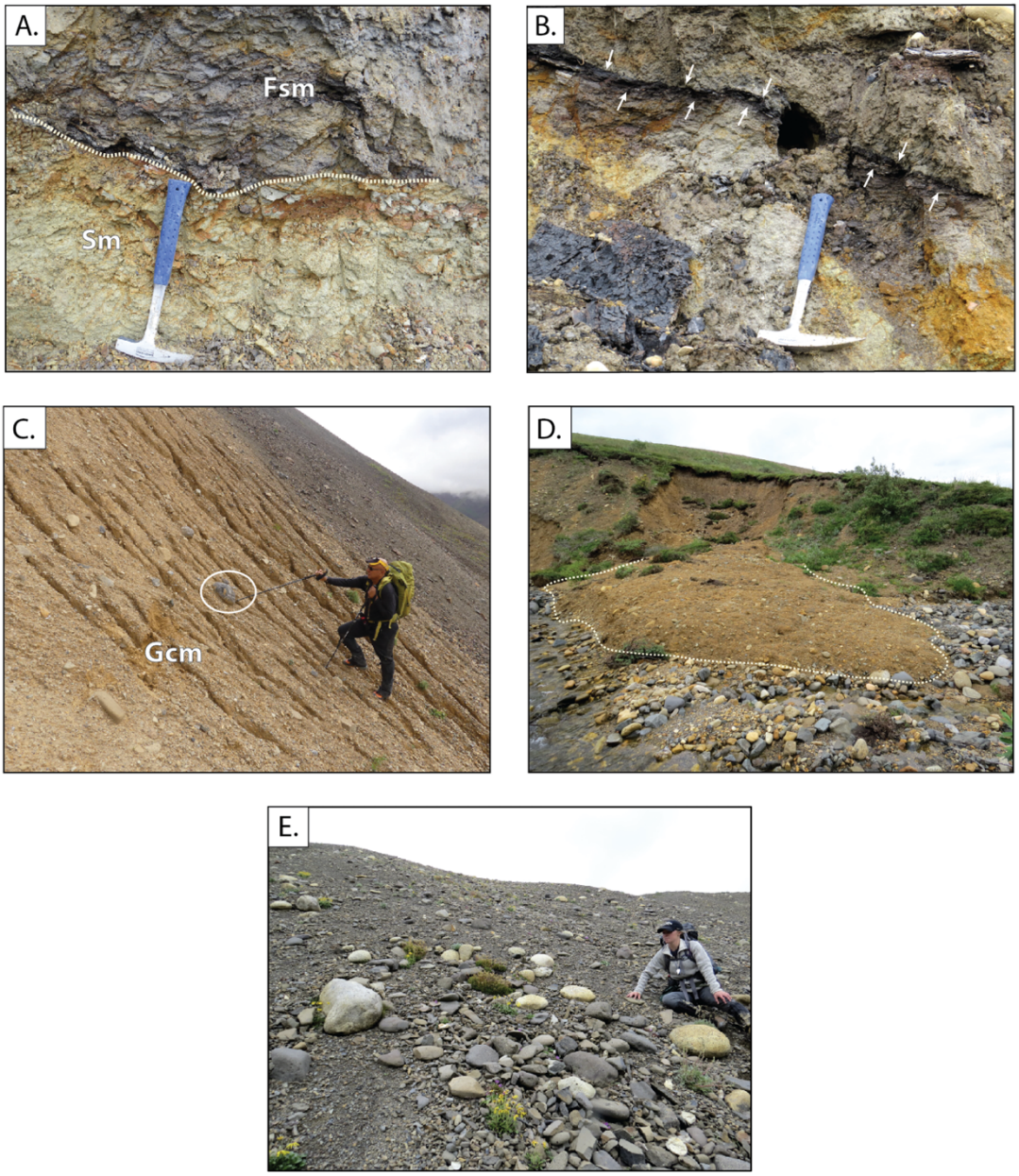


Figure 2.4: Field photographs of strata within the HP1 section. (A) Medium grained sandstone (Sm) overlain by carbonaceous mudstone (Fsm) that is typical of the lower 11 meters. (B) Mudstone and clay interbedded with a thin lignite seam (white arrows) exposed at meter 13. (C) Clast supported conglomerate (Gcm) with sub-rounded to rounded clasts and a sandy matrix, typical of this section. White circle highlight large, rounded clast. (D) Slump within a sandstone dominated bed outlined with dotted line. (E) Clast-supported pebble- to cobble-conglomerate, typical of the upper 100 meters.

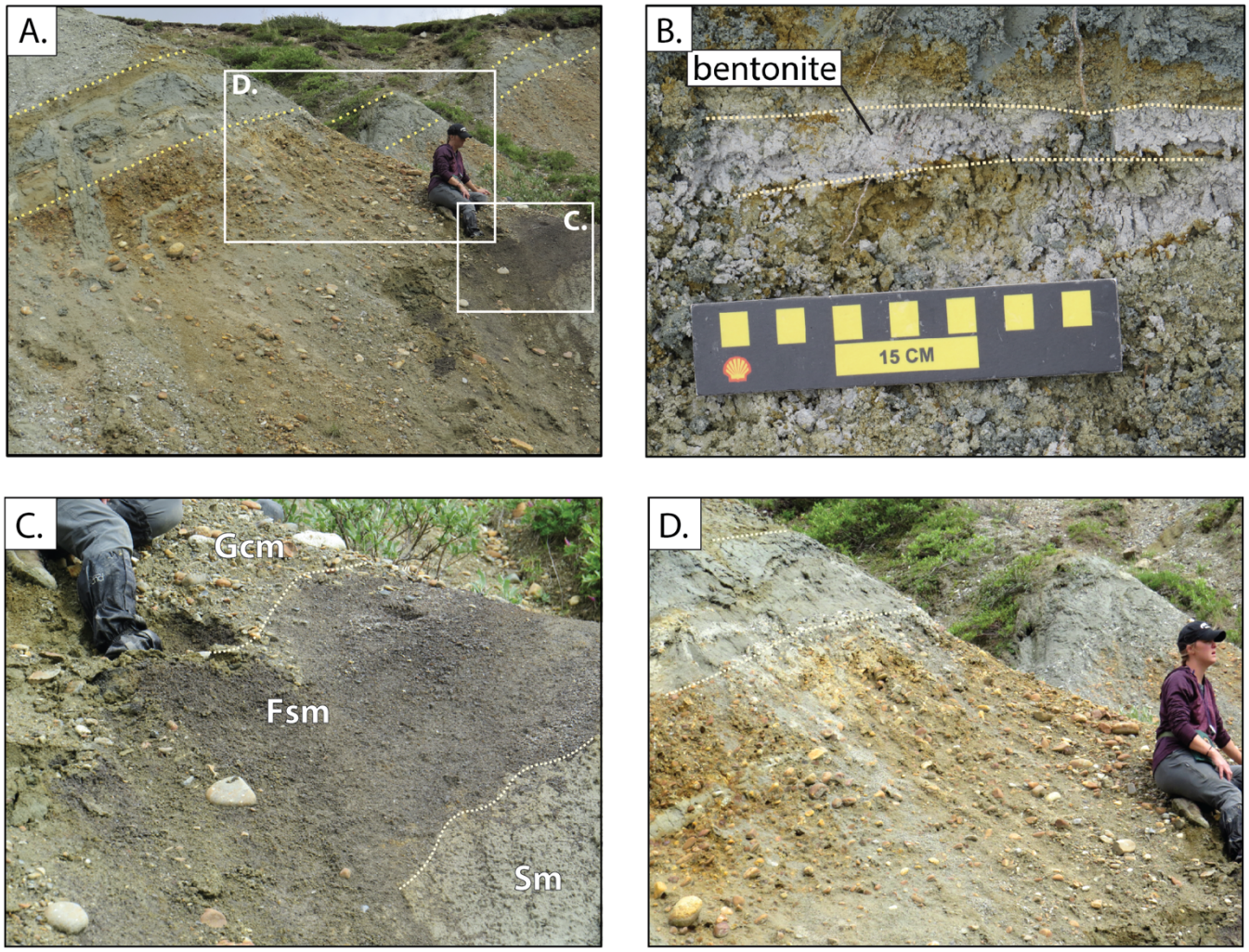


Figure 2.5: Field photographs of strata within the HP2 section. (A) Photo of upper 20 meters of this section, displaying the lateral continuity of beds at the outcrop scale (dashed lines tracing beds). White boxes denote location of photos C and D. (B) Bentonite found at ~26 meters. (C) Bed of carbonaceous mudstone (Fsm) from which the HP2-38 pollen sample derived, overlaying medium-grained sand (Sm) and overlain by granule-cobble, clast supported conglomerate (Gcm) (D) Close up of matrix supported, cobble-sized conglomerate.

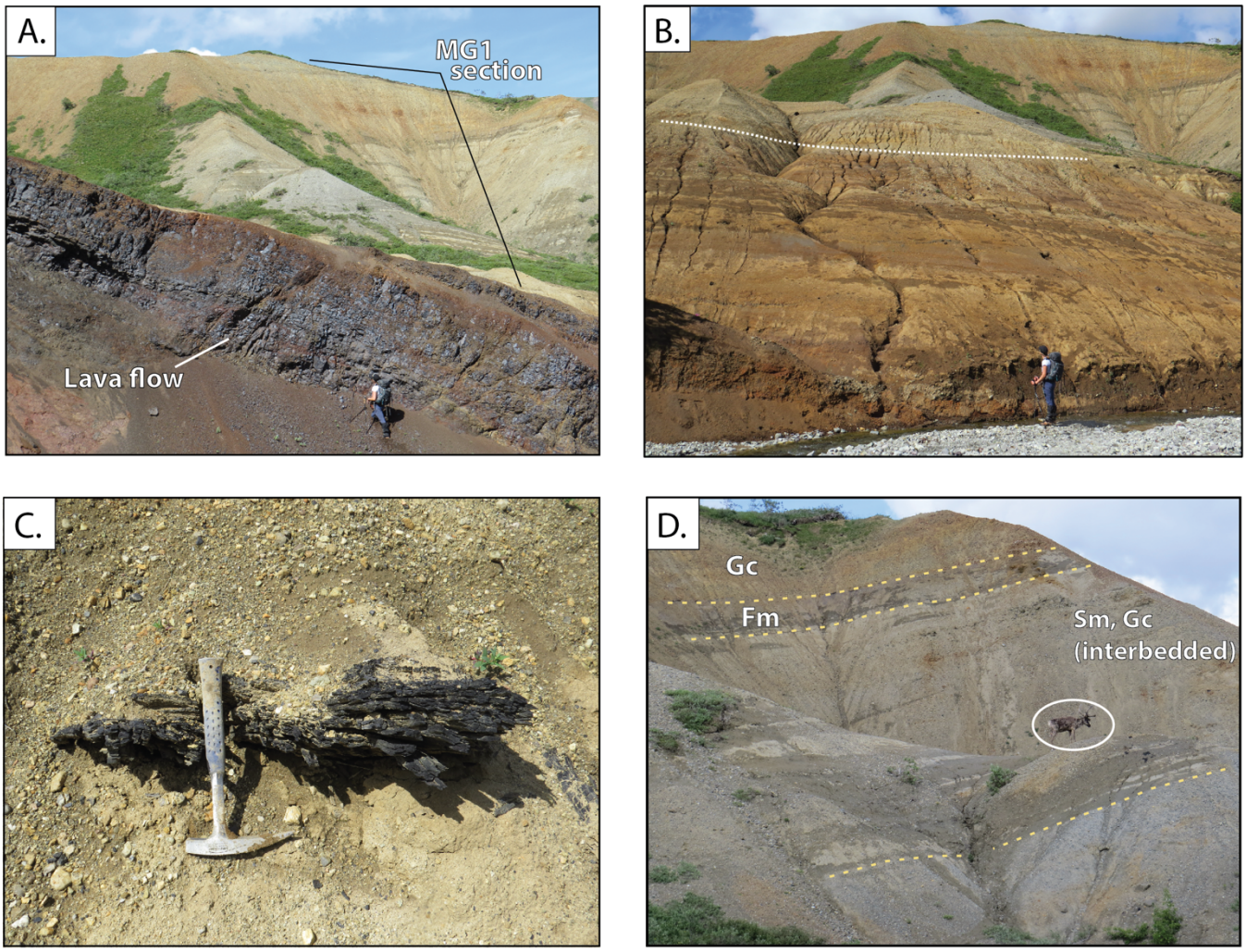


Figure 2.6: Field photographs from the MG1 section. (A) Basalt-andesite lava that underlies the base of the MG1 section. (B) Volcaniclastic sand that makes up the lowermost 40 meters of the MG1 section. White dashed line marks approximately the top of the lower volcaniclastic portion. (C) Wood debris that is found throughout this section. (D) Laterally continuous, massive, conglomerate (Gc), sandstone (Sm), and mudstone (Fm) that make up the upper ~70 meters of this section. Caribou (white circle) for scale.

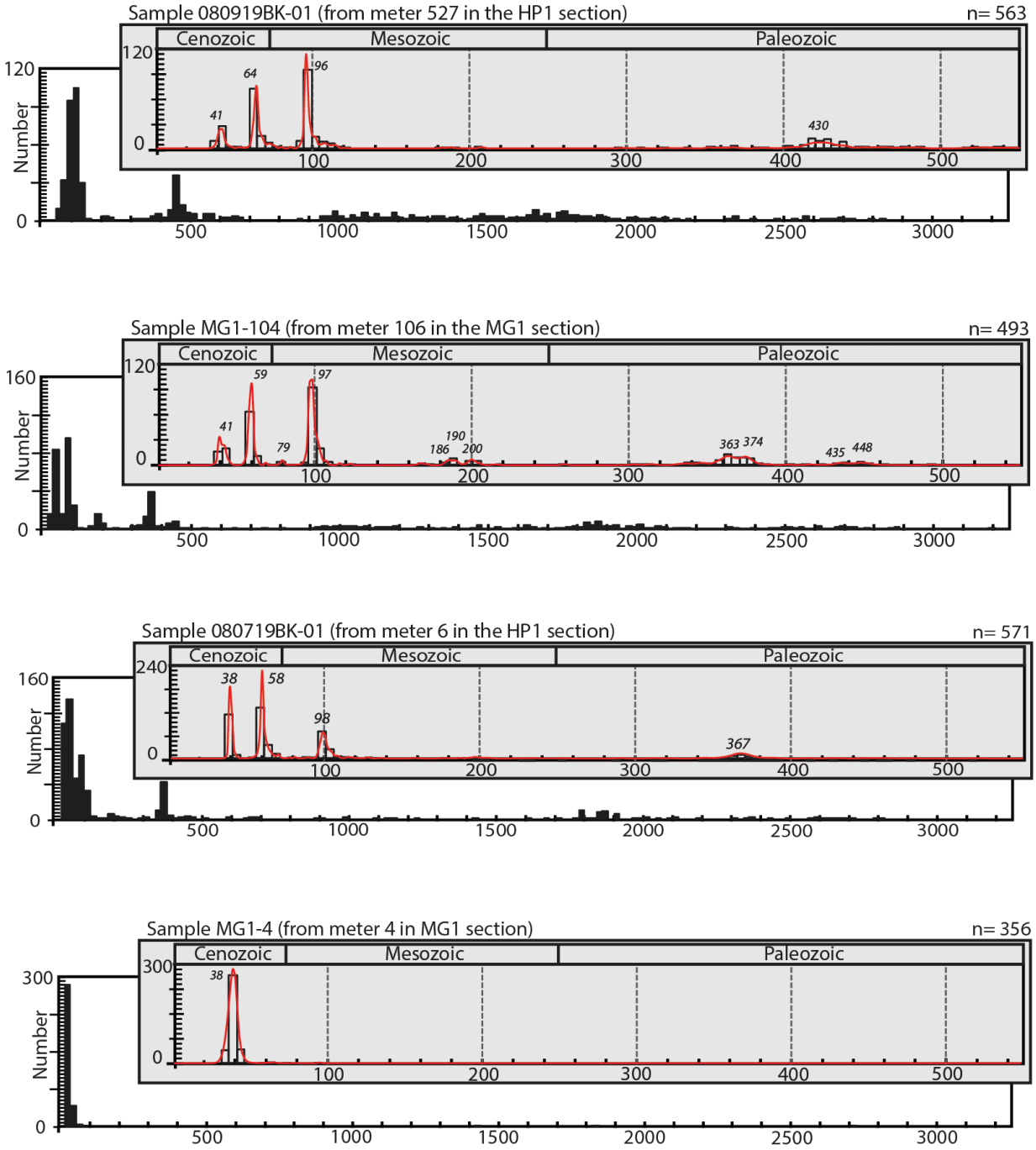
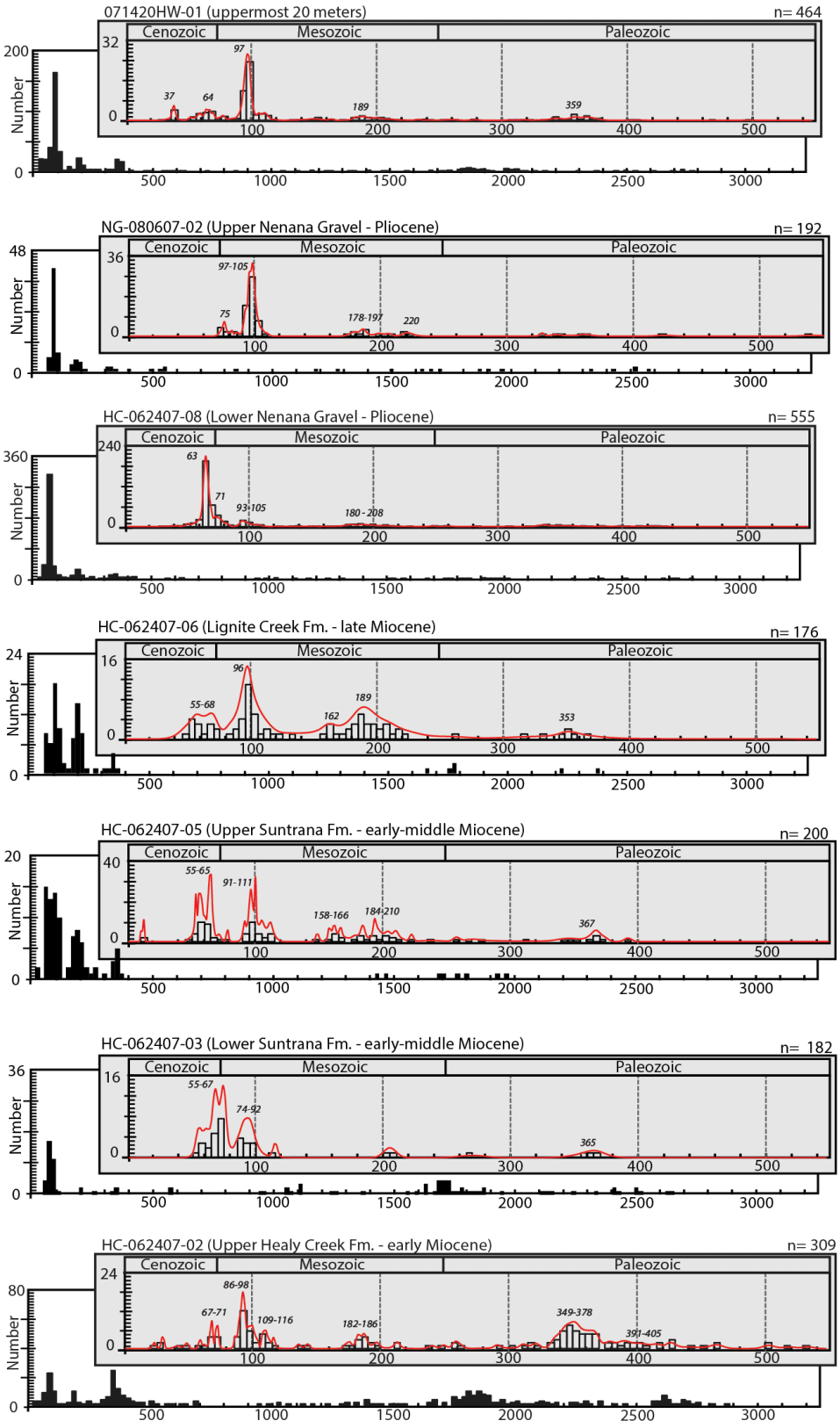


Figure 2.7: Probability density plots showing U-Pb detrital zircon spectra for the samples collected from within our measured sections (Figure 2.3). Detailed descriptions of results from individual datasets provided in the text.

Figure 2.8: Probability density plots showing U-Pb detrital zircon spectra for samples collected from the Usibelli Group and Nenana Gravel exposed at the Suntrana location, displayed from bottom to top in stratigraphic order. Aside from sample 071420HW-01, these samples were previously analyzed in Brennan and Ridgway (2015). Samples from the upper Healy Creek Formation (HC-062407-02) and the lower Nenana Gravel (HC-062407-08) were re-analyzed in this study to obtain a larger n-value. Detailed descriptions of results for new (071420HW-01) and re-analyzed samples (HC-062407-02 & -08) are provided in the text.

Figure 2.8 cont.



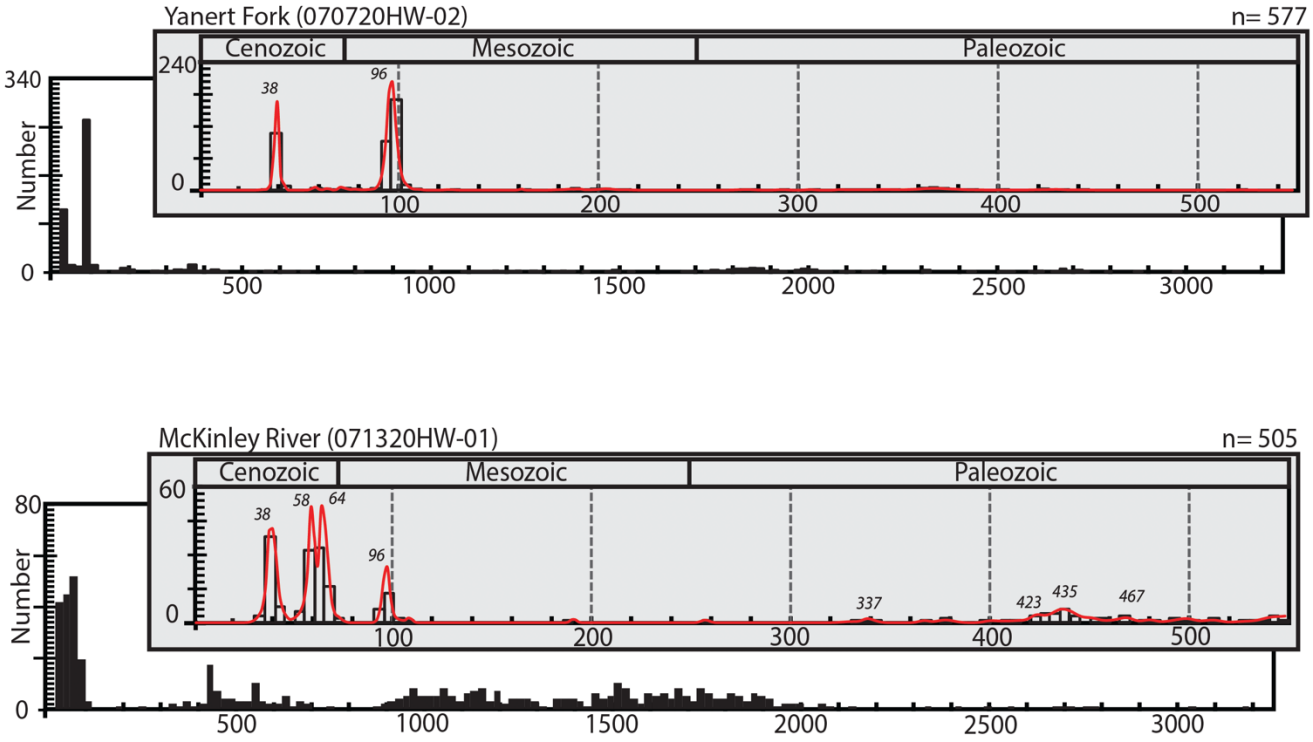


Figure 2.9: Probability density plots showing U-Pb detrital zircon spectra for samples collected from the McKinley (0713HW-01) and Yanert Fork (070720HW-01) rivers. Detailed descriptions of results from these datasets provided in the text.

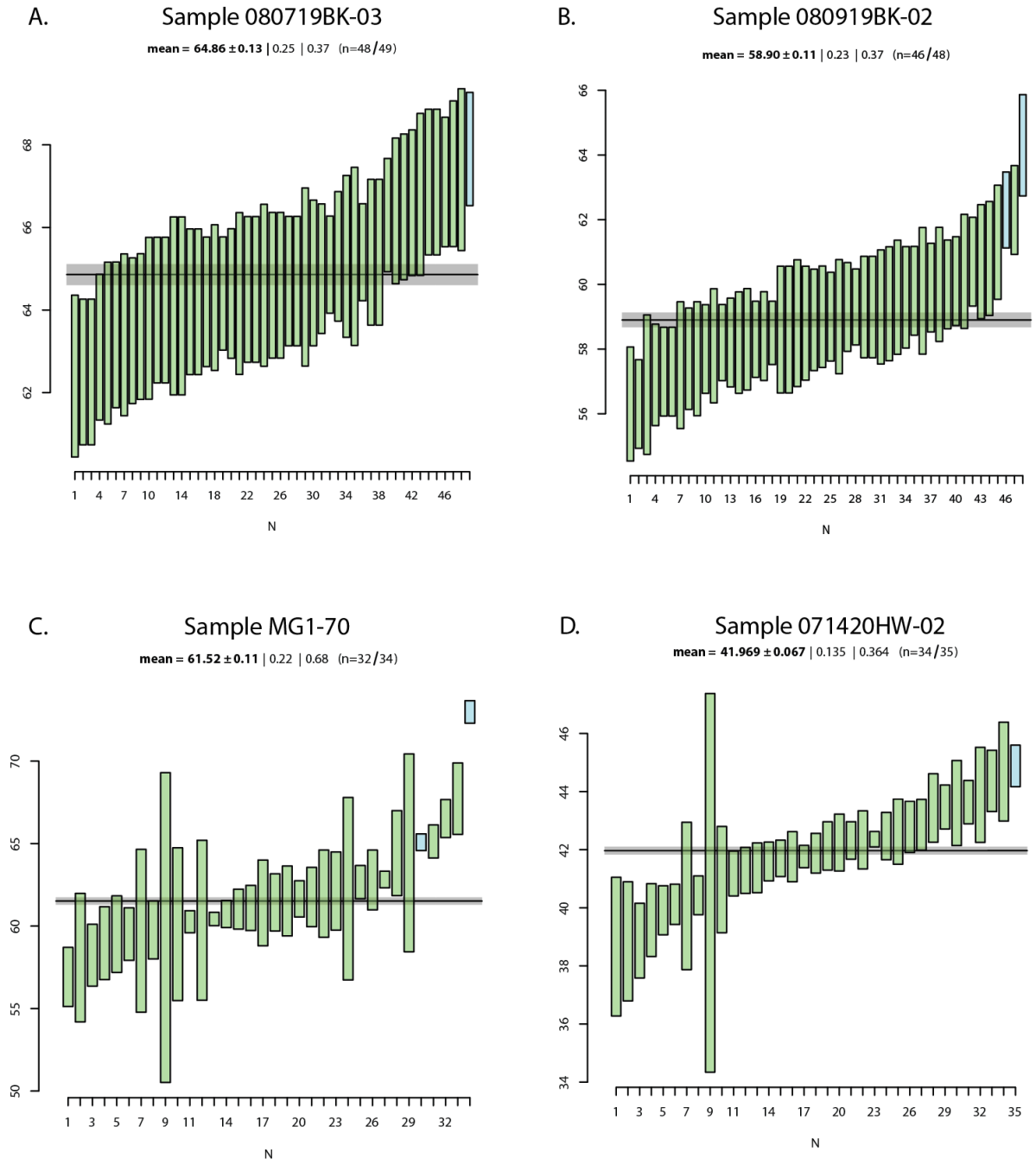


Figure 2.10: U-Pb ages from cogenetic zircon grains in igneous clasts from within our measured sections and from the topmost 20 meters of the Suntrana section. Weighted mean ages are displayed by black line and listed beneath the sample name (A) Sample 080719BK-03 from meter 230 within the HP1 section. (B) Sample 080919BK-02 from meter 602 in the HP1 section. (C) Sample MG1-70 from meter 70 in the MG1 section. (D) Sample 071420HW-02 from the topmost 20 meters within the stratigraphic section at the Suntrana location.

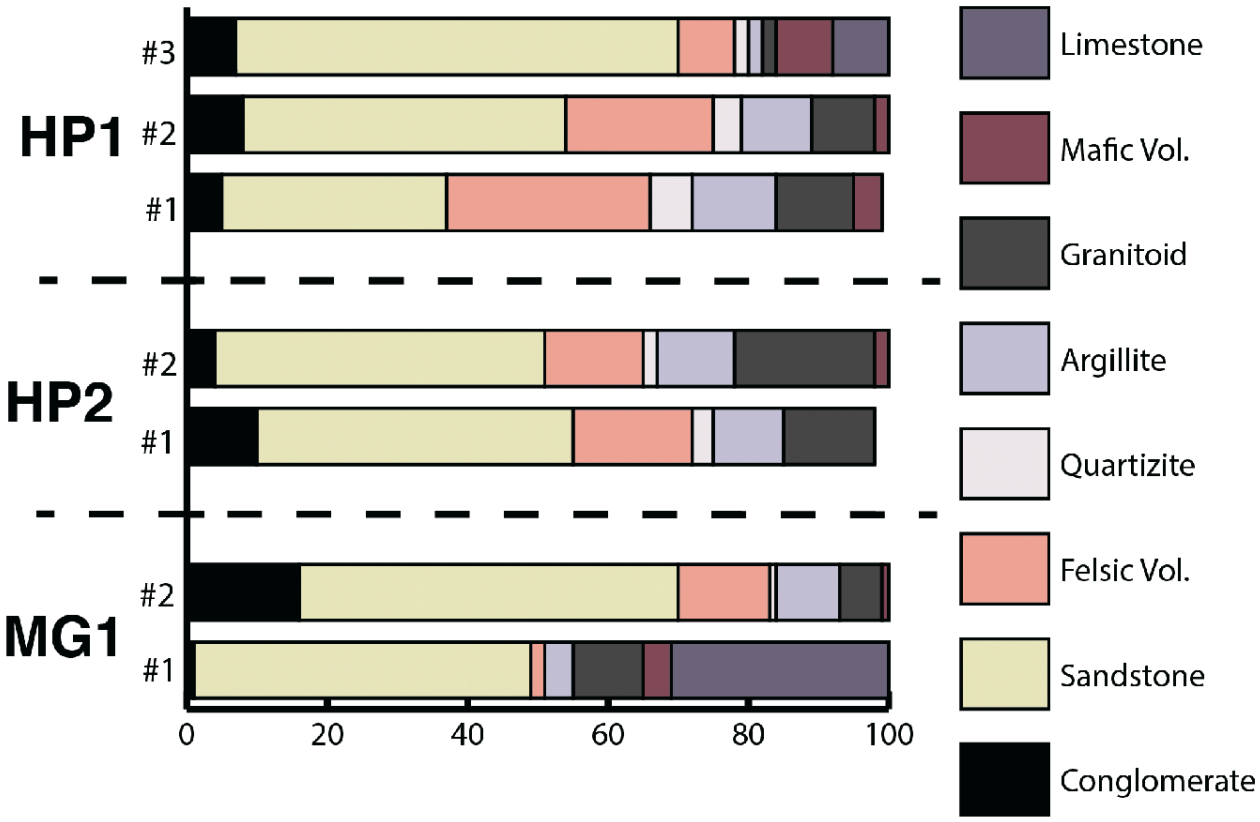
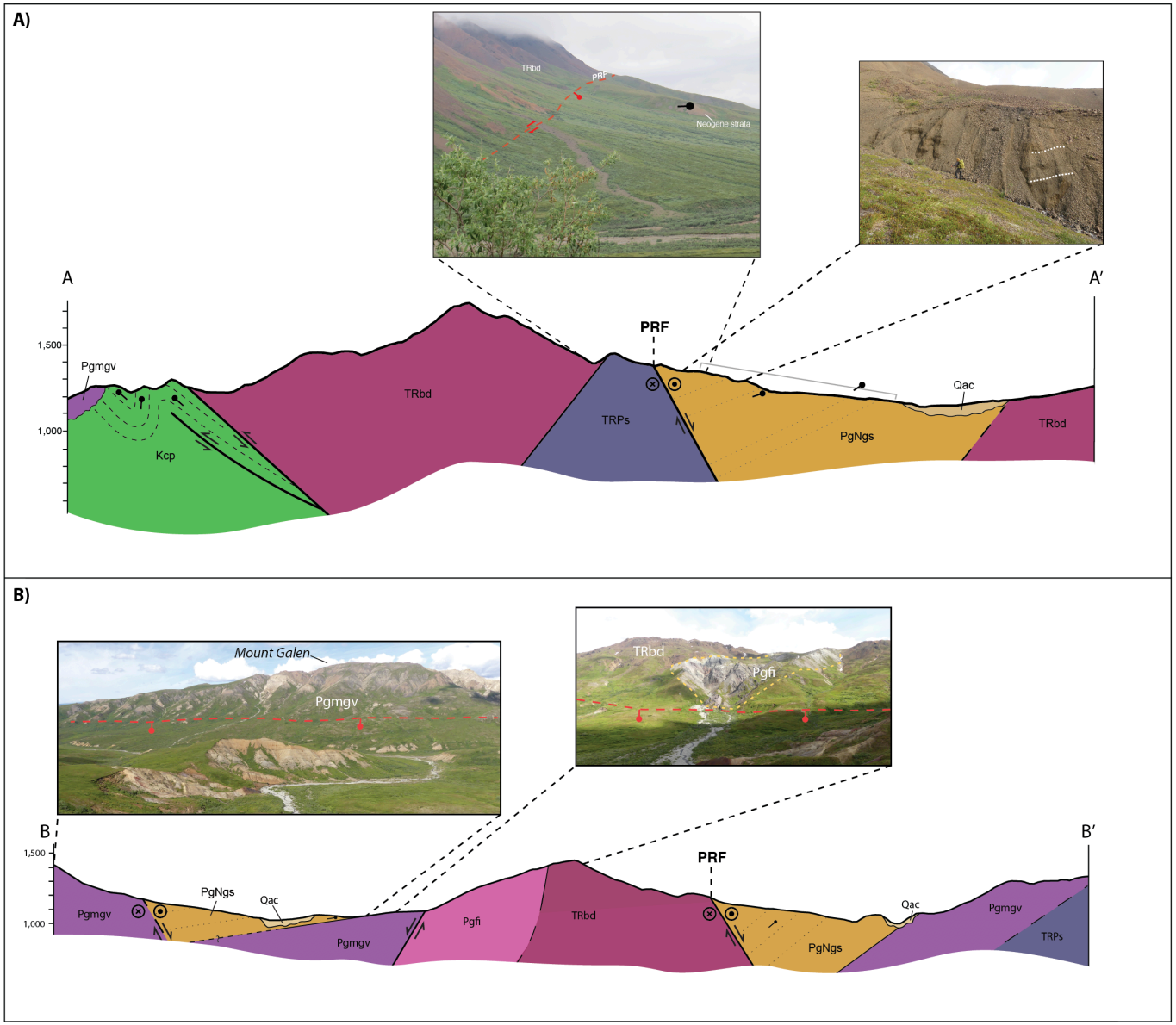


Figure 2.11: Clast compositional data from conglomerate within our measured sections. For stratigraphic positions of each clast count, refer to Figure 2.3. Note the prevalence of recycled clasts (sandstone and conglomerate) as well as felsic volcanics.

Figure 2.12: Structural cross-sections through the (A) Highway Pass and (B) Mount Galen corridors, refer to Figure 2.2 for surface locations; detailed description (section 2.5.6) and analysis (section 2.6.2) can be found in the text. Unit abbreviations and descriptions can be found in Figure 2.2; PgNgs – upper Eocene-lower Miocene Denali basin strata.

Figure 2.12 cont.



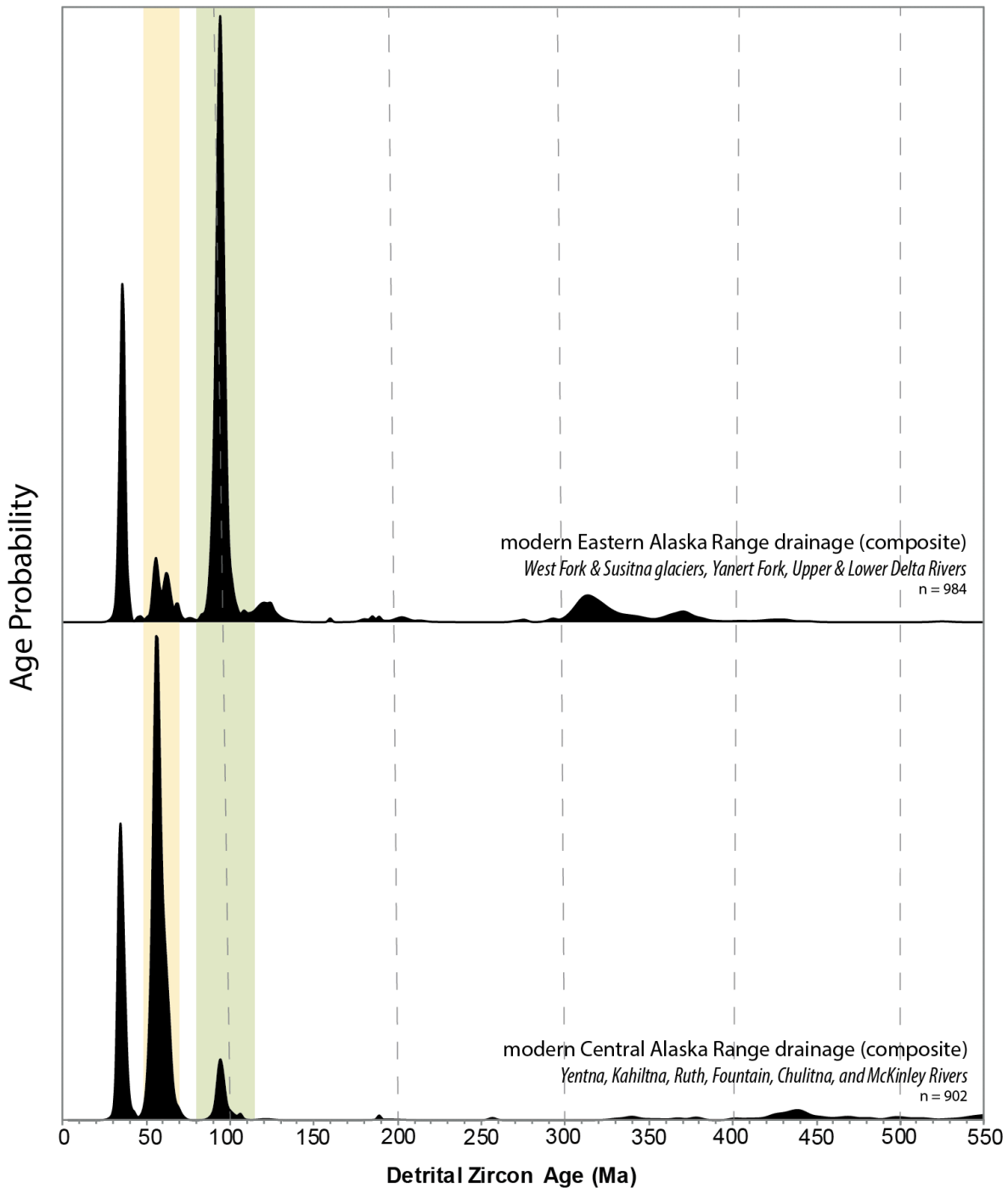


Figure 2.13: Normalized plots showing composite U-Pb detrital zircon ages for Phanerozoic grains in modern rivers draining the central and eastern Alaska Range, including new samples from this study. Refer to Figure 2.1 for sample locations. Green and yellow shaded boxes highlight 113-80 Ma and 70-50 Ma grains, respectively. Note the prominent peak of 113-80 Ma grains and lack of 70-50 Ma grains in rivers draining the modern eastern Alaska Range. Conversely, the modern central Alaska Range displays an abundance of 70-50 Ma grains and a relative scarcity of 113-80 Ma grains.

Figure 2.14: Normalized probability density plots showing Phanerozoic detrital zircon spectra from samples analyzed in this study and potential secondary/recycled sources of detrital zircons. Data shown in plots F-I are from Keough (2020), Hampton et al. (2007, 2010), Huff (2012), Hults et al. (2013), Box et al. (2019), and Romero et al. (2020).

Figure 2.14 cont.

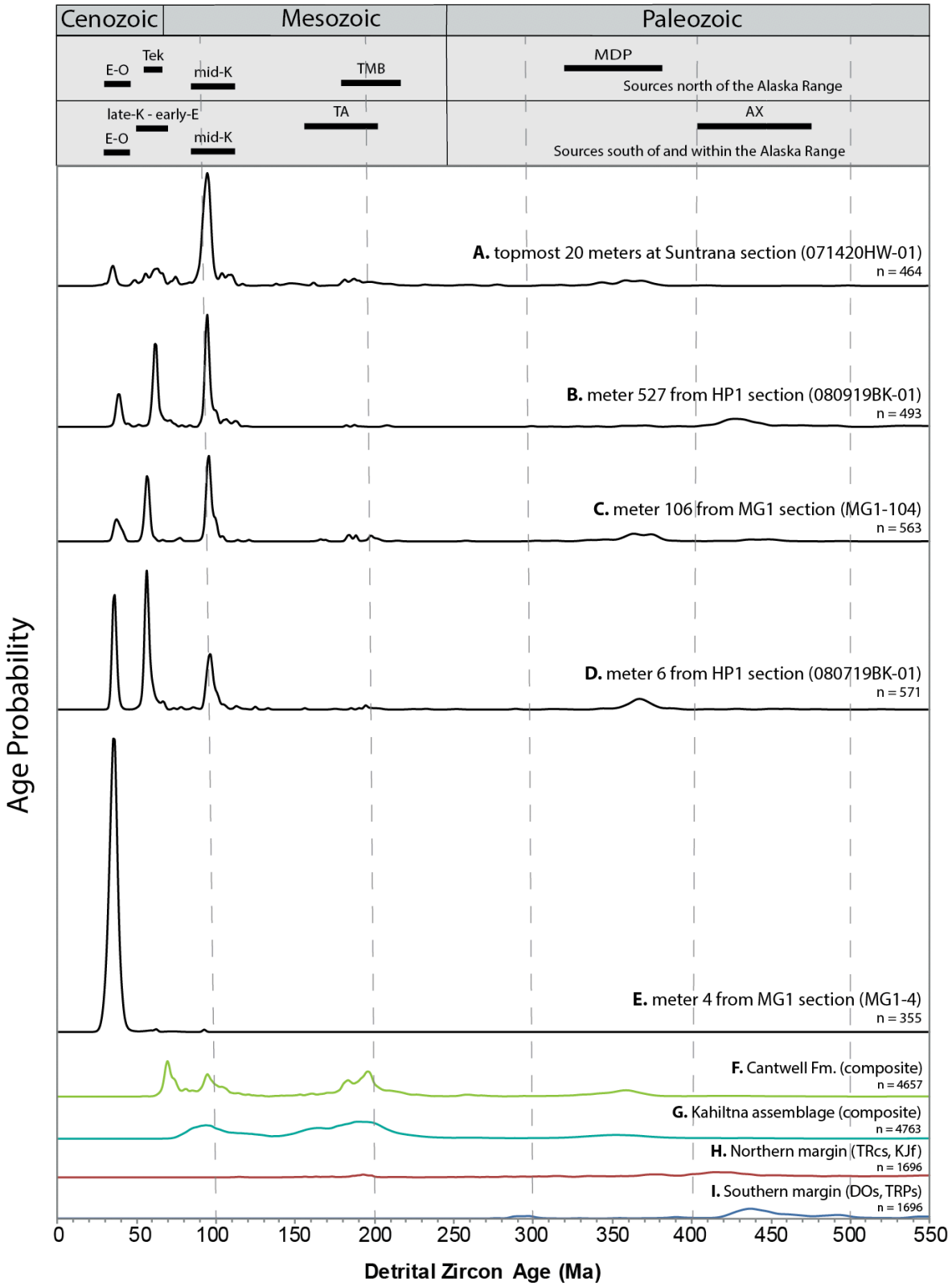


Figure 2.15: Late Eocene-early Oligocene development of the Denali basin and general depositional setting for the lower portion of Denali basin strata. Basin development was coeval with strike-slip development along the Denali fault system (shown by relative displacement markers). This stage of basin development is characterized by deposition in fluvial systems draining nearby volcanic centers. See text for a detailed description of this stage. Relative location of the Denali National Park headquarters (DENA HQ) and Eielson visitor center (Eielson VC) are marked by black stars. Displacement of McKinley sequence of plutons constrained by slip rates of 4-7 mm/yr (Lease et al., 2016; Haeussler et al., 2017; Trop et al., 2019)

Figure 2.15 cont.

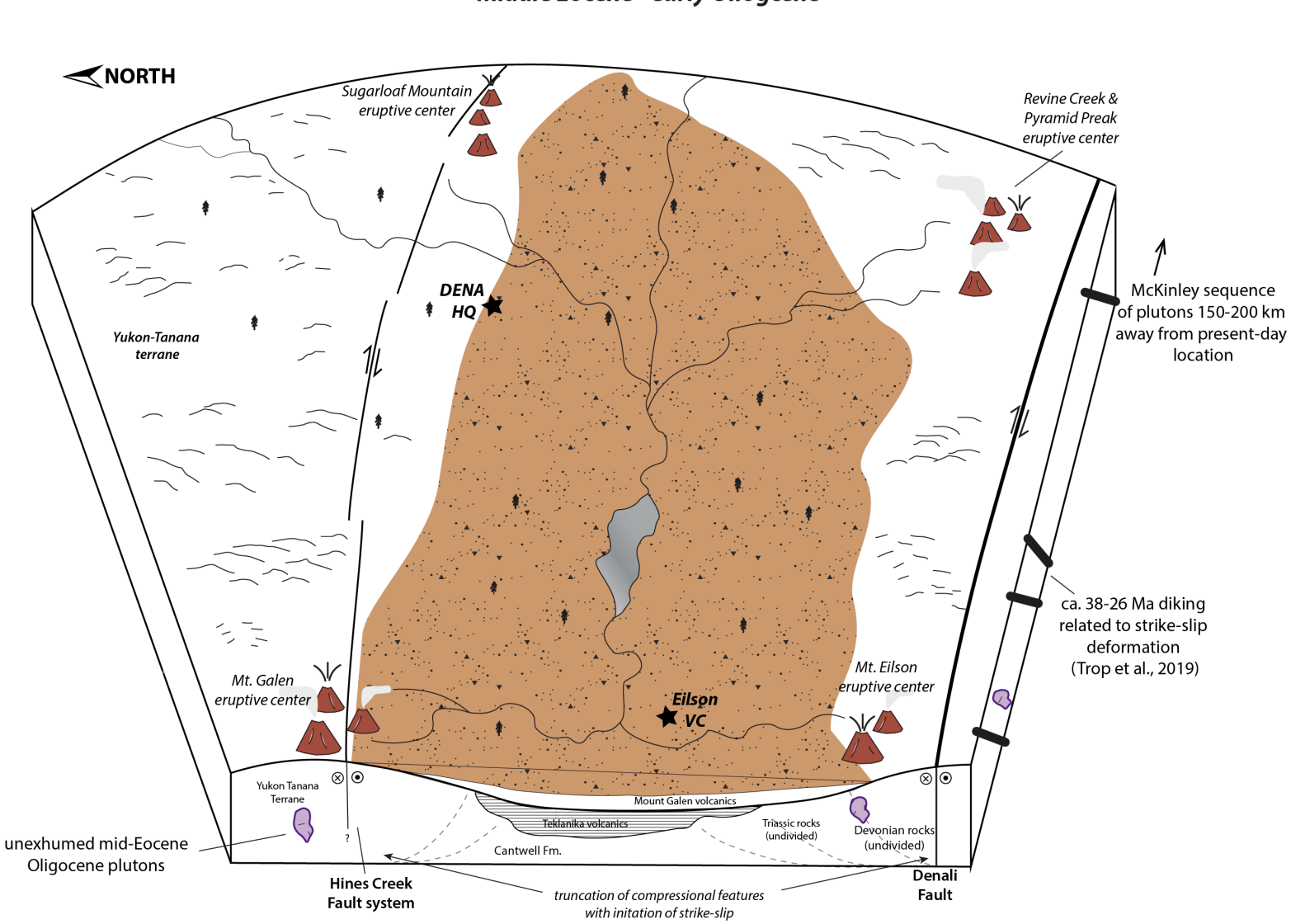


Figure 2.16: Early – late Oligocene development of the Denali basin and general depositional setting for the middle portion of Denali basin strata. Continued strike-slip displacement along the Denali fault system results in the westward translation of the McKinley sequence of plutons (using slip rates of 4-7 mm/yr; Lease et al., 2016; Haeussler et al., 2017; Trop et al., 2019). This stage of basin development is characterized by fluvial and alluvial sedimentation. Vegetated floodplains consisted of peat bogs and local ponding or shallow lacustrine environments. North of the Denali basin, deposition in a similar setting to that of the Denali basin occurred in the Teklanika and Rex Creek areas. Relative location of the Denali National Park headquarters (DENA HQ) and Eielson visitor center (Eilson VC) are marked by black stars

Figure 2.16 cont.

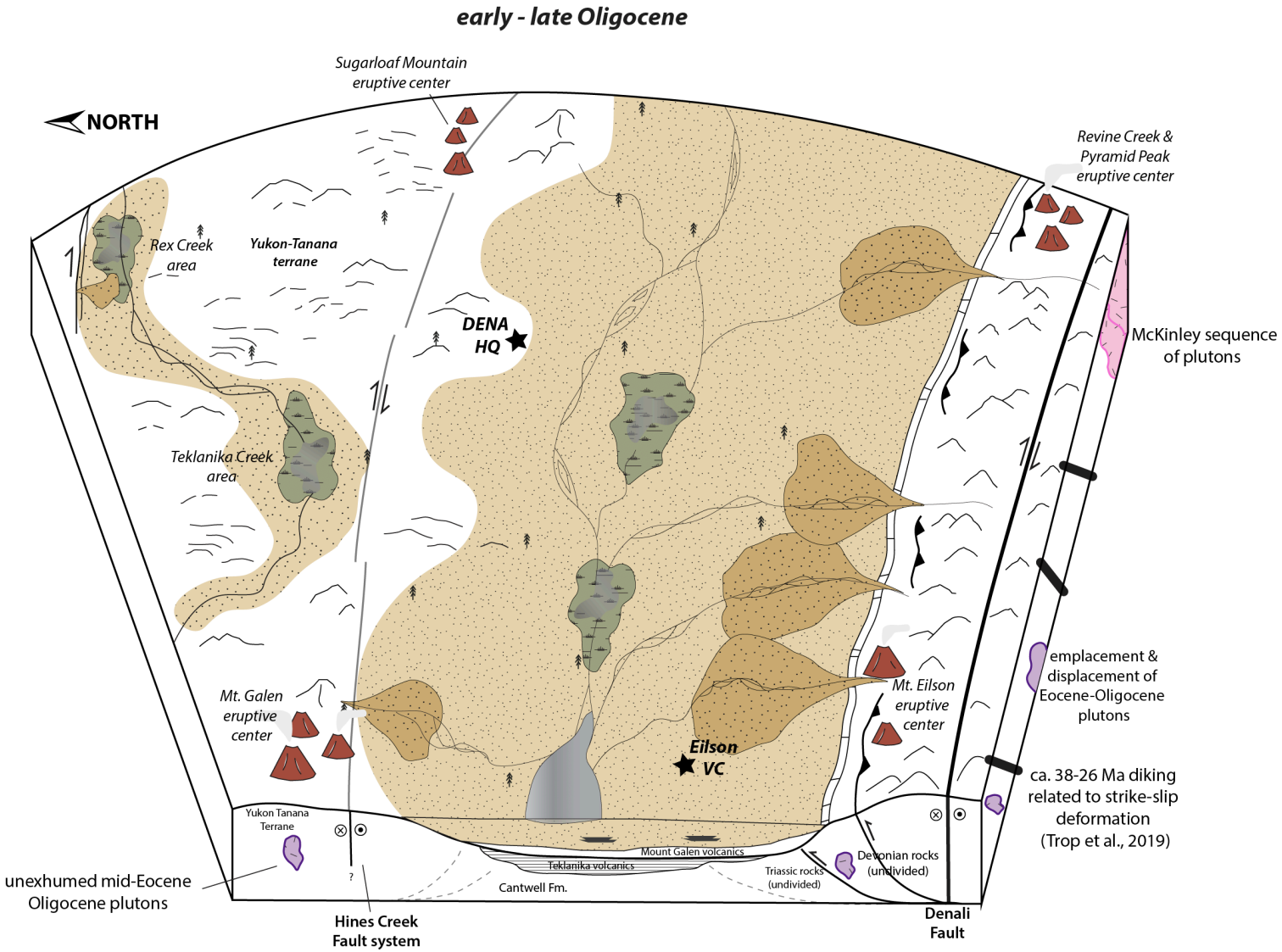


Figure 2.17: Early Miocene development of the Denali basin and continued deposition of the middle portion of the Denali basin strata. Strike-slip displacement along the Denali fault system continues to translate the McKinley sequence of plutons to the west. Uplift along the southern margin of the Denali basin excavates strata from this area, which is then recycled into deposits elsewhere in the basin, as indicated by rework palynomorphs in the HP2 section. This time period corresponds to sediment thickness of 600-1000 meters in the Denali basin, as indicated by burial estimates from pollen data. North of the Denali basin, the Healy Creek and Sanctuary Formations are deposited throughout the Tanana basin in alluvial-fluvial and lacustrine systems. Relative location of the Denali National Park headquarters (DENA HQ) and Eielson visitor center (Eilson VC) are marked by black stars.

Figure 2.17 cont.
Lower Miocene

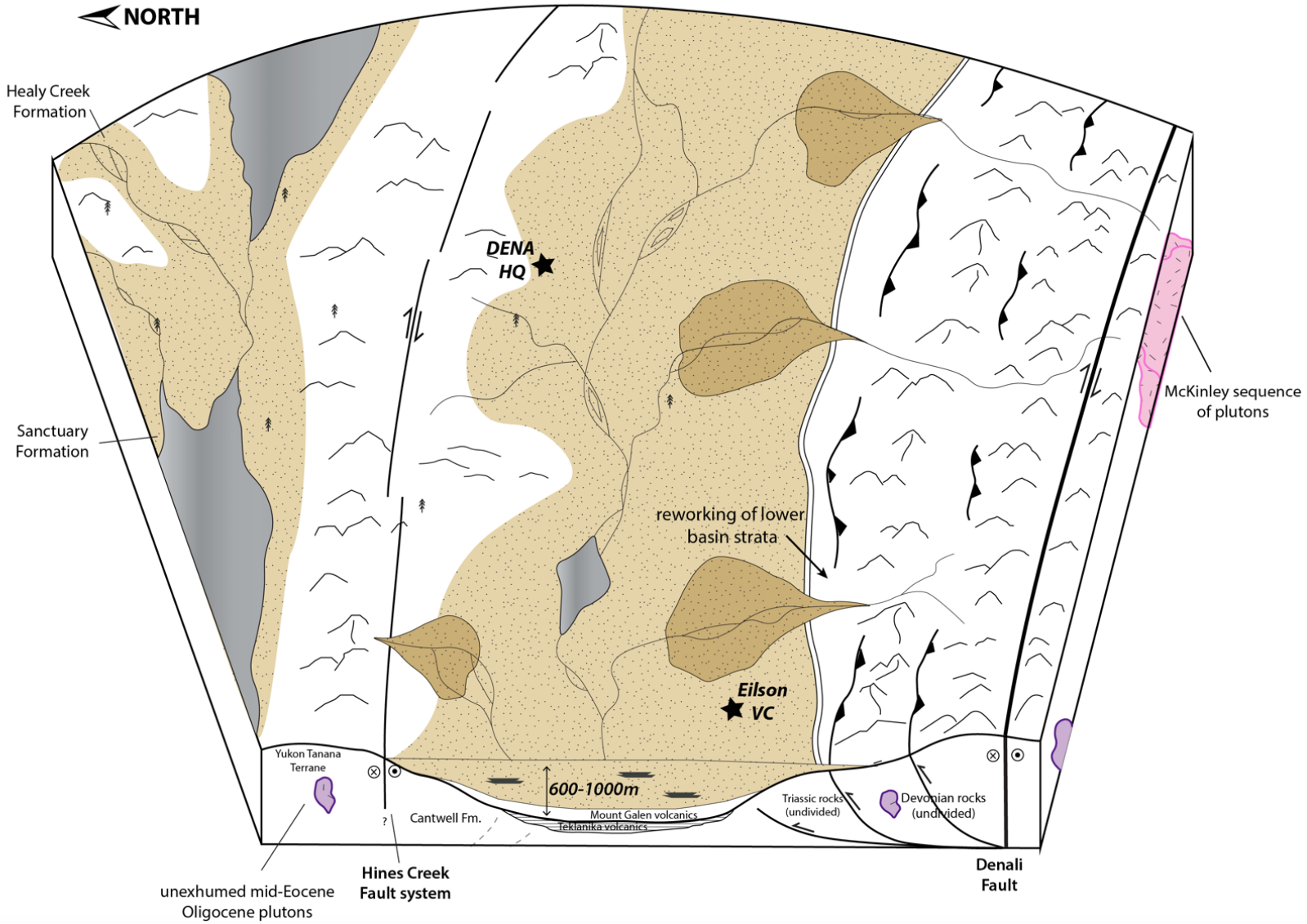
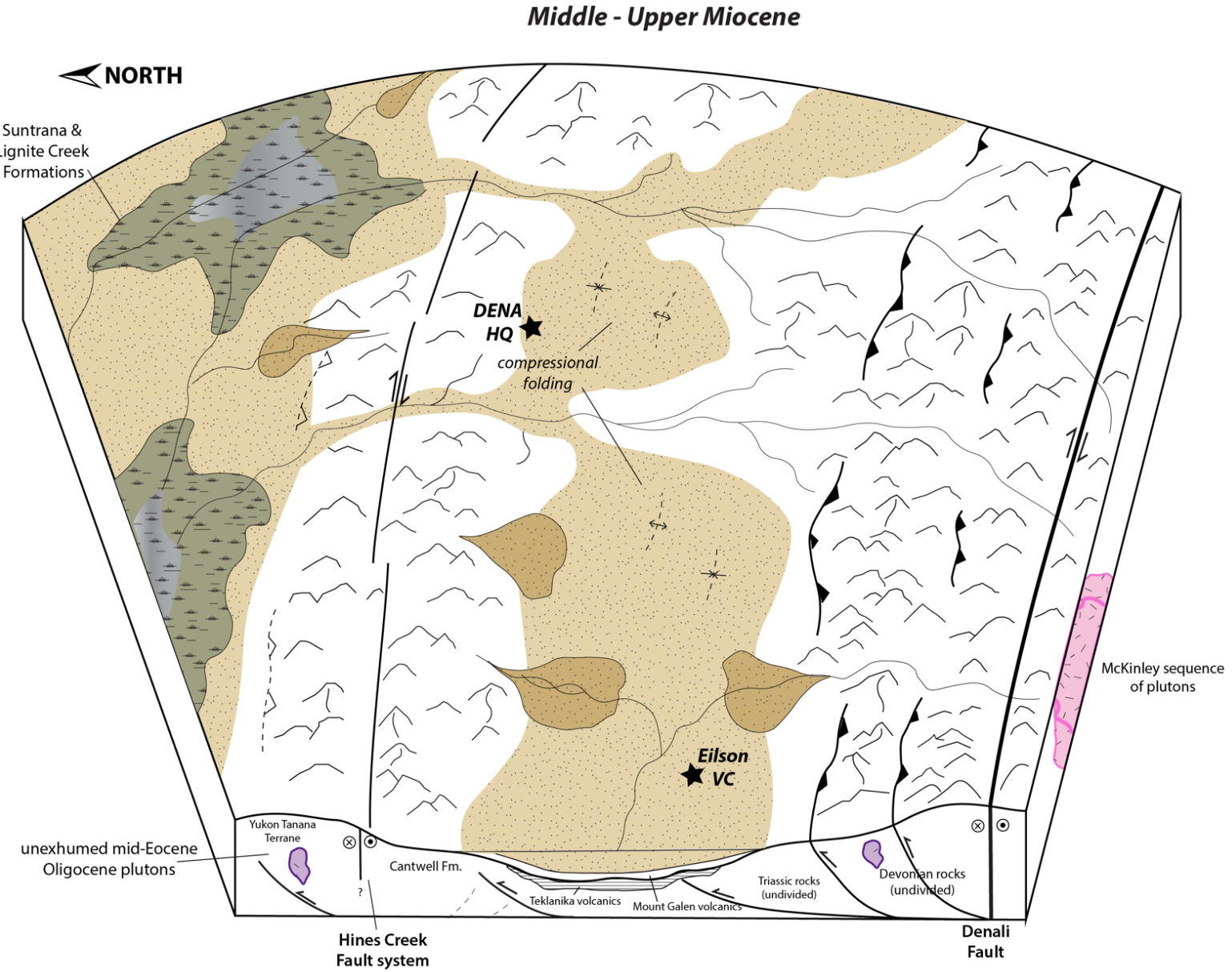


Figure 2.18: Middle-upper Miocene development of the Denali basin and local deposition of coarse-grained alluvial deposits that make up the upper portion of the Denali basin strata. Continued, northward propagating deformation and uplift along the southern margin of the Denali basin results in excavation of this strata into the Suntrana and Lignite Creek Formations in the Tanana foreland basin. Relative location of the Denali National Park headquarters (DENA HQ) and Eielson visitor center (Eilson VC) are marked by black stars.

Figure 2.18 cont.



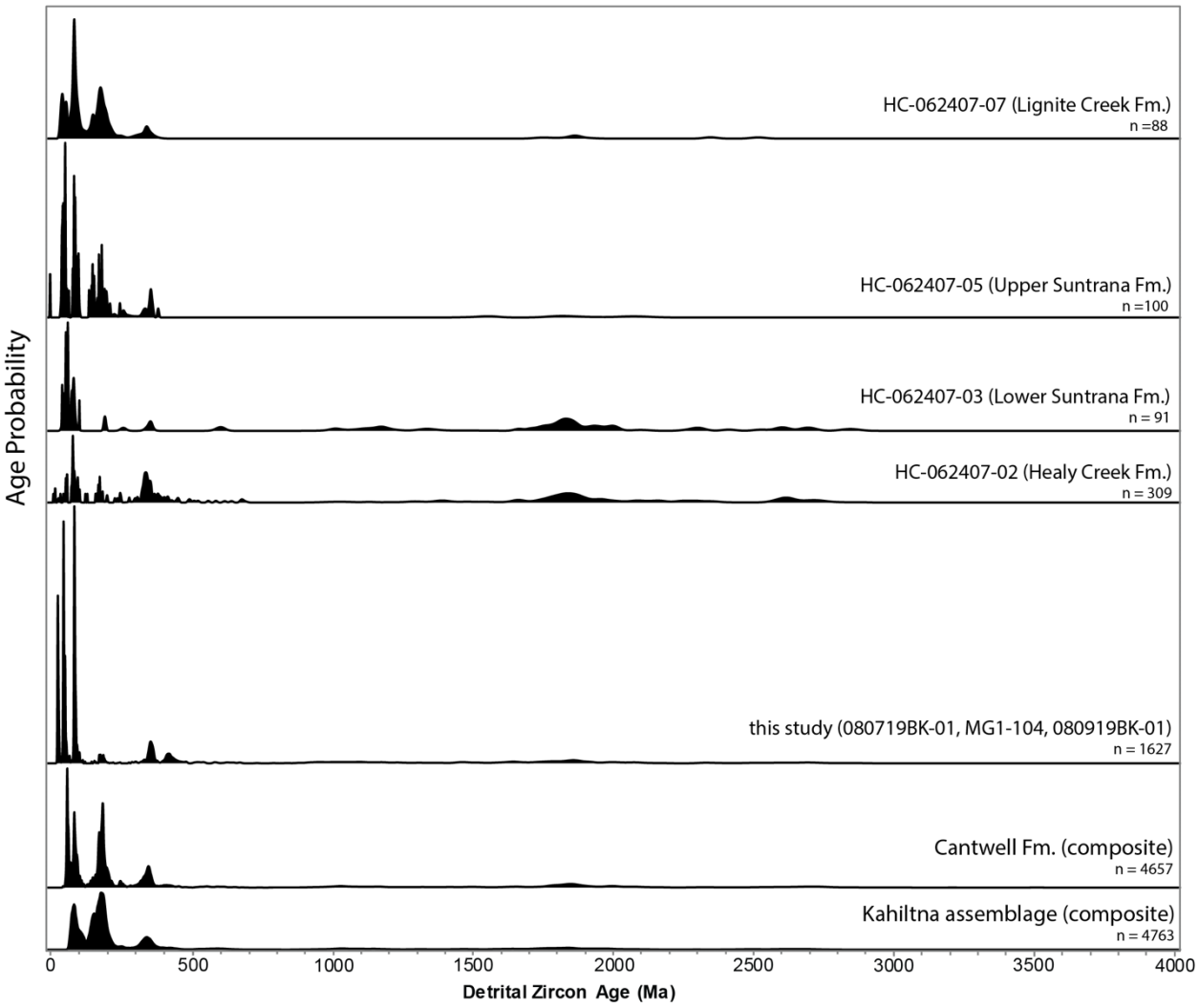


Figure 2.19: Normalized plots of U-Pb detrital zircon spectra from the Usibelli Group at the Suntrana location from Brennan and Ridgway (2015), Denali basin strata from this study, and composites of the Cantwell Formation (Keough, 2020) and Kahiltna assemblage (Hampton 2007, 2010). Note the increase in similar peak ages shown in Denali basin strata in the upper Suntrana Formation. Additionally, as previously shown in Brennan and Ridgway (2015), the Lignite Creek Formation displays a detrital zircon spectrum quite similar to that of the Cantwell Formation.

Figure 2.20: Upper Miocene development of the Denali basin. Excavation of Denali basin strata continues as increased uplift and exhumation of the central Alaska Range and associated thrust belt develops. Strike-slip displacement along the Denali fault system translates the McKinley sequence of plutons into the "McKinley restraining bend", contributing to this enhanced uplift. Development of the Park Road fault during this time period increases excavation of the Denali basin. To the north of the Denali basin, the Grubstake Formation is deposited in a regional deltaic system throughout the Tanana basin.

Figure 2.20 cont.

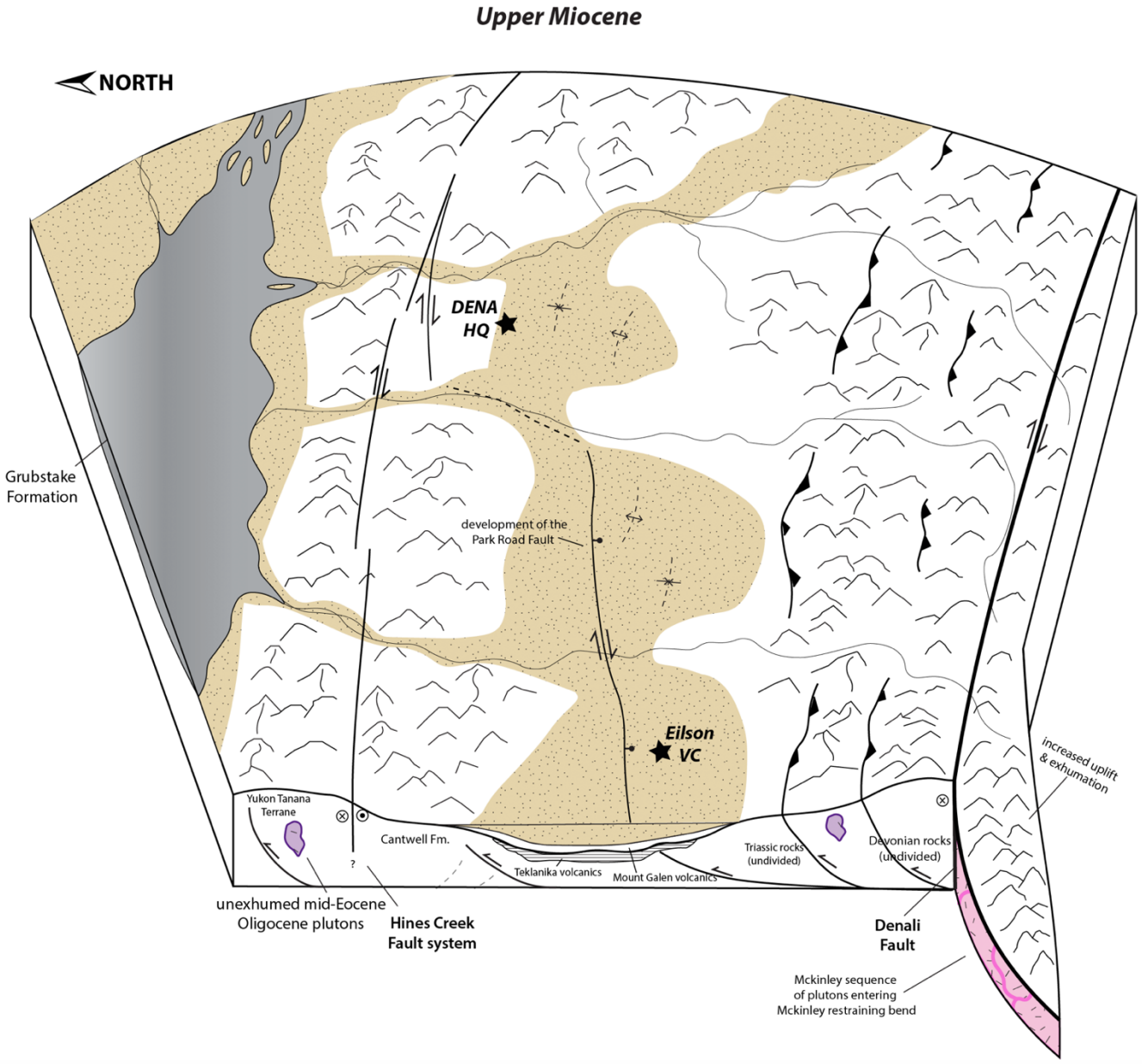
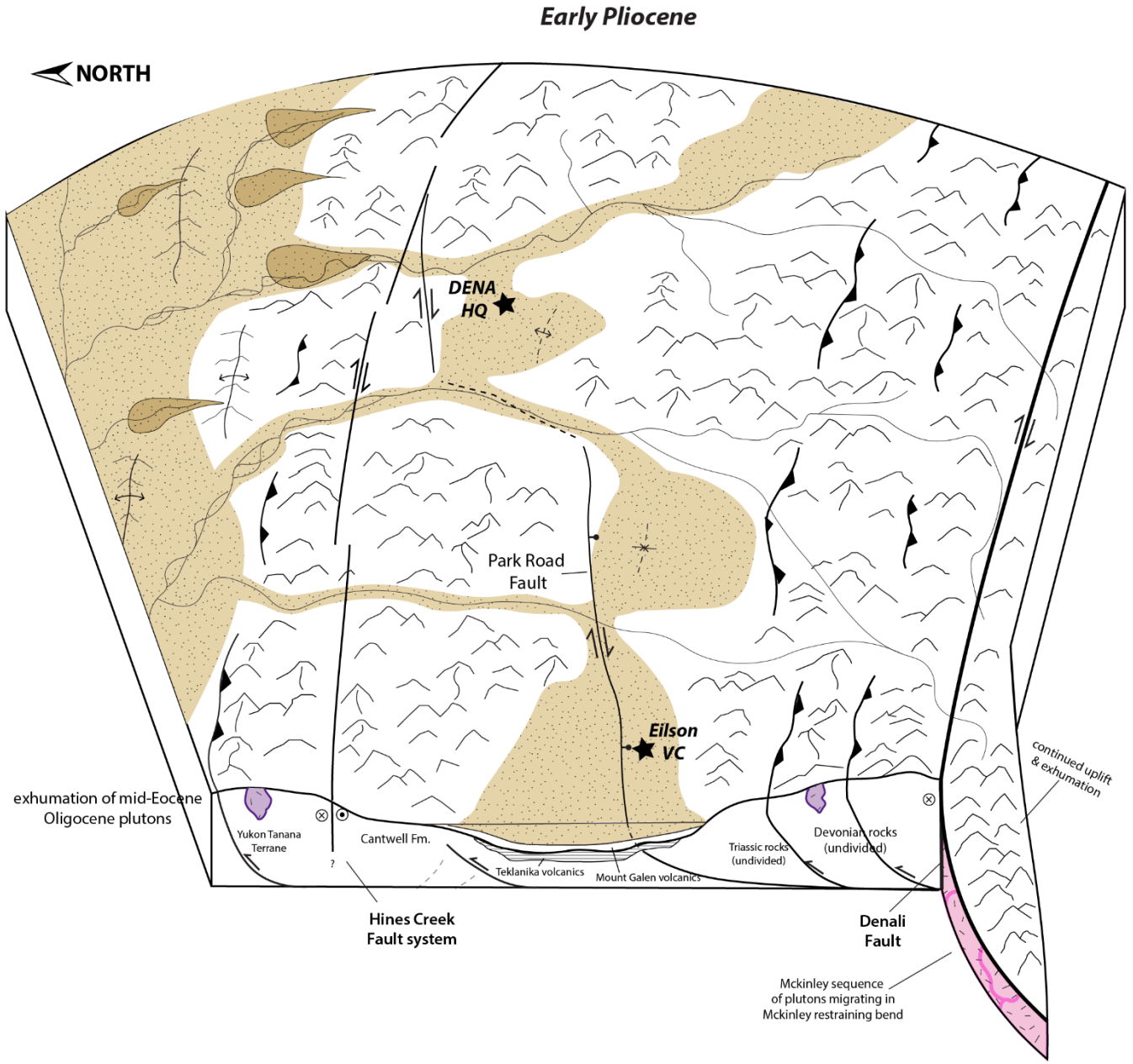


Figure 2.21: Pliocene development of the Denali basin. Excavation of the Denali basin and enhanced uplift in the central Alaska Range persists. Deformation continues in the Denali basin along the Park Road fault. Deformation propagates northward into the Tanana foreland basin, resulting in deformation of the Usibelli Group and coarse-grained alluvial deposits of the Nenana Gravel. The lower Nenana Gravel receives sediment primarily from the uplifting McKinley sequence of plutons, as indicated by the prominent peak of 70-50 Ma detrital zircon grains from a sample within this unit (Figure 2.8).

Figure 2.21 cont.



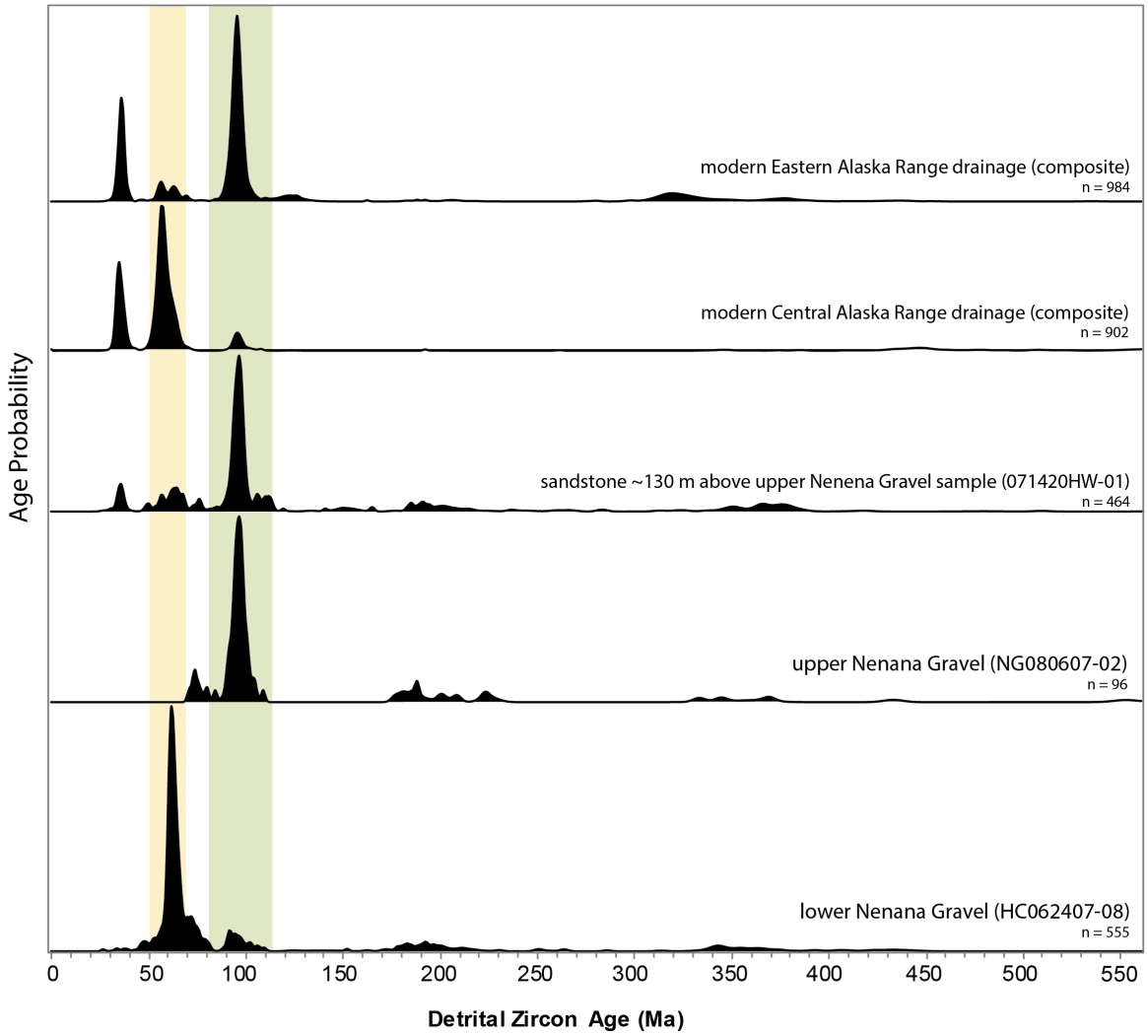


Figure 2.22: Normalized probability density plots of U-Pb detrital zircon spectra from the Nenana Gravel at the Suntrana section from Brennan and Ridgway (2015) and this study compared to modern rivers draining the central and eastern Alaska Range. For modern river samples, refer to Figure 2.13 for specific samples names and Figure 2.1 for locations. Green and yellow shaded boxes highlight 113-80 Ma and 70-50 Ma grains, respectively. Note the prominent peak of 113-80 Ma grains and lack of 70-50 Ma grains in rivers draining the modern eastern Alaska Range and in the upper Nenana Gravel samples as well as the sample from ~120 meters higher in the Suntrana section. Conversely, the lower Nenana Gravel sample and the modern central Alaska Range displays an abundance of 70-50 Ma grains and a relative scarcity of 113-80 Ma grains.

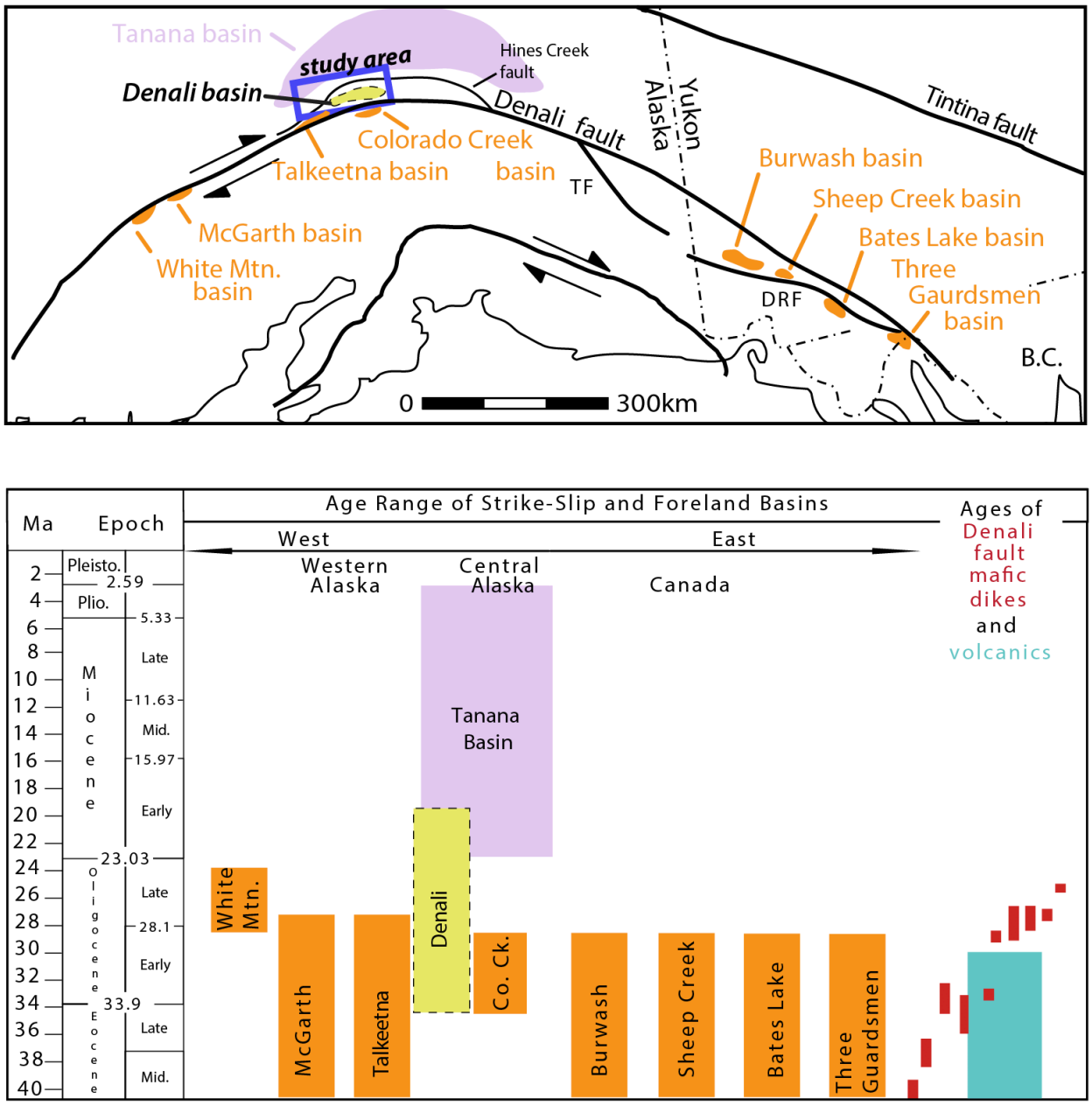


Figure 2.23: Generalized map and correlation chart showing late Eocene to Oligocene strike-slip-related sedimentary basins exposed along the >2000 km length of the Denali fault, including the Denali basin described in this study, as well as the transpressional Tanana foreland basin (modified from Trop et al., 2019). Note the overlap in timing of diking, volcanism, and strike-slip basin development and the subsequent development of the Tanana basin.

Table 2.1: Cenozoic basins along the Denali fault system and north of the Hines Creek fault.

Location	Basin	Ages	Maximum thickness	References
Western Denali fault	White Mountain	Late Oligocene	440 m	Ridgway et al. (1999)
	McGarth	Eocene to middle Oligocene	1700 m	Gilbert (1982); Dickey (1984)
	Talkeetna	Eocene to middle Oligocene	>200 m	Reed & Nelson (1980); Dickey (1984)
Central Denali fault South of Denali fault	Colorado Creek	Early Oligocene	390 m	Trop et al. (2004); Csejtey et al. (1986, 1992)
	Denali	Late Eocene to early Miocene	730 m	this study
Central Denali fault North of Hines Creek	Tanana	Miocene to Pliocene	~2000 m	Wahrhaftig et al. (1958, 1969); Ridgway et al. (1999, 2007)
Eastern Denali fault (Yukon & British Columbia)	Burwash	Latest middle Eocene to early Oligocene	740 m	Ridgway & DeCelles (1993); Ridgway et al. (1993)
	Sheep Creek	Latest middle Eocene to early Oligocene	n/a	Eisbacher & Hopkins (1977)
	Bates Lake	Latest middle Eocene to early Oligocene	390 m	Ridgway & DeCelles (1993); Ridgway et al. (1993, 1995)
	Three Guardsmen	Latest middle Eocene to early Oligocene	n/a	Ridgway (1992)

Table 2.2: Summary of Potential Primary Igneous Sources.

Source	Ages	Location	References
Cretaceous plutons (Yukon Composite Terrane)	145-85 Ma	eastern Alaska and Yukon	Day et al., 2003; Dilworth et al., 2002; Dusel-Bacon et al., 1995; Foster et al., 1994; Hart, 1997; Smith et al., 1999, 2000; Werdon et al., 2004; Wilson et al., 1985
Cretaceous plutons (eastern Alaska Range)	110-85 Ma	eastern Alaska Range	Moll-Stalcup, 1994, and references therein; Wilson et al., 1985
McKinley sequence of plutons	70-50 Ma	central Alaska Range	Moll-Stalcup, 1994, and references therein; Wilson et al., 1985; Hung, 2008; Koeneman and Wilson, 2018
Teklanika volcanics	70-50	central and eastern Alaska Range	Gilbert et al., 1976; Cole and Layer, 2002
Middle Eocene – Oligocene plutons and volcanic rocks	45-30 Ma	central and eastern Alaska Range	Lanphere and Reed, 1985; Moll-Stalcup, 1994; Cole and Layer, 2002; Hung, 2008; Benowitz et al., 2011

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CHAPTER 3. INVESTIGATING CONTROL OF SUBDUCTION DYNAMICS AND THE STRUCTURE OF THE SUBDUCTING SLAB ON SURFACE DEFORMATION IN SOUTH-CENTRAL ALASKA WITH 3-D GEODYNAMIC MODELS

3.1 Abstract

Along a convergent margin, surface deformation is inherently linked to the processes of the subducting slab. Thus, heterogeneities in the dynamics and structure of the slab can result in a complex deformation pattern that is manifest on the surface different ways. We simulate the three-dimensional (3-D) dynamics of flat-slab subduction beneath south-central Alaska and compare results to observations of surface deformation. Our simulations approximate 3-D deformation with creeping flow in a layered spherical cap. By holding boundary conditions constant and systematically varying interior parameters within the continental lithosphere and subducting slab, we test how variations in dynamics and structure of subduction affect surface deformation. We incorporate geologic and geophysical data to construct the initial model set-up and develop our reference case for subsequent tests regarding the structure of the subducting slab. Using 3-D tomography results, we incorporate along strike variations in slab structure, including geometric and rheologic heterogeneities. Comparisons between dynamic solutions and observations of surface plate motions and shortening indicate: (1) convergence from the shallow subduction and collision of the Yakutat microplate is transmitted far-inboard due to high-plate coupling and limited strain partitioning along a thin, weak Denali fault; (2) a physically segmented slab is required to best match surface observations; (3) vertical deformation patterns, specifically within the syntax of Yakutat subduction, are controlled by the geometry of the slab. We additionally display a dynamic connection between the Wrangell volcanic field and a weak, detached Wrangell slab.

3.2 Introduction

Subduction processes have a significant effect on the surface deformation of the overriding plate; thus, variations from "normal" subduction can subsequently alter this deformation (Alvarado et al., 2009; English et al., 2003; Finzel et al., 2011; Gutscher, 2002; Gutscher et al., 2000; Jolivet et al., 2013; Lallemand et al., 2005; Li & Li, 2007; Manea et al., 2012; Özbakır et al., 2013). For

instance, it has been shown that shallow subduction processes can affect upper plate deformation in a manner intensified in both magnitude and spatial extent (e.g., Finzel et al., 2011; Li & Li, 2007). Additionally, structural and dynamic variations in the subducting slab can cause heterogeneities in how stress is transmitted to the upper plate (e.g., Sternai et al., 2014). In this study, we investigate the effect of varying subduction dynamics and geometry on the upper plate deformation of south-central Alaska.

There are various forces acting on the lithosphere of south-central Alaska, and their relative influence on the observed surface deformation has been debated (Figure 3.1). Subduction processes along the convergent margin of southern Alaska likely contribute a first order component of deformation (Finzel et al., 2014; Haeussler, 2013a; Haynie & Jadamec, 2017; Jadamec et al., 2013; Koons et al., 2010). These processes consist of "normal" or Andean-type subduction of the Pacific plate along the Aleutian trench that transitions into a relatively shallow subduction beneath south-central Alaska (Figure 3.1). This flat-slab subduction involves the Yakutat microplate, an oceanic plateau (Christeson et al., 2010; Ferris et al., 2003; Worthington et al., 2012) that has been colliding and interacting with the upper plate since at least the Oligocene (Arkle et al., 2013; Finzel et al., 2011; Plafker & Berg, 1994). Previous studies have linked shallow subduction of the Yakutat microplate to many of the deformational features observed in south-central Alaska today including enhanced uplift, basin inversion, and shear and displacement along the Denali fault system (Ali & Freed, 2010; Bemis et al., 2015; Elliott & Freymueller, 2020; Finzel et al., 2014; Haeussler, 2013a; Haynie & Jadamec, 2017; Jadamec et al., 2013; Koons et al., 2010; Plafker & Berg, 1994);. In addition to forces originating from shallow subduction processes, tractions acting along the base of the lithosphere, derived from complex mantle convection, have also been shown to be affecting the upper plate deformation in south-central Alaska (Finzel et al., 2014, 2015; McPherson et al., 2020).

Recent geophysical studies of south-central Alaska provide new insight on observations of surface deformation as well as the structure of the lithosphere (e.g., Elliott & Freymueller, 2020; Feng & Ritzwoller, 2019; Gama et al., 2021; McPherson et al., 2020; Pavlis et al., 2019; Yang & Gao, 2020). In particular, an updated GPS velocity field highlights trends in surface plate motions (Figure 1b; Elliott & Freymueller, 2020). These new GPS observations suggest south-central Alaska is moving is a north-northwestward direction; the occurrence of these convergence-oriented velocities extend over 500 kilometers from the convergent boundary (Figure 3.1b).

Additionally, recent seismic studies have used various techniques to image the subducting slab, revealing a non-uniform structure (Feng & Ritzwoller, 2019; Gou et al., 2019; Martin-Short et al., 2018; Ward & Lin, 2018; Yang & Gao, 2020). Many of these studies agree upon the additional variability in the mantle wedge; however there remains debate on the eastern extent of the slab and the existence of an additional easternmost portion, the Wrangell slab (Figure 3.1). One such study, Yang and Gao (2020), reveals a segmentation of the subducting slab into distinct sections. They explain this segmentation with two end member cases, (1) a continuous slab with variations in strength and thickness attributing to seismic velocity contrasts, or (2) physically separated Pacific, Yakutat and Wrangell slab segments separated by slab windows that result in the lack of high velocities observed at certain locations in their tomography model. Our models investigate the physicality of these features as well as their effects on surface deformation (Figure 3.2).

In this study, we use 3-D finite element, creeping flow simulations of south-central Alaska to explore the relative driving forces of surface deformation, examine subduction dynamics, and test end member hypotheses on the structure of the subducting slab (Figure 3.2). By systematically examining the dynamic response to model variations in a forward modeling approach, we use simulated vertical and horizontal velocity patterns to gain insight on the relative controls on surface deformation. We then compare these results to present-day observations of surface deformation throughout south-central Alaska – i.e., horizontal motions constrained by GPS observations, and contemporary vertical uplift patterns identified through various geologic and geophysical studies (Figure 3.1). Our models vary from recent geodynamic models of south-central Alaska in both input assumptions and spatial extent. These previous studies either include a reliance on laboratory flow laws and assumed temperature profiles to derive the viscosity structure (Haynie & Jadamec, 2017; Jadamec et al., 2013; Jadamec & Billen, 2010) or encompass an area too large to observe deformational details within south-central Alaska specifically (Finzel et al., 2014, 2015). We remove the complication on viscosity assumption by using the laterally varying, vertically averaged effective viscosity distribution from Finzel et al. (2015), updated in McConeghy et al. (2021) (Figure 3.2b). Additionally, our constrained model size (Figure 3.1) allows for closer investigation of local deformational features. Our suite of models tests the physicality and relative effects of strong-plate boundary coupling, thickness of the Denali fault shear zone, and slab geometric and strength variations (Figure 3.2b & d). We present the results from nine simulations

that systematically vary these parameters and discuss the fit of the dynamic response with observations of deformation within south-central Alaska.

3.3 Methods

3.3.1 Physics

We develop our 3-D finite element models of south-central Alaska in COMSOL Multiphysics (www.comsol.com). These models are patterned after the simulations of Bischoff and Flesch (2018 & 2019), which assume that lithospheric deformation is expressed as instantaneous flow of an incompressible Newtonian fluid given by the equations for Stokes flow:

$$-\eta(x,y,z)\nabla^2\mathbf{u}(x,y,z) + \nabla \mathrm{p}(x,y,z) = \mathbf{F}(x,y,z)$$

$$\nabla \cdot \mathbf{u}(x,y,z) = 0$$

where η is viscosity, $\mathbf{u}$ is fluid velocity, p is pressure, and $\mathbf{F}$ represents body forces arising from gravitational potential energy (GPE) (Flesch & Bendick, 2012). Therefore, for each finite element, η represents the depth-dependent laterally varying viscosity value and $\nabla \mathrm{p}(x,y,z)$ represents the pressure forces, which inherently include forces arising from density variations and applied boundary conditions. Gravity acting upon each finite element is accounted for within the body forces. We then solve this equation for the displacement vector field ($\mathbf{u}(x,y,z)$) of each finite element.

We first present a set of models that is used to develop a reference model (cases 1-3); this reference model (case 3) is then used as a starting point and comparison tool for subsequent models (cases 4-11). The geometry and material properties of our initial models (cases 1-2) include the most innovative observational understanding regarding the continental lithosphere of south-central Alaska. Within cases 1 and 2 we assess adjustments to the continental lithosphere and interface of the subducting slab; case 3 includes these adjustments that improve the fit with observed surface deformation (Figure 3.2).

Our test cases (cases 4-11) utilize new data specifically regarding the structure and dynamics of the shallow subduction of the Yakutat microplate (Feng & Ritzwoller, 2019; Jiang et

al., 2018; Martin-Short et al., 2018; Pavlis et al., 2019; Ward & Lin, 2018; Yang & Gao, 2020). By applying consistent boundary conditions throughout all of these test cases while varying internal properties of the slab, we systematically test different hypotheses regarding the lithospheric structure and dynamics of ongoing subduction processes in this region.

3.3.2 3-D Model Geometry

Our model region extends northward from 58° to 65°, westward from 138° to 158°, and downward from the Earth's surface to 100 km below sea level (BSL; Figures 3.1 & 3.2). This geometry forms a spherical cap that represents the lithosphere of the south-central Alaskan convergent margin, encompassing the shallow subduction of the Yakutat microplate (Figures 3.1 & 3.2). The depth of 100 km is required to remain consistent with the vertical averages of viscosity used in our models, which are averaged over 100-km depth. Additionally, as supported by similar 3-D geodynamic models of the Indian-Eurasian collision zone (Bischoff & Flesch, 2018 & 2019), not extending our model below 100 km excludes forces arising from dynamic topography, which are not included in the force balance equations for these simulations. Likewise, this depth constraint omits forces associated with slab pull along the deeper portion (>100 km depth) of the slab; however, slab pull forces are accounted for in the negative buoyancy of the portion of the slab contained within the model domain.

The model surface elevation is constrained with the GTOPO30 topography dataset (https://www.usgs.gov/media/images/gtopo30-elevation-source-data) downsampled to 30' resolution (Figure 3.2a). We divide the continental crust and lithospheric mantle using the Moho surface from CRUST1.0 (Laske et al., 2013); the lithosphere-asthenosphere boundary (LAB) is constrained from the receiver function analysis of Alaska presented in Gama et al. (2021) (Figure 3.2d). The original surface of the subducting slab is used from McConeghy et al. (2021) which is constrained from a compilation of seismic studies throughout this region (Figure 3.2d) (Eberhart-Phillips et al., 2006; Fuis et al., 2008; Qi et al., 2007). In the southeast, this surface is truncated along the Fairweather fault system (Pavlis et al., 2019); elsewhere, it follows the Wadati-Benioff zone seismicity and seismic tomography from Eberhart-Phillips et al. (2006). We further segment this slab along the trace of the Transition Fault into a Yakutat slab and a Pacific slab; this partitioning is inferred based on the Moho topography from Christeson et al. (2010) and allows for the additional division of the Yakutat Moho and Pacific Moho at ~30 km and ~10 km, respectively

(Figure 3.2b-d). These Moho surfaces mirror the surface of the slab geometry to the base of the model at their respective thicknesses. We incorporate Earth curvature and surface resolution by converting point representations into a 3-D interpolation within MATLAB.

Four different variations of the original slab geometry are implemented in our test cases (Figure 3.2d; S1-4). These variations are based on recent seismic studies of this region that have provided enhanced detail on the structure of the subducting slab (Feng & Ritzwoller, 2019; Gama et al., 2021; Jiang et al., 2018; Martin-Short et al., 2018; Pavlis et al., 2019; Wang & Tape, 2014; Ward & Lin, 2018; Yang & Gao, 2020). From these models, we infer end-member hypotheses of an additional slab segment along the eastern slab edge, the Wrangell slab, and gaps/tears and/or weak zones within the subducting slab. We map out the Wrangell slab segment following the features observed in Feng and Ritzwoller (2019), Pavlis (2019), and Yang and Gao (2020); the location and extent of the slab tears and weak zones are modeled after Figure 10 in Yang and Gao (2020).

We utilize tools within COMSOL Multiphysics to discretize the geometry volume into 342,384 mesh elements, displayed in Figure 3.2a. At this resolution, model solutions are virtually identical to those produced at higher resolutions. The discretization is preformed following the construction and partitioning of the 3-D geometric volume, forcing mesh elements to respect interior geometric domain boundaries such as the Moho and plate boundaries. Mesh resolution and element size is a function of the model domain geometry, with larger element sizes corresponding to domain centers and decreasing element sizes corresponding to thinning of domains and at domain boundaries. On average, the smallest mesh elements are 1.44 km, and the maximum element size is 51 km.

3.3.3 Boundary Conditions

All of our models investigate plate driven boundary conditions, thereby inherently accounting for both body forces arising from GPE and driving forces arising from 3-D density variations external to our model geometry (Figure 3.2a & d). This is implemented by applying a velocity boundary condition, extracted from the continuous kinematic model of Finzel et al. (2015) updated in McConeghy et al. (2021), obtained by the inversion of GPS, seismic, and Quaternary fault slip data. We apply the kinematic solution evenly on all volume sidewalls, except the northern sidewall of the mantle domain. Along this boundary and the northern most portion of the model

base, we apply southward directed velocities (Figure 3.2d). These velocities represent basal tractions induced from mantle convection cells, which was first proposed in Finzel et al. (2014) & (2015), and later supported in Elliot and Freymuller (2020), McPhereson et al. (2020), and McConeghy et al. (2021). We approximate continental surface-atmosphere interactions as unaffected by stresses by applying a stress-free condition on the surface of continental domain. We apply a free slip condition on the remaining volume boundaries. To account for the aseismic steady slip of the subducting plate and the brittle behavior of the upper crust, we apply an internal free slip wall along the slab from the model surface to the brittle-ductile transition (~15 km; Figure 3.2d; i.e., Sibson, 1986).

3.3.4 Material Properties

The material properties presented here are in regard to those of our initial model (case 1). Variations made in the density and viscosity of all subsequent models are explained within their respective subdivision of the Numerical Simulations section (section 3.4).

3.3.4.1 Density

The 3-D laterally varying density structure utilized in our models is derived from the CRUST1.0 densities (Figure 3.2c) (Laske et al., 2013). We use a 2-D Gaussian filter to smooth elevations and densities for each CRUST1.0 layer with a vertical increment of 1 km and interpolate these densities to a 20' lateral resolution. A 3-D Gaussian filter is then utilized to smooth vertical jumps across layer transitions; this process produces a more natural distribution which is required for enhanced model solution performance and a reduction in modeling artifacts. We apply this density data cube to the continental crust domain of our models (Figure 3.2c). To ensure isostatic balance of the crust and mantle, we calculate the vertically averaged value required for the 3-D density of the mantle at every laterally varying location (Figure 3.2c). The Pacific and Yakutat crust and lithospheric mantle are given values of 3300 kg/m^3 and 3500 kg/m^3, respectively, based on averages from these regions in the CRUST1.0 densities.

3.3.4.2 Viscosity

Our 3-D viscosity distribution is a depth-partitioned estimate of the lithospheric strength based on regional calculated stress rates and averaged strain rates (Figure 3.2b). We specify the depth-dependent laterally varying viscosity of the lithosphere, η(r), at any laterally varying location using the vertically averaged effective viscosity estimate of (Finzel et al., 2015),

$$\bar{\eta} = \frac{1}{L}\int_0^L \eta(r)dr$$

where L represents model thickness – i.e., 100 km + surface elevation, and r integrates over all depths within the column. We then use the vertical average for each column to determine the absolute value of viscosity in the crust, such that integrating the distribution with depth yields the known vertical average (Figure 3.2b). This allows for the approximation of the absolute value of the crust and both the lithospheric and asthenospheric mantle for an assumed strength profile.

We represent depth integration following that of Bischoff and Flesch (2019):

$$t_L\bar{\eta} = t_C\eta_C + t_{LM}\eta_{LM} + t_{AM}\eta_{AM}$$

where t_C, t_{LM}, and t_{AM} are assumed thicknesses for the crust, lithospheric mantle, and asthenospheric mantle, respectively; $\bar{\eta}$ is the average effective viscosity (Finzel et al., 2015); and η_C, η_{LM}, and η_{AM} represent the crust, lithospheric mantle, and asthenospheric mantle viscosities, respectively. In our models, this strength profile assumes a constant value of 10^{21} Pa·s in the lithospheric mantle and 10^{20} Pa·s in the asthenospheric mantle, based on average accepted values for the region. Additionally, these values allow for both a reasonable strength profile, in which the crust is consistently stronger than the mantle, and produces realistic dynamic outputs. The viscosity values for the Pacific and Yakutat slab domains are a constant 10^{24} Pa·s for the crust and 10^{23} Pa·s for the lithospheric mantle. In our initial model (case 1) a plate boundary shear zone (Haynie & Jadamec, 2017; Jadamec et al., 2013) with a thickness of ~10 km is applied along interface of the subducting slab, extending from the brittle-ductile transition slip wall to the base of the model (Figure 3.2b & d). This plate boundary shear zone has a viscosity of 10^{19} Pa·s and allows for the occurrence of slip associated with subduction along the plate boundary.

3.4 Numerical Simulations

Within our suite of models, we investigate the upper plate deformational response to variations in the strength and geometry of the subducting slab. We initialize our investigation by testing continental lithospheric parameters in cases 1-3; in doing so, we establish a reference case (case 3) from which we build subsequent cases. In all subsequent cases, we hold constant the boundary conditions and continental lithosphere and mantle material properties used in case 3. This allows for the isolation of deformational features generated from imposed variations in the subducting slab. Cases 4, 5, and 6 simulate variations in slab strength, geometry, and a combination of these parameters, respectively. In cases 7-11 we simulate maximum volume configurations for the Yakutat slab by including the additional Wrangell slab segment. Similar to cases 4-6, cases 7-11 simulate variations in slab strength as well as additional adjustments to slab geometry. A summary of strength parameters, geometry, and goodness of fit associated in each simulation is summarized in Table 3.1.

For each case we examine model predicted surface deformation in the form of simulated horizontal and vertical velocities. To quantitatively investigate the physical viability of each strength and/or geometric variation within the slab, we plot the horizontal velocities of each simulation (colored arrows) with GPS data (black arrows; Figure 3.1; Elliot and Freymuller, 2020). Adjustments in the scale of vectors are made to enhance the visibility of relatively high velocities near the Yakutat-Alaska collision boundary. In figures displaying multiple simulations, model-predicted velocities are only displayed at GPS stations and the different scales for vectors are represented by color changes in the arrowhead of GPS vectors, with white arrowheads representing the smaller scale. In figures displaying only one simulation, a uniform grid of model-predicted velocities is additionally plotted; for gridded vectors, the different scales are represented by changes in the color of the vectors, with lighter colors displaying a smaller scale.

We quantify the fit of model-predicted horizontal surface velocities to GPS observations at each GPS station location and for each model as a whole. The former is calculated by estimating the magnitude of the misfit between each GPS and associated model vector, while the ladder is determined by calculating the root mean square (RMS; Holt et al., 2000) and weighted root mean square (WRMS; Stamps et al., 2014) of each model. We qualitatively compare the model-predicted vertical surface velocities to observations of shortening (in the form of uplift, exhumation, and compression) and subsidence (Figure 3.1b).

For cases 3, 7 and, 11, in addition to plotting model-predicted velocities at GPS stations, we plot a continuous field of horizontal velocities. This allows for observation of major trends in horizontal motions aliased by sparse GPS coverage. In other cases, we compare model-predicted velocities with GPS data as well as velocities predicted by the reference model for each set of simulations (i.e., case 3 for cases 4-6, and case 7 for cases 8-11).

3.4.1 Case 1 – Full Plate Boundary Shear Zone

In case 1, we incorporate the presently accepted observations of lithospheric structure of south-central Alaska based on regional-scale seismology datasets, as previously discussed (section 3.3). We apply forces generated from the collision and subduction of the Pacific and Yakutat slab, basal tractions generated form mantle convection cells, and gradients of gravitational collapse in case 1 by applying a plate driven boundary condition to all model side walls except the northern-most mantle sidewall, where we apply a gradient of southward directed velocities as previously described (Figure 3.2a and d). Additionally, we utilize the viscosity estimates for south-central Alaska of McConeghy et al. (2021), partitioned as described in section 3.3.4.2 (Figure 3.2b). We initialize our suite of models by testing the spatial extent and magnitude of plate coupling. In case 1 we implement a plate boundary shear zone along the entire interface of the subducting slab, including both the Pacific and Yakutat slabs (Figure 3.2d).

Overall, simulated velocities in case 1 are not an adequate representation of observed deformation (Figure 3.3a and d). In particular, for the horizontal velocities, magnitudes are significantly underpredicted and directions display considerably more southwestward rotation than GPS observations (Figure 3.3a). The simulated pattern of vertical velocities match observations along the Denali Fault system and throughout the Alaska Range, as well as north-northwest of the central Alaska Range (Figure 3.3d). Due to the incompressible nature of the modeled material, when comparing these estimates to observations of vertical surface motions, we interpret positive vertical velocities as representing shortening through any combination of exhumation, compression, or uplift. It is also important to note that our simulations do not take erosion into account, resulting in overestimates of uplift. With this in mind, we interpret the positive vertical velocities in the Cook Inlet basin as reflecting compression (Figure 3.3d). Additionally, a broad zone of uplift is predicted in the St. Elias and Wrangell mountains region; compared to

observations of surface uplift, this zone is considerable larger than the observed localized uplift in the St. Elias syntax (Figure 3.1a).

3.4.2 Case 2 – Strong Plate Coupling Along the Yakutat Slab

In case 2, we continue our investigation of plate coupling initialized in case 1. We utilize the same boundary conditions, slab geometry, and material properties as in case 1, however, in case 2 we remove the plate boundary shear zone from the interface of the Yakutat slab, as displayed in Figure 3.3b. The plate boundary shear zone remains along the Pacific slab, replicating a distinct difference in plate coupling along the Pacific and Yakutat slabs, with strong plate coupling between the Yakutat slab and overriding plate.

The variation in plate coupling, induced by the removal of the plate boundary shear zone from the Yakutat slab, improves the RMS and WRMS of simulation results (Table 3.1). Model-predicted horizontal velocities, specifically, better match GPS observations in both magnitude and direction (Figure 3.3b). Rotation of horizontal velocities throughout south-central Alaska is replaced with the far-field convergence displayed in the GPS velocities. Model-predicted vertical velocities are display a more accurate representation of the localized uplift in the St. Elias syntax (Figure 3.3e). Compared to the dispersed uplift throughout this region predicted by case 1 (Figure 3.3d), vertical velocities predicted in case 2 are increased in constraint and magnitude. Overall, the removal of the plate boundary shear zone from the Yakutat slab interface produces a better representation of the observed dynamics; thus, we maintain this condition in all subsequent cases.

3.4.3 Case 3 – Thin, Weak Denali Fault (Reference Case)

We test the extent and effect of assuming, apriori, a weak, intercontinental shear zone in case 3 by including a throughgoing lithospheric scale shear zone along the trace of the Denali fault (Figures 3.1 & 3.2). As shown in previous models of south-central Alaska (i.e., Haynie & Jadamec, 2017; Jadamec et al., 2013), this intercontinental shear zone is warranted based on the enhanced seismic activity (i.e., Eberhart-Phillips et al., 2003), strike-slip motion (Allen, 2016; Bemis et al., 2015; Matmon et al., 2006), and shear (Ali & Freed, 2010) along the Denali fault. Following the modeling of McConeghy et al. (2021) and the block models from Elliot and Freymueller (2020), the intercontinental shear zone follows the trace of the Denali fault from approximately 63° N,

154° W, along an arcuate path to its intersection with the Tuschunda fault; at this location, the shear zone connects along a relatively straight path to the trace of the Queen Charlotte-Fairweather fault, where it intersects the eastern boundary of the Yakutat slab (Figures 3.1 and 3.2). We make adjustments to the viscosity surrounding the Denali fault in order to localize the motion associated with slip along this strike-slip fault system (Figure 3.3c). Due to the larger model size, the viscosity estimates from Finzel et al. (2015) and McConeghy et al. (2021) are calculated on a relatively coarse grid when compared to that of our model region, which only encompasses south-central Alaska (Figure 3.1). Because of this, the lateral variation of the effective viscosity in areas of enhanced surface motions and strain rates (such as the central Denali fault system) can be overestimated when down sampled to the relatively finer grid used in smaller scale models, such as ours. We account for this by increasing the vertically averaged viscosity within 70 km on either side of the central Denali fault system and 40 km on either side of the western Denali fault system by $10^{21.5}$ Pa·s. We then adjust viscosities to 10^{19} Pa·s within a 15-km-wide zone centered along the trace of the Denali fault, as displayed in Figure 3.2b.

With a thin Denali fault, the fit of the magnitude and direction of model-predicted velocities is improved everywhere inboard of the subduction boundary, resulting in an improvement of the $RMS_{inboard}$ and $WRMS_{inboard}$ (Table 3.1). Compared to case 2, the viscosity adjustment invoked in case 3 improves the fit of simulated horizontal velocities along the Denali fault (Figure 3.3b). Overall, case 3 simulated horizontal velocities match GPS observations well, except along the southern coast of Alaska (Figure 3.3c and 3.4a). Specifically, in the southern Kenai Peninsula region, the direction of model-predicted velocities overestimate the rotation of the Wrangell block and the magnitude of the velocity is underestimated. The southeastern coast displays a sporadic mismatch of model-predicted and GPS velocities.

The vertical component of model-predicted velocities displays similar trends to those predicted in case 2 (Figure 3.3e and f), with enhanced uplift in the St. Elias syntax region and moderate estimates of uplift predicted in the southern Chugach Mountains, in the Cook Inlet region, along the Denali Fault system and throughout the Alaska Range (Figure 3.3f and 4b).

Given the improvement in RMS and WRMS that variations in cases 2 and 3 produce, we initiate all subsequent models with these adjustments apriori. We use the adjustments in the extent of plate coupling (cases 1 and 2; Figure 3.3a, b, d, & e) and intercontinental shear zone thickness (cases 2

and 3; Figure 3.3c & f and Figure 3.4) to construct cases 4-11. Thus, case 3 serves as a reference point for dynamic variations produced by subsequent cases (Figure 3.4).

3.4.4 Case 4 – Weak Zones Within the Subducting Slab

In case 4 we isolate the effects of the strength of the subducting slab by weakening predefined zones, i.e. "weak zones" (wz; Figure 3.2d). To do so, we adjust both the density and viscosity of these areas to ρ_{wz} = 3000 kg/m^3 and $\eta_{wz} = 10^{21}$ Pa·s, respectively. By implementing a significantly decreased viscosity and density within the relatively strong and dense slab lithosphere, we test the hypothesis that the subducting slab has inherent zones of weakness, inferred from seismic tomography (Yang & Gao, 2020). These adjustments reflect the relatively slow velocities recorded in the predefined areas (e.g., Jordan, 1979).

The directions of the horizontal velocities predicted by case 4 are in general consistent with those predicted by case 3; the magnitudes, however, decrease almost everywhere south of the Denali fault (Figure 3.5a). This results in a deterioration of the RMS and WRMS. In particular, the velocities adjacent to the subduction boundary up to latitude 62° N are significantly reduced. Vertical velocities predicted by case 4 show similar trends to those predicted by case 1, with somewhat decreased magnitudes (Figures 3.4b & 3.5d).

3.4.5 Case 5 – Slab Gaps/Tears

We isolate the geometric parameter of the subducting slab by imposing gaps within the slab surface for case 5 (S2; Figure 3.2d). These gaps significantly segment the slab; the western-most gap separates the Yakutat and Pacific slabs into separate domains and the northern gap provides an additional segmentation within the Yakutat slab, although it maintains as one domain (Figure 3.2d). As in case 4, we use consistent boundary conditions and the same material parameters of the mantle and continental lithosphere.

Overall, case 5 predicts horizontal surface velocities that improve the RMS and WRMS, compared to cases 3 and 4 (Table 1; Figure 3.5b). Particularly in the Kenai Peninsula, horizontal velocities match GPS observations significantly better (Figure 3.5 b & d). Elsewhere in the model, horizontal velocities predicted by this case either the misfit with GPS observations, or they remain consistent with those predicted by case 3 (Figure 3.5b). One except to this improvement is in

velocities directly north of the Prince William Sound. Vertical velocities predicted by case 5 are similar to those predicated by case 3 (Figure 3.5d). The most notable difference in vertical velocities is in the northern portion of the Cook Inlet region where vertical estimates decrease. Because this portion of the Cook Inlet lies directly above the imposed gap location (Figures 3.1 & 3.2), we interpret this change as a result of the lack support for the overlying crustal material.

3.4.6 Case 6 – Slab Gaps/Tears with Weak Sides

In case 6 we impose a compromise of the end member strength and geometric variations (S2) from cases 4 and 5 to fully investigate the range of the degree in possible slab segmentation suggested by Yang and Gao (2020). We use the geometry of the slab from case 5 and additionally weaken the slab around the edges of the gaps, or gap sides (gs), to a minimum of $\eta_{gs} = 10^{21}$ Pa·s.

In most areas throughout the model region, horizontal surface predicted velocities for case 6 mimic that of case 5, suggesting geometric variations have a stronger influence on simulated velocities than strength variations (Figures 3.5b & c). The only area in which these velocities differ slightly is north of the Prince William Sound, where case 6 predicated horizontal velocities slightly exacerbate the already poorer fit with GPS observations (Figure 3.5c). Differences in vertical velocities predicted by case 6 are almost imperceptible when compared qualitatively with all previous models; overall, case 6 displays similar trends in vertical surface velocities with slightly decreased magnitudes (Figure 3.5f).

3.4.7 Case 7 – Additional Wrangell Slab Segment

In the following cases, we test effects of using maximum estimates for slab volume (S3 & S4; Figure 3.2d). Case 7 isolates the effects of this additional component by using the same initial material parameters and boundary conditions as case 3, but with an additional component along the eastern margin of the slab geometry shown in Figure 3.2d (purple dashed line). This geometry (S3) represents the Wrangell slab segment of the Yakutat slab; the existence and geometry of which has been debated. Our results attempt to provide insight into the viability of this additional slab segment.

Model predicted surface velocities of case 7 show similar patterns to the model predicted surface velocities of case 3 (Figure 3.6). The simulated horizontal surface velocities match GPS

observation in most areas, aside from the Kenai Peninsula region and near the collisional boundary between the Yakutat microplate and the southern Alaskan margin (Figure 3.6a). In the latter region, particularly east of longitude 143°W, the misfit between model predicted horizontal surface velocities and GPS observations increases, as the magnitude of model predicted velocities is relatively small (Figure 3.6). Interestingly, this area of increased misfit aligns with the shallowest part of the additional slab segment (Figure 3.2d).

Uplift is predicted in case 7 in a similar distribution as in case 3, with the main regions of uplift corresponding to the St. Elias syntax region, the southern Chugach Mountains, in the Cook Inlet region, along the Denali Fault system and throughout the Alaska Range, and north-northwest of the central Alaska Range (Figure 3.6b). The most notable difference in model-predicted vertical velocities of case 7 compared to all previous cases is the localization and intensification of uplift in the St. Elias mountains.

3.4.8 Case 8 – Wrangell Slab with Weak Zones

Case 8 employs the same geometric variation as case 7 (S3) and additionally isolates an endmember case for a weakened subducting slab. Similar to case 4, zones of reduced lithospheric viscosity (η_{wz} = 10^{21} Pa·s) and density (ρ_{wz} = 3000 kg/m^3) are imposed in the structure of the subducting slab.

Predictably, the differences in model-predicted velocities of cases 7 and 8 mimic those of cases 3 and 4, as we are isolating the same variations within these sets of models (Figure 3.5a and 3.7a). A general decrease in the magnitude of both simulated horizontal and vertical surface velocities is observed, although the decrease in horizontal velocities is significantly more noticeable than that of the vertical velocities (Figure 3.7a & d).

3.4.9 Case 9 – Wrangell Slab with Slab Gaps/Tears

In addition to the adding a Wrangell slab segment in the geometry of the subducting slab (S3), we subsequently vary this geometry by imposing gaps that segment this domain into three separate domains (S4; Figure 3.2d). As in case 3, a western gap separates the Pacific and Yakutat slabs, and a northern gap adds an additional segmentation within the Yakutat slab domain. On top

of these segmenting features, we separate the Wrangell slab from the Yakutat slab, producing a completely detached domain.

Case 9 model predicted horizontal velocities improve the RMS and WRMS, compared to a non-segmented slab, case 8 (Table 1; Figure 3.7b). These improvements follow the predicted improvement from cases 3 and 5, suggesting that, overall, the segmentation of the subducting slab improves the RMS and WRMS (Table 3.1). Similar to case 5, model predicted vertical surface velocities decrease in the northern Cook Inlet region (Figure 3.7e). Case 7 also predicts exceptionally localized uplift in the St. Elias syntax region, although magnitudes remain fairly consistent compared to cases 7 and 8 (Figure 3.7e).

3.4.10 Case 10 – Wrangell Slab with Slab Gaps with Weak Sides

In case 10 we impose a compromise of end member slab strength and geometric variations, as in case 6; however, in case 10 we include the additional Wrangell slab. To do so, we weaken the edges surrounding all segments in the slab geometry of case 7 (S4; $\eta_{gs} = 10^{21}$ Pa·s).

Case 10 predicts trends in horizontal surface velocities similar to those predicted in case 9 (Figure 3.7b & c). A notable difference between these two cases is the improvement of fit of model-predicted velocities and GPS observations near Yakutat and Icy Bay observed in case 10 (Figure 3.7c & f). Overall, however, simulated velocities degrade the RMS and WRMS compared to case 9 (Table 3.1). Vertical velocities predicted by case 10 display the most intense and localized uplift of all simulations, restricted to the northern St. Elias mountains region (Figure 3.7f). Elsewhere, vertical velocities are predicted in similar magnitude and distribution to those predicted by case 9.

3.4.11 Case 11 – Weak, Detached, Wrangell Slab

We complete the suite of maximum slab volume models (cases 7-11) by further varying the material properties of the additional portion of slab in case 11. In this case we simulate the marked differences in the tomographic expression of the Wrangell slab as seen in Yang and Gao (2020) who note the relatively thinner and seismically slower character of this segment. To test this, we employ the S4 slab geometry, which divides the subducting slab into distinct Pacific,

Yakutat, and Wrangell slab segments, and we weaken the Wrangell slab (ws) segment to η_{wz} = 10^{22} Pa·s.

Case 11 predicts horizontal surface velocities that improve the RMS and WRMS inboard of the subduction boundary (Figure 3.8). The misfit between model-predicted velocities and GPS observations increases closer to this boundary; overall, however, case 11 predicts an adequate representation of surface dynamics (Figure 3.8). The most notable affect that imposing a weak Wrangell slab has on the surface deformation is observed in the model predicted vertical velocities; to highlight this, we plot the difference in simulated vertical velocities between that of cases 9 and 11 in Figure 3.8b. Interestingly, this produces an increase in vertical velocities directly within the Wrangell volcanic field. Vertical velocities are decrease slightly to the east, where cases 8-10 predict the most intense uplift.

3.5 Discussion

Numerical modeling of the lithosphere can provide insight on the relative driving forces of deformational processes; however, the solutions are inherently non-unique. Additionally, strength partitioning and viscous flow assumptions for simulations may not reflect the actual strength of the lithosphere and mantle and this does not include the crustal component of elasticity that is important on short timescales. With these limitations in mind, by systematically varying specific parameters through a forward-modeling approach, we can use our simulation results to identify deformational characteristics that result from endmember hypotheses. Our comparisons with surface observations of deformation allow for the constraint of a set of realistic dynamics and discount configurations that produce deformation unsupported by geophysical and geologic observation.

Our suite of models identifies the relative contribution that lithospheric structure and subduction dynamics have on driving the upper plate deformation in south-central Alaska. Establishment of our refence model (case 3) highlights the importance of strong plate coupling between the Yakutat slab and the overriding plate, and a degree of strain partitioning along a thin intercontinental shear zone, i.e., the Denali fault. By testing the parameter space for endmember assumptions of slab structure, our additional models (cases 4-11) reveal a dependence of upper plate deformation on subduction geometry. Below we discuss the implications for the simulated endmember cases on specific deformational features in south-central Alaska.

3.5.1 Far-field Transmission of Convergence from Yakutat Plate Coupling and Thin, Denali Fault

Surface motions constrained from GPS observations display a continuum of velocities oriented in the convergence-direction (north-northwest) over 500 km away from the subduction boundary (Figure 3.1; Elliot and Freymuller, 2020). Despite the striking nature of these observations, previous geometric models and numerical simulations of south-central Alaska have insufficiently accounted for this far-field convergence, specifically north of the Denali fault (Haeussler et al., 2017; Haynie & Jadamec, 2017; Jadamec et al., 2013; Jadamec & Billen, 2010). Thus, their explicit driving force is not completely understood. Our simulation results show that the geometry of the shallow subduction of the Yakutat microplate alone cannot reproduce this convergence and that enhanced coupling of the Yakutat slab with the overriding plate is required to produce surface velocities that better fit these observations (Figure 3.3b). These results provide a constraint on the boundary of enhanced plate coupling, which has previously been debated but mainly confined to the region of Yakutat subduction southeast of the Pamplona Fault Zone (Elliott et al., 2013; Elliott & Freymueller, 2020; Worthington et al., 2012). By testing variable coverage of the plate boundary shear zone, we delineate the region of increased plate coupling as covering the entire surface of the Yakutat portion of the subducting slab (Figure 3.3b and 9).

In addition to the interaction of resisting forces arising from flat-slab subduction, previous studies have shown a dynamic relationship between these forces and right lateral slip along the Denali fault system in driving observations of surface motions (Haeussler, 2013b; Haeussler et al., 2017; Haynie & Jadamec, 2017; Jadamec et al., 2013; Matmon et al., 2006; Mériaux et al., 2009; Waldien et al., 2018). Initial models proposed a weak Denali fault assists in the counterclockwise rotation of the Southern Alaska/Wrangell block; more recent studies, however, have accepted additional components of northwestward indentation and internal shortening of this tectonic block (Bemis et al., 2015; Haeussler et al., 2017; Haynie & Jadamec, 2017; Mériaux et al., 2009; Vallage et al., 2014). Most of these models require a diffuse Denali fault system to serve as a backstop for this rotation or convergence. However, by invoking a *thin*, weakened Denali fault, our model predicted surface velocities better fit GPS observations in the area adjacent to the Denali fault system (Figure 3.3c). Thus, our simulations support the importance of this system in partitioning strain from flat-slab subduction into a component of strike-slip but counter the complete decoupling of southern Alaska from the north American margin (Haynie & Jadamec, 2017;

Jadamec et al., 2013). Combined with high plate coupling along the Yakutat slab, the concentrated zone of strain partitioning in our simulations allows for the transmission of convergence north of the Denali fault, producing acceptable horizontal surface motions (Figure 3.4). Our simulations provide the first instance of a geodynamical reproduction of the far-inboard signal of convergence observed north of the Denali fault, at this scale.

Geophysical observations throughout the region can provide insight into the justification of these two prominent conditions that so significantly affect model predicted deformation. Considering the observations of significant strike-slip displacement along the Denali fault system since the Eocene (i.e., Allen, 2016; Cole & Ridgway, 1993; Trop et al., 2019; Waldien et al., 2018) and the enhanced seismic activity along this system observed today (i.e., Eberhart-Phillips et al., 2003), it follows that this system contributes to a significant weakening of the lithosphere along its path (Molnar & Dayem, 2010). Understanding the reasoning for differences in plate coupling along the Pacific and Yakutat subduction boundaries is more complex, although tomographic imaging of the mantle forearc may provide insight.

Several seismic studies have been used to image the mantle forearc surrounding the subducting slab (Eberhart-Phillips et al., 2003; Martin-Short et al., 2018; Stachnik et al., 2004; Yang & Gao, 2020). The relative velocities observed within the Aleutian forearc have be related to the amount of hydration in the mantle region adjacent to the subducting slab (Yang & Gao, 2020). Additionally, multiple numerical modeling studies have documented a connection between plate coupling and the dynamics of fluids within the subduction channel (i.e., Eberle et al., 2002; Faccenda et al., 2009). The presence of these fluids leads to the development of a relatively low temperature mantle forearc, stimulating the serpentinization process (Bostock et al., 2002; Christensen, 1966). Specifically, in south-central Alaska the seismic character of the mantle forearc appears to vary along strike, displaying a low temperature, seismically slow, and thus, hydrated mantle forearc along the Pacific-Aleutian subduction zone (Eberhart-Phillips et al., 2006; Martin-Short et al., 2018; Stachnik et al., 2004; Yang & Gao, 2020). Interestingly, these studies show that this hydrated region is restricted to the area south of latitude 60° N, which correlates with the western extent of the Yakutat microplate used in our models. Yang and Gao (2020) suggest a connection to this variation with the significant underplating and accretion of sediment into the accretionary prism above the Yakutat slab (Worthington et al., 2010). This process reduces the opportunity for fluids to enter the flat-slab subduction channel and results in a drier

environment (Yang and Gao, 2020). In the context of our simulations, by removing the low viscosity shear zone from the surface of the Yakutat slab, we replicate the effects of this dry mantle forearc (Figure 3.9). Our simulations with this condition included *a priori* better fit geophysical and geologic observations of surface deformation (Figure 3.3b), supporting the dissimilarity in subduction dynamics of the Yakutat and Pacific slabs.

In establishing our reference case for comparison with slab structure variations, including a weak, thin Denali fault and strong plate coupling between the Yakutat and overriding plate exert the most significant control on the model predicted surface deformation and produce results that are consistent with observations (Figure 3.3). However, there remain discrepancies between geophysical and geologic observations and simulation results (Figure 3.3); our subsequent simulations show that the constraint of these differences improves with variations in slab structure, particularly geometric variations.

3.5.2 Segmentation of the Subducting Slab

Our simulation results support the interpretation that the subducting slab beneath south-central Alaska displays a heterogeneous structure. This variability has been observed with multiple seismic imaging techniques and most recently has been interpreted as representing a segmentation via either strength or geometric contrasts (Yang and Gao, 2020). Models that incorporate these variations in slab structure through a weakening of slab segments degrade the RMS and WRMS (cases 4 & 8; Table 3.1; Figures 3.5 & 3.7). Whereas models that incorporate this segmentation geometrically, produce dynamic velocities most consistent with geophysical and geologic observations (cases 5-6 & 9-11; Table 1; Figures 3.5, 3.7, & 3.8).

With decreasing slab strength, internal deformation in the slab more easily occurs and thus, prohibits the transmission of stresses further inboard. In order to permit the far-field transmission of convergence observed in south-central Alaska, we find that the slab must maintain its rheologic strength (Figures 3.5a & 3.7a). However, to better match geophysical and geologic observations of both vertical and horizontal components of deformation inboard of the subduction boundary, physical segmentation of the slab is required (Figures 3.5b-c & 3.7b-c). This balance is achieved in models with slab gaps invoked in the geometry of the slab (cases 5, 9, and 11). Thus, we suggest distinct segments of the subducting slab more adequately resembles the actual structure of the Yakutat, Pacific, and Wrangell slabs beneath south-central Alaska.

The results presented here shed light onto the segmented nature of the subducting slab beneath south-central Alaska and argue for the physicality of this end member hypothesis. Model limitations prevent a diagnostic evaluation of the mechanics behind these separations; still, it is interesting to note the direct correlation between the slab gap/tear that detaches the Yakutat and Pacific slabs, and the additional difference in subduction processes between these two slab segments. Our models show that the subduction of the Yakutat slab differs not only in its geometric configuration, but also in how it interacts with the overriding plate (Figure 3.2b & Figure 3.3).

We propose that the dynamic discrepancies between the Yakutat and Pacific slabs could be the cause of tearing between these two domains, resulting in the gap perceived in geophysical observations. The geometric transition from steeply-dipping, or "normal" subduction, to shallow, or flat-slab subduction, has been shown to cause tearing of subducting slab within numerous subduction zones (Bishop et al., 2017; Govers & Wortel, 2005; Ma et al., 2019). For instance, the Caldas tear in the subducting slab beneath northwestern South America currently separates two distinct slab segments dipping at 20°-30° and 30°-40° (Vargas & Mann, 2013; Wagner et al., 2017). We suggest a similar mechanism for tearing between the Yakutat and Pacific slabs; in this case, however, the separation is enhanced by differences in plate coupling. In addition to the shallow geometry of subduction of the Yakutat slab, intense plate-coupling between this slab segment and the overriding plate results in an additional restraint to subduction. Conversely, the relatively weak coupling between the Pacific slab and the overriding plate facilitates subduction. Evolution of these opposing forces has subsequently resulted in tearing between the Pacific and Yakutat slabs, forming the distinct segments observed today. This interpretation implies the slab gap developed during subduction and thus, was not an inherent structure within the subducting slab. Time-dependent numerical modeling that can examine the dynamics and evolution between shallow and normal subducting slabs is needed to further test this hypothesis.

3.5.3 Increased Localized Uplift of Syntax

Previous geophysical studies have shown that the St. Elias orogen is undergoing unusually rapid and localized uplift and deformation (Enkelmann et al., 2009; Falkowski et al., 2014); it corresponds that this orogen is the highest coastal mountain range on Earth (Figure 3.1a). Along with this significant relief, large temperate glaciers fill in the valleys between adjacent peaks, completely encasing the mountain range. Thermochronologic data indicate this syntaxial orogen

has experienced rapid exhumation (4-5 mm/yr) over the last 5 Myr; although these rates appear to have varied over time and by location (Enkelmann et al., 2009, 2015; Falkowski et al., 2014; Reece et al., 2011). The explanation for magnitude and localization of this exhumation is up for debate, although our modeling results suggest this could be primarily controlled by subduction geometry (i.e., Figure 3.6).

Two opposing theories for the enhanced uplift of the St. Elias mountains have been suggested: (1) the "tectonic aneurysm" model, in which the high erosion rates are the main contributor to localized uplift (Hooks, 2016; Koons et al., 2013), and (2) a geometry-favored model, that proposes the shape of the subducting plate has the most influence on producing syntaxial uplift (Bendick & Ehlers, 2014). In the tectonic aneurysm model, glacial-induced erosion unloads the upper crust, perturbing the stress fields and inducing advection of crustal material upward; this material is then replaced by hot, weak lower crust providing a positive feedback of rapid uplift and exhumation (Koons et al., 2013). The supporting dynamics of this model are dependent upon continuous and significant erosion; because our models do not take into account the effects of erosion, nor are they time-dependent, the predicted uplift patterns presented here provide insight on the component of uplift in this collisional zone that can be solely attributed to collisional dynamics and the effects slab geometry.

All simulations that test the structure of the subducting slab (cases 1-9) produce significant and localized upward surface motions above the eastern margin of the Yakutat slab (Figures 3.3b, 3.4b, 3.5d-f, 3.6b, 3.7d-f, 3.8b), corresponding to the spatial extent of the St. Elias orogen (Figure 3.1a). In our initial simulation with a consistent plate boundary shear zone across the entire extent of the slab, this uplift is diffusely distributed throughout the southeastern portion of the model domain (Figure 3.3d). Additionally, the uplift becomes increasingly localized with the addition of a Wrangell segment into the slab geometry (Figures 3.6b, 3.7d-f, 3.8b). Because these increased uplift rates are produced in a similar fashion in all simulations with a collisional Yakutat slab, and further constrain in simulations with a Wrangell slab, we conclude that increased plate coupling and slab geometry is responsible for the enhanced model-predicted uplift rates in the St. Elias orogen. Thus, we suggest that that the combination of indenter dynamics with an additional geometric complication of a Wrangell slab influences the uplift observed in this region.

Preferential model-predicted uplift near the southeastern indenter margin displays a strong relationship between syntaxial uplift and subduction geometry, as well as a connection with highly

coupled subduction. However, the focus of model-predicted uplift in all cases is somewhat offset of the tallest peaks in the St. Elias orogen (Figures 3.3b, 3.4b, 3.5d-f, 3.6b, 3.7d-f, 3.8b), possibly indicating the local importance of erosion. Interestingly, geologic and geophysical observations show a temporal and spatial connection between a southern shift in the locus of rapid exhumation in the St. Elias orogen and Pleistocene glaciation (i.e., Enkelmann et al., 2015). High erosion rates of the Bering, Hubbard, and Seward-Malaspina glaciers may alter the tectonic uplift signal that is observed at the surface today.

3.5.4 Implications for the Wrangell Slab

In addition to inter-slab segmentation, we further examine the viability of endmember volumetric estimates of the subducting slab (cases 6-9; Figures 3.6-3.8). The lateral extent of subduction beneath south-central Alaska is not completely understood. Geophysical observations and Wadai-Benioff zone seismicity assist in the delineation of the slab; however, various theories persist regarding slab geometry and whether there exists an additional eastern segment – the Wrangell slab (Figure 3.1 & 3.2). Numerous seismic studies have attempted to image the subducted portion of the Yakutat slab, with some arguing for the presence of a Wrangell slab, or at least a more extensive eastern limit (Yang and Gao, 2020; Feng and Ritzwoller, 2019; Pavlis et al., 2019; Ward and Lin, 2018; Jiang et al., 2018), and others denying its existence (Martin-Short et al., 2018; Wang and Tape, 2014; Qi et al., 2007). We find that simulations including a Wrangell slab segment within the geometry of the subducting slab (cases 6-9) produce surface deformation patters consistent with geologic and geophysical observations (Figures 3.6-3.8).

Furthermore, our models investigate endmember structural configurations for the Wrangell slab segment, including both its separation from the Yakutat slab (cases 7-8; Figure 3.7 b-c & e-f), and variation in the relative strength this slab segment (case 9; Figure 3.8). As previously discussed, simulations with gaps that segment the slab, including those that disconnect the Wrangell and Yakutat slabs, better fit observations of surface deformation (Figure 3.7 b-c & e-f). Interestingly, the additional weakening of a detached Wrangell slab produces horizontal velocities consistent with those produced in simulations with Wrangell slab strength that matches the other slab segments (Figure 3.8a). The mechanical weakening of the Wrangell slab invokes the most control over vertical model predicted velocities above this detached segment.

Seismic tomography reveals discrepancies in the geophysical character of the Wrangell slab segment, as previously discussed. Although the imaging of this region is hindered by the lack of seismicity in the Wrangell volcanic field (Figure 3.1b; Page et al., 1989; Pavlis et al., 2019), what has been resolved shows a thinner and seismically slower region in comparison to the Yakutat and Pacific plates, that has been interpreted as the Wrangell slab (Feng & Ritzwoller, 2019; Jiang et al., 2018; Yang & Gao, 2020). This dissimilarity in structure may reflect a variable origin and/or evolution of the Wrangell slab (Stephens et al., 1984). It is also important to note the spatial connection between the Wrangell slab segment and the Wrangell volcanic field (Figure 3.1b). Despite this juxtaposition, the source of volcanism within the Wrangell volcanic field has not been definitively constrained (Berkelhammer et al., 2019; Preece & Hart, 2004; Skulski et al., 1991, 1992). Our model with a weakened, detached Wrangell slab that is both geometrically and rheologically distinct from the Yakutat slab produces an increase in vertical velocities above this slab segment, corresponding to the geographically referenced location of the Wrangell volcanic field. Given this connection, we argue that a structurally distinct Wrangell slab produces a dynamic response that is consistent with observations of upwelling beneath the Wrangell volcanic field. Thus, we suggest the arc-type volcanism displayed in the Wrangell volcanic field (Brueseke et al., 2019) may be related to subduction of the Wrangell slab, rather than associated with transtension along the eastern edge of the Yakutat slab (Trop et al., 2012). Although further studies are needed to test this connection.

3.6 Conclusions

We develop a 3-D lithospheric scale, layered, viscous model of south-central Alaska and investigate the contribution to surface deformation resulting from variations in plate coupling along the subduction boundary, the viscosity and extent of the Denali fault, and the structure of the subducting slab. Simulation results suggest the following:

1. Strong plate coupling along the surface of the Yakutat slab, in addition to its shallow subduction geometry, allows for the transmission of convergence inboard of the subduction boundary. This coupling, combined with a thin, weak Denali fault, produces simulated velocities that are consistent with far-field GPS observations, providing a mechanism for the northward motion of south-central Alaska.

2. Simulations with a physically segmented slab best match GPS observations of deformation throughout south-central Alaska. Variations in the subduction dynamics and degree of coupling between the Pacific and Yakutat plates may contribute to tearing between these two plates. Detachment of the Wrangell slab may have developed throughout subduction processes or as an inherent feature.

3. Observed uplift at the syntax of the Yakutat subduction can be simulated by plate driven dynamics with a realistic slab geometry. The direct relationship between slab geometry and uplift of the syntax is displayed within our simulations.

4. Structural differences between the Wrangell and Yakutat slab may be inherent features. Simulated dynamic uplift corresponding to a weak, detached Wrangell slab may reflect the connection between this slab segment and the arc-related volcanism in the Wrangell volcanic field.

Figure 3.1: Regional map of model domain displaying observations of surface deformation and slab contours (Pacific and Yakutat – white and gray dashed lines; Wrangell slab – purple dashed lines), with a subset of major faults, basins, and peaks (yellow stars). (a) Combined evidence for geologically recent (Pliocene – modern) uplift and/or shortening (red polygons) determined from an amalgamation of geophysical, geomorphologic, and geochronologic (numbered diamonds) studies. Grayscale topography made with data from GeoMapApp (www.geomapapp.org; Ryan et al., 2009). (b) GPS observations of horizontal surface motions from Elliot and Freymuller et al. (2020). CF – Contact Fault, CIB – Cook Inlet Basin, CMF – Castle Mountain Fault, CSEF – Chugach-St. Elias Fault, DRF – Duke River Fault, PZ – Pamplona Zone, QCF – Queen Charlotte-Fairweather Fault, SB – Susitna Basin, TotF – Totschunda Fault, WVF – Wrangell volcanic field (purple polygon).

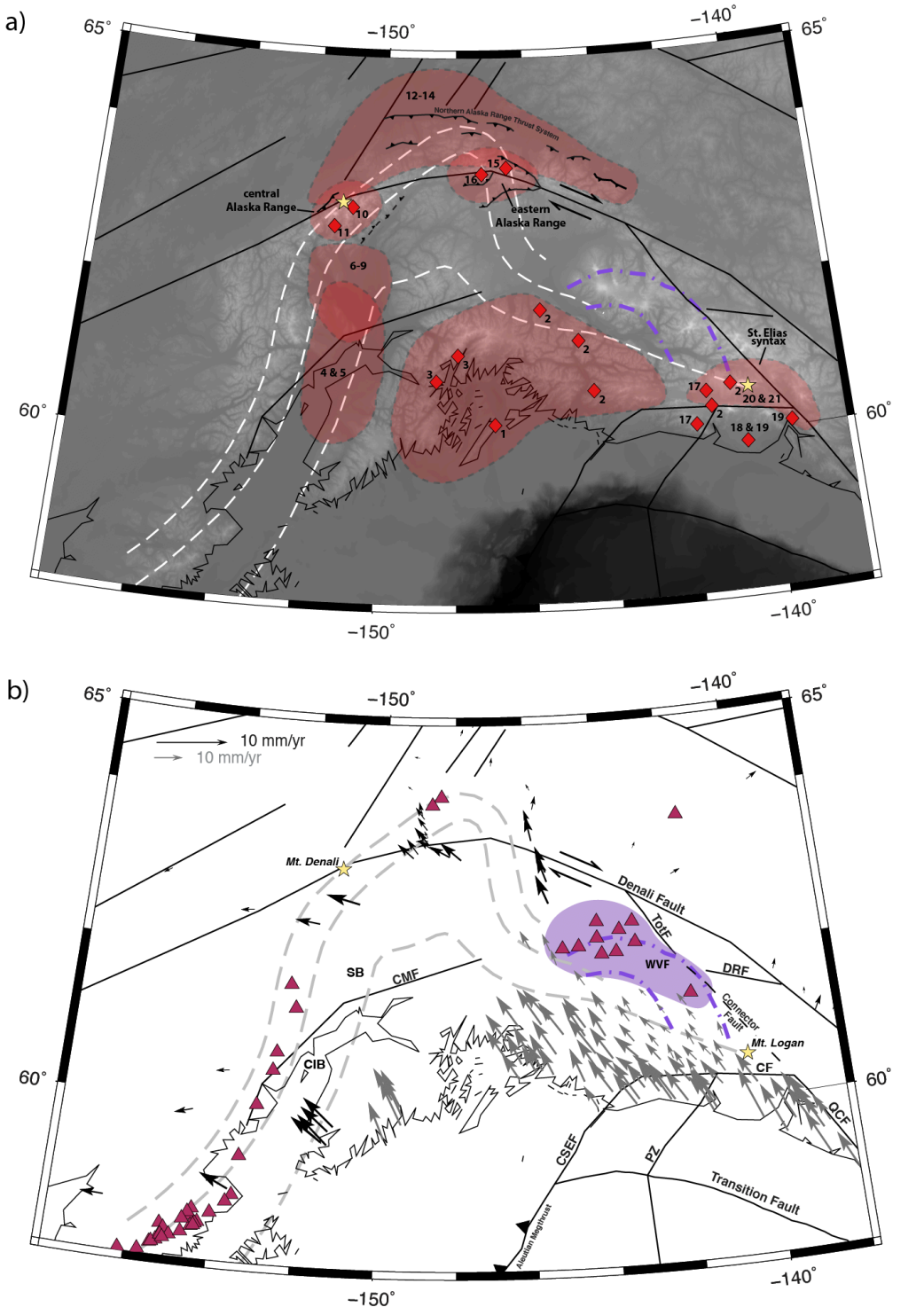

a)
65°
−150°
−140°
60°
12-14
Northern Alaska Range Thrust System
15
16
central
Alaska Range
10
11
eastern
Alaska Range
6-9
2
2
St. Elias
syntax
4 & 5
3
3
17
2
20 & 21
2
17
19
18 & 19
1
b)
10 mm/yr
10 mm/yr
Mt. Denali
Denali Fault
ToIF
WVF
DRF
SB
CMF
Connector
Fault
Mt. Logan
CF
CIB
QCF
CSEF
PZ
Transition Fault
Aleutian Megathrust
−4 −2 0 2 4 6
Elevation
(km above sea level)
Volcano
Geochronology study
Recent uplift/shortening
Geochronology studies
1) Ferguson et al. (2015)
2) Spotila et al. (2014)
3) Arkle et al. (2013)
10) Fitzgerald et al. (1993) & (1995)
11) Lease et al. (2016)
12) Bender et al. (2019)
15) Benowitz et al. (2011) & (2015)
16) Riccio et al. (2014)
17) Enkleman et al. (2008) & (2009)
18) Grabowski et al. (2013)
19) Falkowski et al. (2014) & (2016)
20) McAler et al. (2009)
21) Spotila & Berger (2010)
Geomorphology studies
13) Lesh & Ridgway (2007)
14) Bemis et al. (2012) & (2015)
Geophysical studies
4) Silwal et al. (2018)
5) Haeussler et al. (2000)
6) Saltus et al. (2006)
7) Shah et al. (2020)
8) Lewis et al. (2015)
Other
9) Haeussler et al. (2017)

Figure 3.2: Model set-up. (a) Schematic showing 3-D geometry, mesh, and boundary conditions utilized in this study. Plate-driven boundary conditions constrained by continuous velocity model from Finzel et al., 2015 (black velocity arrows) applied evenly with depth. Geometry surface topography displayed in grayscale. (b) Model viscosity (case 1) displayed in cross-section and plain view. (c) Model density; depth-dependent crustal values derived from CRUST1.0 (Laske et al. 2013); laterally varying, vertically averaged mantle values calculated to isostatically balance model domain. (d) Interior model geometry; transparent gray polygons displaying CRUST1.0 Moho and lithosphere-asthenosphere boundary from Gama et al., 2021; S1 slab geometry displayed in dark gray; weak zones and slab gaps (S2) displayed with red dotted lines; Wrangell slab contours shown with purple dashed lines (S3 & S4). Southward-directed black arrows indicating basal tractions applied to northern mantle boundary and base of model.

Figure 3.2 cont.

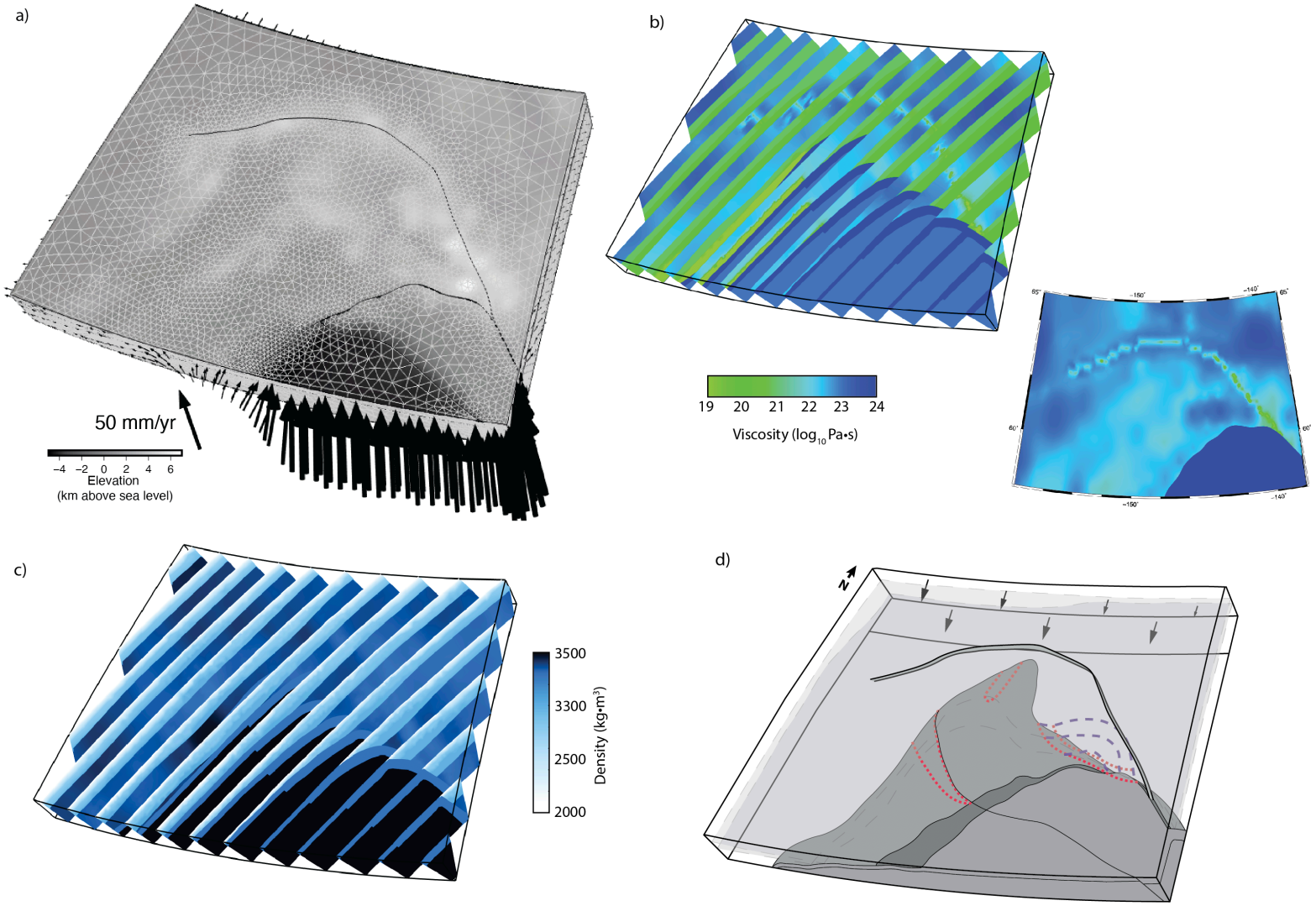
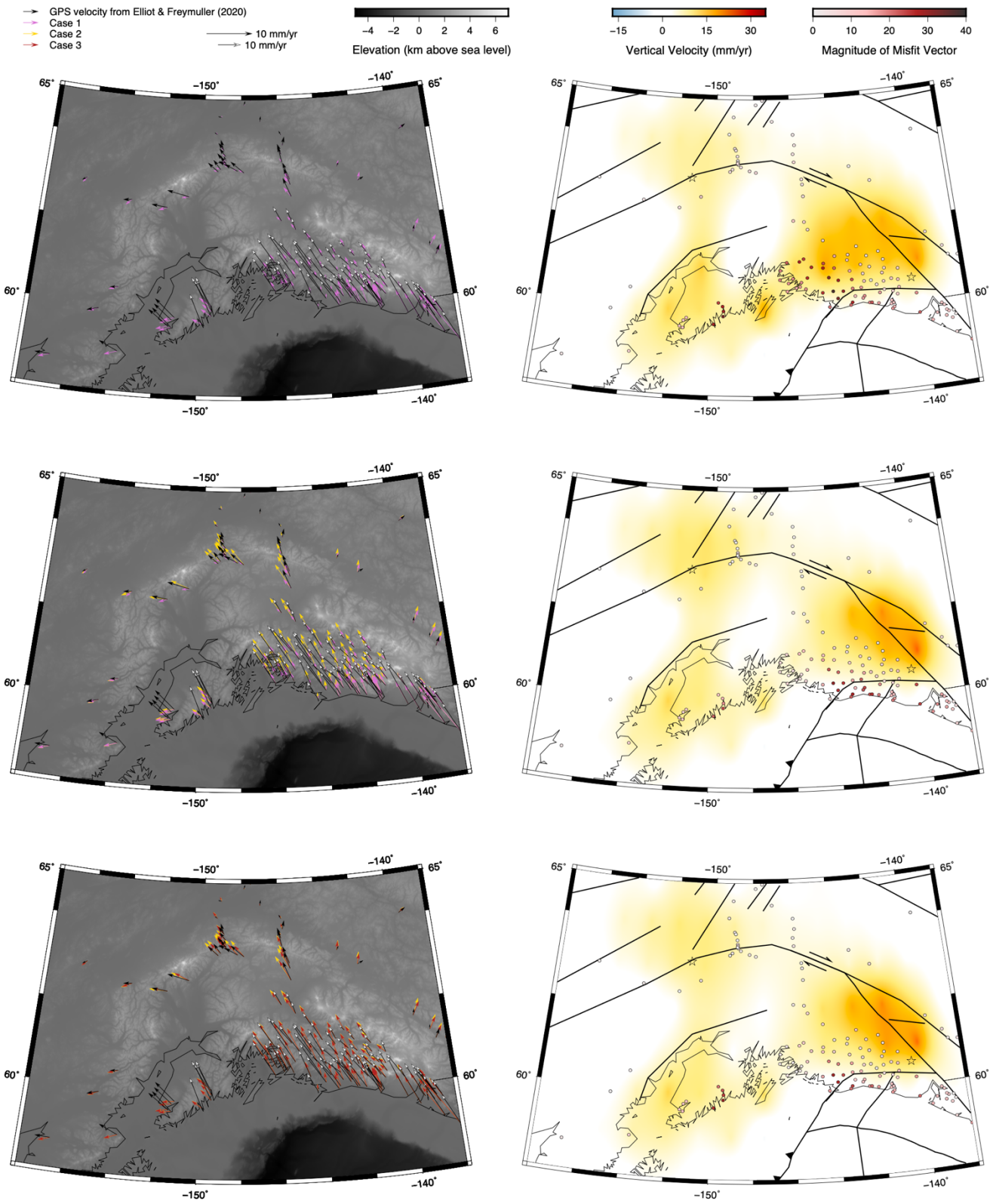


Figure 3.3: Solutions for simulations that test plate boundary (a-b, d-e) and intercontinental shear zone (c, f) extent; cases 1-3. (a) Horizontal component of velocity solution at model surface for case 1 (pink). Black vectors show GPS motions at their respective site locations (Elliot & Freymuller, 2020). Background grayscale displaying topography from GeoMapApp (www.geomapapp.org; Ryan et al., 2009). (b) Horizontal component of velocity solution for case 2 (yellow) compared to velocity solution from case 1 (pink) and GPS data. (c) Horizontal component of velocity solution for case 3, compared to velocity solution from case 2 (yellow). (d) Vertical component of velocity solution corresponding to case 1; red-shaded dots indicate the magnitude of the misfit vector between model-predicted horizontal velocity and GPS observations at each GPS location; stars indicate location of a subset of major peaks (Denali & Logan; Figure 1); black lines and symbols indicate a subset of major faults. (e) Vertical component of velocity solution and horizontal velocity misfit corresponding to case 2. (f) Vertical component of velocity solution and horizontal velocity misfit corresponding to case 3.

Figure 3.3 cont.



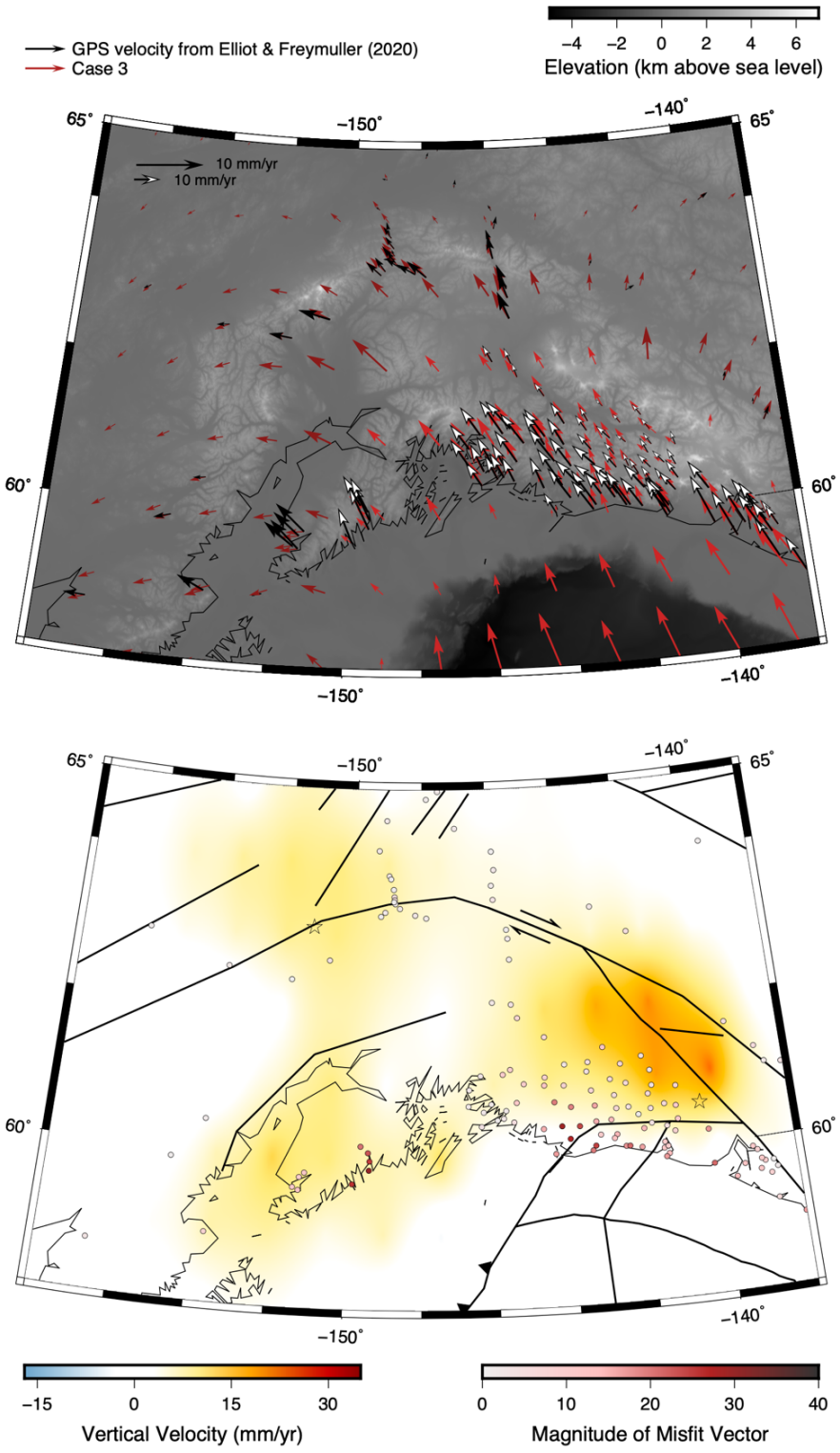
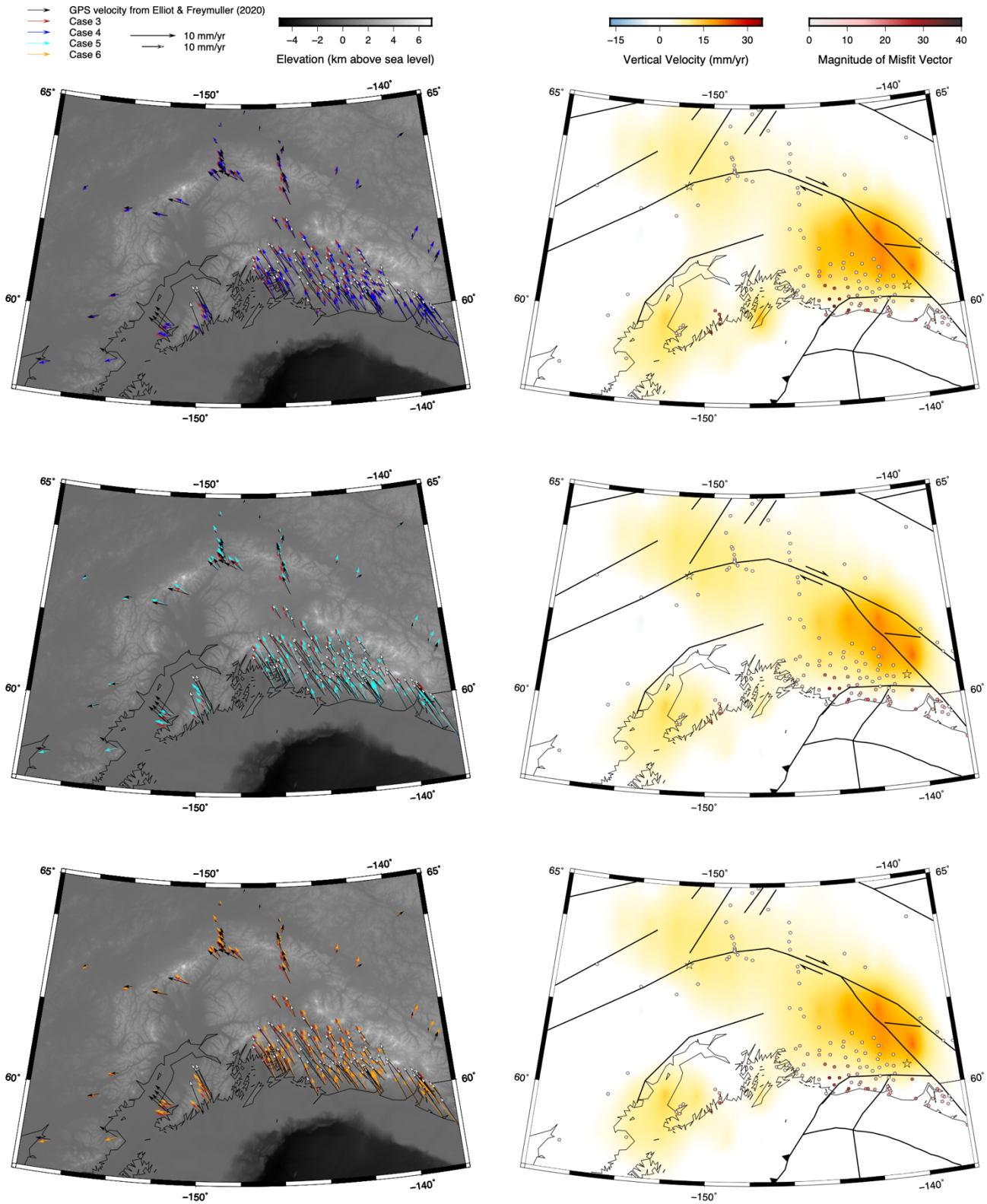


Figure 3.4: Model predicted velocity solution for case 3. (a) Horizontal component of velocity solution displayed at GPS locations and plotted in a uniform grid (red) compared to GPS observations (black and black with white arrowheads). (b) Vertical component of velocity solution and magnitude of the misfit vector between model-predicted horizontal velocity and GPS observations at each GPS location (red-shaded dots).

Figure 3.5: Model predicted velocity solution for cases 4-6; horizontal components compared to GPS observations (black) and case 3 (red). (a) Horizontal component of velocity solution for case 4 (blue) with $\eta_{wz} = 10^{21}$ Pa·s. (b) Horizontal component of velocity solution for case 5 (cyan) with S2 slab geometry. (c) Horizontal component of velocity solution for case 6 (orange) with S2 slab geometry and $\eta_{gs} = 10^{21}$ Pa·s.

Figure 3.5 cont.



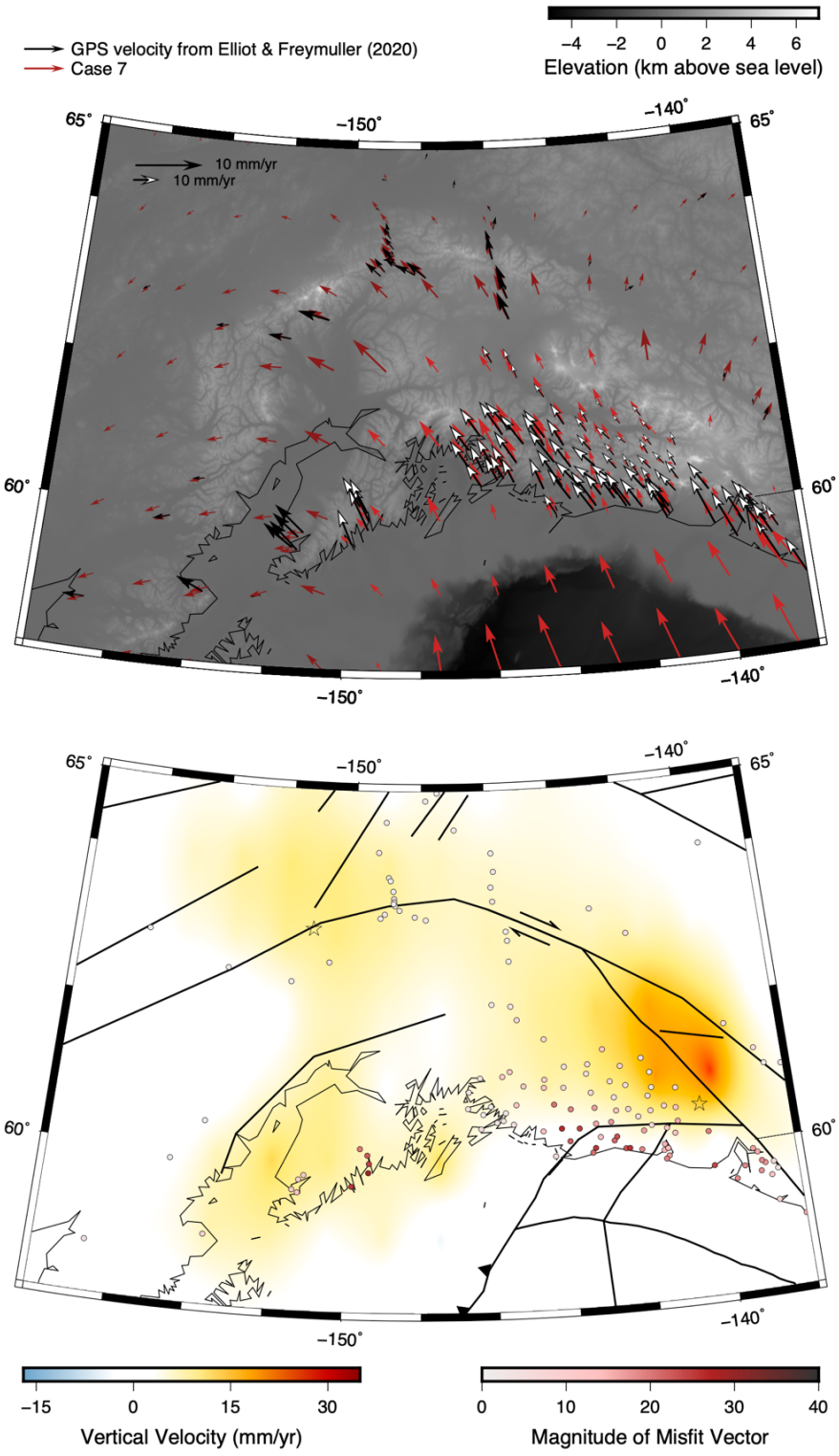
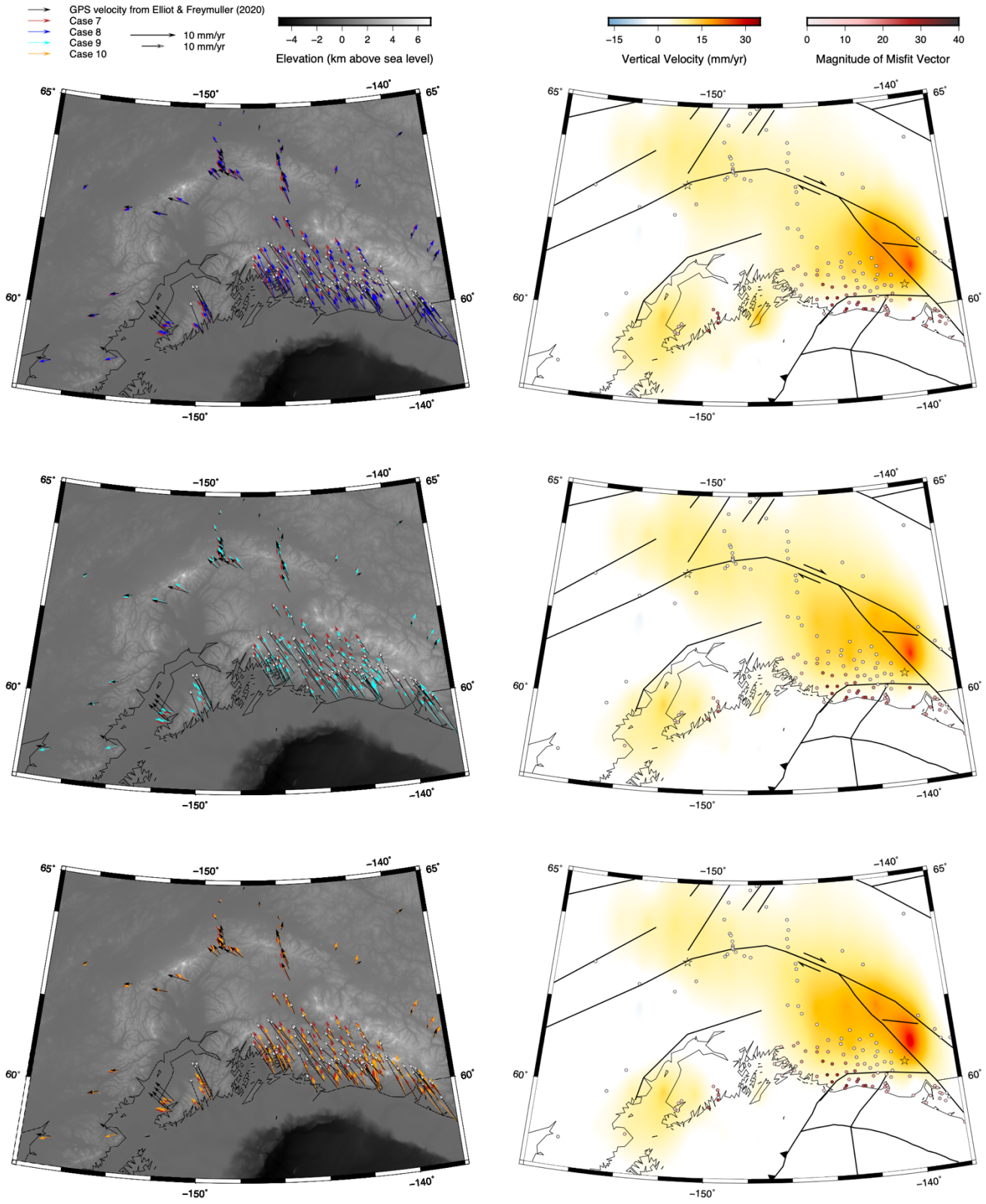


Figure 3.6: Model predicted velocity solution for case 7 with S3 slab geometry. (a) Horizontal component of velocity solution displayed at GPS locations and plotted in a uniform grid (red) compared to GPS observations (black and black with white arrowheads). (b) Vertical component of velocity solution and magnitude of the misfit vector between model-predicted horizontal velocity and GPS observations at each GPS location (red-shaded dots).

Figure 3.7: Model predicted velocity solution for cases 8-10; horizontal components compared to GPS observations (black) and case 7 (red). (a) Horizontal component of velocity solution for case 8 (blue) with $\eta_{wz} = 10^{21}$ Pa·s. (b) Horizontal component of velocity solution for case 9 (cyan) with S4 slab geometry. (c) Horizontal component of velocity solution for case 10 (orange) with S4 slab geometry and $\eta_{gs} = 10^{21}$ Pa·s.

Figure 3.7 cont.



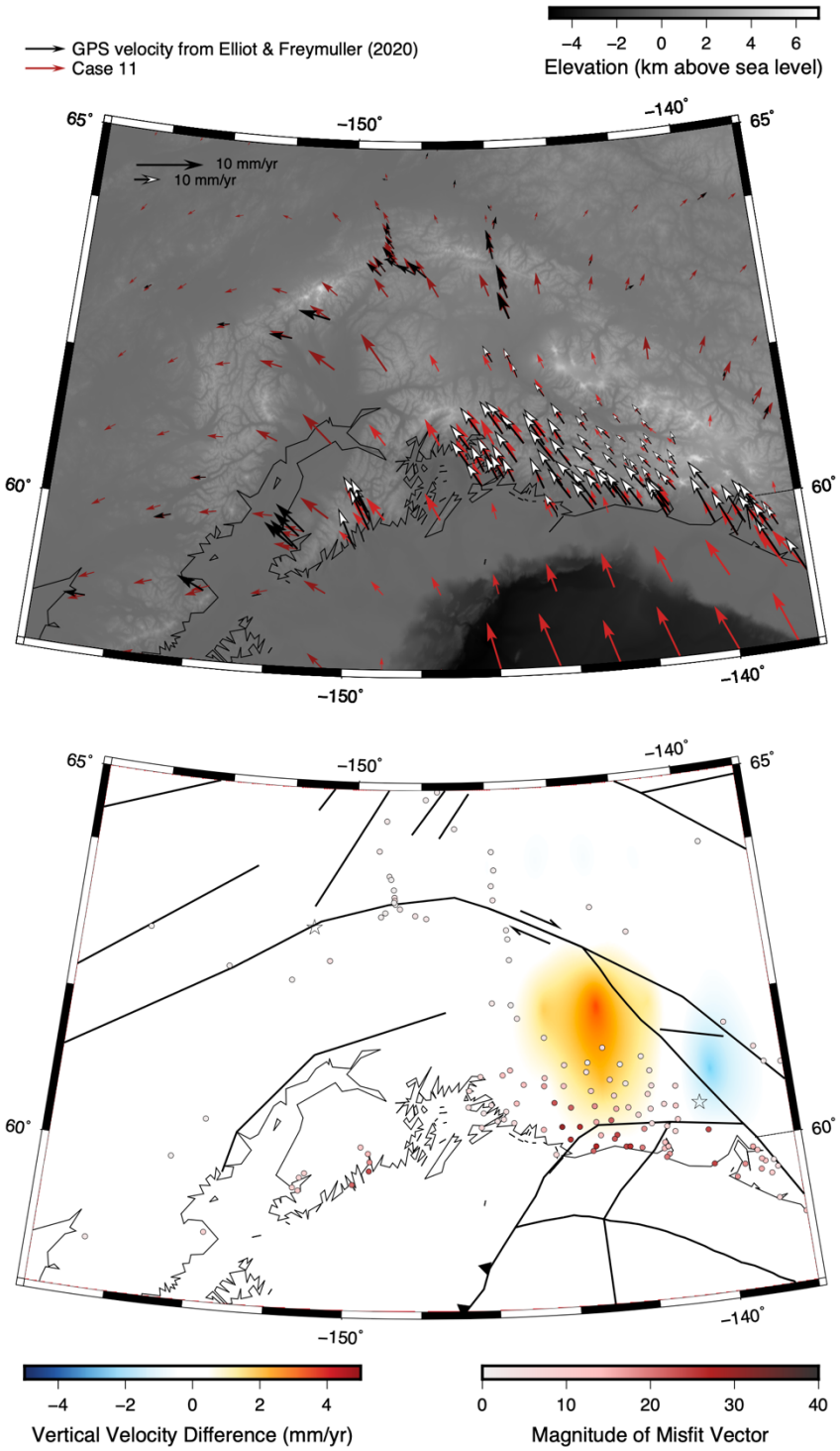


Figure 3.8: Model predicted velocity solution for case 11with S4 slab geometry and a weak Wrangell slab ($\eta_{ws} = 10^{22}$ Pa·s). (a) Horizontal component of velocity solution displayed at GPS locations and plotted in a uniform grid (red) compared to GPS observations (black and black with white arrowheads). (b) Difference in the vertical component of the velocity solutions between cases 11 and 9; magnitude of the misfit vector between model-predicted horizontal velocity for case 11 and GPS observations at each GPS location (red-shaded dots).

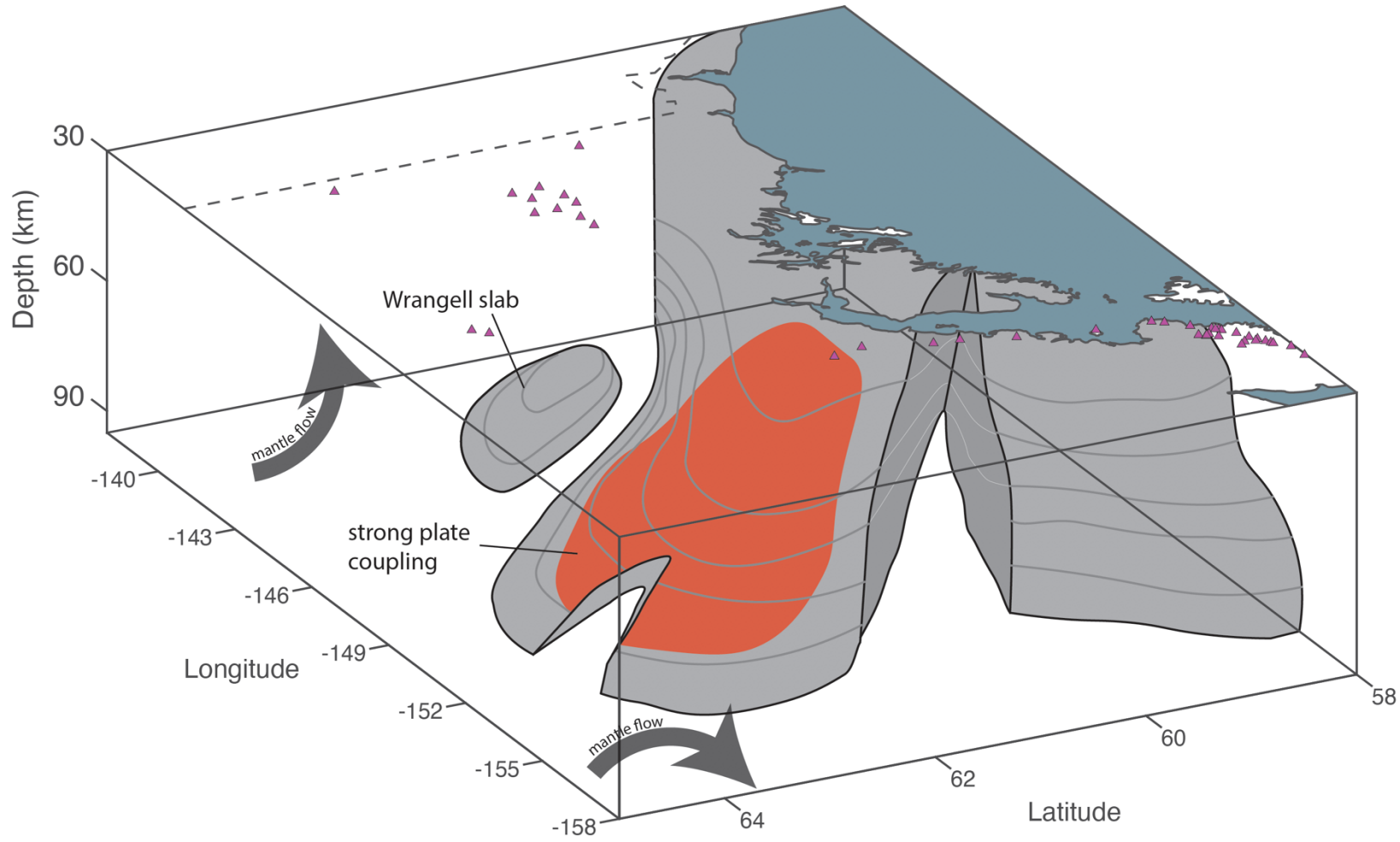


Figure 3.9: Schematic model illustrating the segmentation of the Pacific, Yakutat, and Wrangell slabs and displaying extent of strong plate coupling along the Yakutat slab. Black arrows display directions of mantle flow (Finzel et al., 2015; McConeghy et al., 2021). Coastline (blue) and active volcanoes (maroon) displayed on surface.

Table 3.1: Summary of tested simulations with associated parameters, slab geometry, and surface velocity misfit. Root mean square (RMS) misfit is calculated using the same equation as in Holt et al. (2000) with GPS observations and variance. Weighted root mean square (WRMS) is calculated using the same equation as in Stamps et al. (2014).

Case #	Model	slab geometry	RMS	WRMS	RMS inboard	WRMS inboard
1	full plate boundary shear zone	S1	15.4225	10.5351	13.1585	8.1556
2	strong plate coupling along Yakutat slab	S1	11.5096	7.8622	11.2212	6.9549
3	thin, weak Denali fault	S1	11.5534	7.8921	11.1785	6.9284
4	weak zones	S1	12.4974	8.537	11.3368	7.0265
5	slab gaps	S2	11.047	7.5462	8.1935	5.0783
6	slab gaps with weak sides	S2	11.3423	7.7479	8.5107	5.2749
7	Wrangell slab	S3	12.6696	8.6546	10.9468	6.7848
8	Wrangell slab with weak zones	S3	13.5899	9.2833	11.0621	6.8563
9	Wrangell slab with slab gaps	S4	12.2001	8.3339	8.4591	5.2429
10	Wrangell slab with slab gaps with weak sides	S4	12.6261	8.6249	9.3483	5.7941
11	slab gaps with a weak, detatched Wrangell slab	S4	12.2333	8.3566	8.4584	5.2425

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APPENDIX A. RAW PALYNOLOGY DATA AND SAMPLE LOCATIONS

Palynology Sample locations:

Sample ID	Lithologic descrition	Lat	Long
HP1-2.5	Silt with thin coal lenses	63.481478° N	150.126869° W
HP1-18.6	Silt	63.481529° N	150.127490° W
MG1-45	Carboneceous silt	63.44878°N	150.34000°W
MG1-105	silt with lots of wood fragments	63.44873°N	150.34140°W
HP2-5	Clay-rich	63.471395° N	150.167195° W
HP2-15.8	Dark, organic-rich layer	63.471513°N	150.167155°W
HP2-25.5	Organic-rich silt with interbedded clay	63.47165°N	150.16715°W
HP2-27	Dark, clay	63.471720° N	150.167123° W
HP2-38	Carbonaceous material, clay in places	63.471849°	150.166848°

Detailed Palynology Data

Sample ID	Coal	Wood blade	Cuticle	Pollen/spores	Algae	degraded-OM	AOM	Fungal
HP1-2.5	82		5	11		2		
HP1-18.6	59	1	22	11		6		1
MG1-45	12		76	9		3		
MG1-105	8	8	66	4		14		
HP2-5	95					5		
HP2-15.8	98					2		
HP2-25.5	56	2	20	10		12		
HP2-27	39	4	30	22		4	1	
HP2-38	41	1	5	51				2

Sample ID	Davallia (Verrucato) sp	Hymenophyllum? sp	Lycopodium cf annotinum	Lycopodium cf selago	Osmundacidites wellmanii	Polypodiaceae (Laevigato) spp	Selaginella sp	Sphagnum? sp	Trilete smooth spore	Alnus 3p	Alnus 4p	Alnus 5p	Alnus 6p	Alnus scoticus (6p)	Alnus 7p	Betula spp	Caryapollenites cf inelegans sp 1	Caryapollenites cf veripites sp 2	Ericipites sp 1	Granitricolporites (Fagus)	Ilex coarse clavae	Juglans sp	Liquidambar? sp	Myrica sp	Nyssapollenites 32u cf aquatica?	Pterocarya 5p	Pterocarya 6p	Pterocarya 7p	Salix sp thin	Tilia sp planaperturate vescipites?	Tilia cf vescipites	Tilia sp indet heavy pores	Triporate indet sp	Ulmipollenites 4p	Ulmipollenites 5p	Ulmipollenites 6p	Abies spp	Conifer indet spp	Cupressaceae	Keteleeria? sp	Larix/Pseudotsuga	Picea spp	Pinuspollenites spp	Podocarpidites cf macrophyllus	Sciadopitys? sp	Taxodiaceaepollenites hiatus	Tsuga canadensis	Tsuga forrestii	Tsuga heterophylla	Tsuga indet sp	Ovoidites parvus (Spirogyra)	Dictyosporites sp fungal	Monoporisporonites sp fungal
#codes	ס	ס	ס	ס	ס	ס	ס	ס	ס	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀	⋀
HP1-2.5						7				2	3	1	9			1																		1					3	14			1	2	27	15			1			8	1				
HP1-18.6	1				9	4				2	3	4	9	1	3	3																	3	1				3				6	25	10		2	2	2	1	2	6	1	2	4
MG1-45					1	5	1			4	22	5	2			3						1											2				2	4				32	6				5		2	6			4
MG1-105		1			1	5				6	18		1			4								2		3				1			5					5	5			10	5			15	2			8	1		2
HP2-5											1																											2															
HP2-15.8																																																							
HP2-25.5	1		5		2	19		3		1	13	6	3	2		6	1	5	1	2	1			3		3	3	1	1					4	1		1	1	4	5		1	10	1	1		3	2			7	1		2
HP2-27	1		3	1	1	7				1	16	17	25	2	1	1		5	2				2		1	2	3	6	1					1	1	1		1	2				10	1			1	4	1		9	1		
HP2-38			1		1	2			1		9	2	3		1	8								2				1		1	20	2	1					3			2	22	3			1	10			3	8			2

APPENDIX B. DETRIAL ZIRCON AND IGNEOUS CLAST SAMPLE LOCATIONS

Sample ID	Sample Type (igneous or DZ)	LAT	LONG
070720HW-02	DZ	63.73057°N	148.87164°W
MG1-04	DZ	63.44875°N	150.33760°W
MG1-104	DZ	63.44873°N	150.34140°W
071320HW-01	DZ	63.43037°N	150.81551°W
071420HW-01	DZ	63.872466°N	148.86094°W
HC-062407-08	DZ	63.904440° N	148.99420° W
NG-080607-02	DZ	64.046940° N	148.92440° W
080719BK-01	DZ	63.481550° N	150.12740° W
080919BK-01	DZ	63.484660° N	150.138715° W
080719BK-03	igneous (clast)	63.483934° N	150.131880° W
080919BK-02	igneous (clast)	63.484949° N	150.140735° W
MG1-70	igneous (clast)	63.44878°N	150.34000°W
071420HW-02	igneous (clast)	63.872466°N	148.86094°W

APPENDIX C. U-PB DETRIAL ZIRCON AND IGNEOUS CLAST DATA

The following data tables contain raw isotopic measurements and calculated ages for detrital zircon and igneous clast samples from this study. All analyses were conducted at the Arizona LaserChron Center.

Sample 070720HW-02

Analysis	U (ppm)	206Pb 204Pb	U/Th	206Pb* 207Pb*	± (%)	207Pb* 235U	± (%)	206Pb* 238U	± (%)	error corr.	206Pb* 238U	± (Ma)	207Pb* 235U	± (Ma)	206Pb* 207Pb*	± (Ma)	Best age (Ma)	± (Ma)	Conc (%)
070720HW-02 1	581.066016	1630.869971	3.224655345	16.35755947	5.513203292	0.1073913	14.11837756	0.014831769	1.226874227	0.086899095	94.90961163	1.155891685	103.576249	13.90304195	308.8672528	321.6673864	94.90961163	1.155891685	30.72828562
070720HW-02 2	553.839879	1521.806469	3.51040902	15.42335356	10.77679497	0.113018676	12.55382748	0.014734045	1.515998671	0.120759878	94.28882336	1.419014389	108.7230054	12.94426381	438.6702397	278.30593	94.28882336	1.419014389	21.49423755
070720HW-02 3	450.19026	1753.410229	5.607096917	18.08946795	6.441711359	0.096618969	13.9744923	0.014925125	1.404856603	0.100530064	95.50260259	1.331785186	93.65058795	12.50243313	47.76060896	NA	95.50260259	1.331785186	199.9610237
070720HW-02 4	915.603899	1115.266399	1.714265105	14.28782602	12.82540877	0.045805794	16.8137341	0.005826545	1.815852915	0.107998194	37.4513191	0.678089239	45.47665406	7.477756285	493.1741566	370.8718041	37.4513191	0.678089239	7.593933827
070720HW-02 5	457.830981	1768.481244	5.605194694	15.58826673	8.115731425	0.114524462	14.82978798	0.014830743	1.783023099	0.120232542	94.90309996	1.67974939	110.0957735	15.4741616	453.5480151	328.3796416	94.90309996	1.67974939	20.92459823
070720HW-02 6	512.161982	1747.159279	4.188287942	16.01079108	4.085767809	0.111697268	13.19857664	0.01494953	1.283815646	0.09726925	95.6576139	1.219000753	107.5167969	13.46599598	379.8830127	296.5018232	95.6576139	1.219000753	25.18080848
070720HW-02 7	475.825471	1016.386248	4.672145149	11.94308005	14.34771582	0.05818524	20.80037701	0.006050621	2.80443893	0.134826351	38.88728276	1.087287339	57.42539799	11.61371558	921.762642	427.9638169	38.88728276	1.087287339	4.218795706
070720HW-02 8	940.735111	3025.217453	3.767968144	18.4441127	5.836651643	0.099707943	9.942647722	0.014617819	0.861867785	0.086683931	93.55041653	0.800458728	96.50671454	9.153688326	171.1817625	NA	93.55041653	0.800458728	54.6497566
070720HW-02 9	805.297118	3824.835342	2.780183305	19.08772302	4.700692903	0.099263018	5.168072809	0.014796775	0.796726316	0.154163137	94.68732316	0.748885408	96.09582379	4.738572687	132.2055604	120.141725	94.68732316	0.748885408	71.62128648
070720HW-02 10	171.633564	1861.917985	2.106160549	17.16266448	3.755549135	0.380708742	5.691691862	0.054665985	0.859327158	0.150979213	343.1046888	2.871302899	327.5594746	15.93667533	219.5004119	130.2702351	343.1046888	2.871302899	156.3116378
070720HW-02 11	1197.53703	14052.4442	1.250118085	18.87826109	1.724280019	0.367633801	2.226035173	0.05107541	0.652679572	0.293202722	321.1206418	2.044542872	317.8982524	6.075929486	295.3486634	48.5716971	321.1206418	2.044542872	108.7259506
070720HW-02 12	150.098106	16376.04132	0.968525677	5.339937606	0.701304726	13.31228814	0.955715864	0.514610698	0.63970774	0.669349295	2676.283263	14.01129527	2702.054606	9.026383553	2722.091708	11.70109376	2722.091708	11.70109376	98.31716012
070720HW-02 13	245.274159	2188.460114	2.68992743	15.35287338	6.317994889	0.237825275	11.77472066	0.029348109	1.852514169	0.157329776	186.4670293	3.404847269	216.6380965	22.97488212	559.6338141	254.2548372	186.4670293	3.404847269	33.31947152
070720HW-02 14	470.349499	1762.48349	3.887663043	14.37855927	7.455704358	0.128051342	10.94929605	0.015072599	1.453109771	0.13271262	96.43923554	1.390937726	122.3451979	12.6209993	661.7251139	233.1893068	96.43923554	1.390937726	14.57391196
070720HW-02 15	280.760719	1152.58769	4.049555713	9.553335304	8.372803729	0.199405313	9.566870689	0.015543091	3.852339624	0.402674997	99.42649288	3.800859931	184.6228985	16.15128938	1489.632524	166.1169282	99.42649288	3.800859931	6.674565121
070720HW-02 16	1157.31346	3948.206502	2.657968954	15.8526129	5.593674598	0.122604193	5.791484816	0.014898075	0.875054646	0.151093316	95.33079222	0.828058696	117.4302263	6.422502569	593.1806817	124.1797138	95.33079222	0.828058696	16.0711222
070720HW-02 17	347.680518	1331.225124	5.150581221	10.41017036	9.433760005	0.175375198	10.91880084	0.014804251	1.342018563	0.12290897	94.734809	1.262062555	164.0731223	16.54378724	1337.145398	210.0977247	94.734809	1.262062555	7.084854734
070720HW-02 18	990.130119	5496.295603	3.087177337	16.63181316	4.243308928	0.120956274	5.144746323	0.01520625	0.742405352	0.144303588	97.28795415	0.716848114	115.938607	5.636870607	518.9658098	111.8292461	97.28795415	0.716848114	18.74650551
070720HW-02 19	294.904352	18189.41328	1.950652161	8.229464388	0.651448184	5.73537423	1.027490918	0.343435866	0.620791136	0.604181628	1903.177509	10.23040404	1936.7146	8.884214068	1973.543708	14.58897771	1973.543708	14.58897771	96.43452545
070720HW-02 20	4334.38746	7212.500587	4.158281663	19.02885648	2.020682652	0.041013215	3.31447572	0.00587239	0.800442006	0.241498829	37.74513892	0.301245159	40.81279843	1.325905513	226.076107	74.35386274	37.74513892	0.301245159	16.69576649
070720HW-02 21	588.936998	2108.245455	3.495547012	15.79581112	7.159202274	0.115637773	12.72848421	0.014832567	1.126736242	0.08852085	94.9146845	1.061603646	111.1095447	13.39702317	474.7203954	281.3984107	94.9146845	1.061603646	19.99380802
070720HW-02 22	449.415876	1459.294913	5.319717424	15.94391219	8.720451616	0.110063597	13.43474304	0.015112971	1.145676208	0.085277121	96.69561955	1.099551516	106.0235653	13.52635574	322.0535713	305.2821068	96.69561955	1.099551516	30.02470029
070720HW-02 23	607.783509	1690.22869	3.648507317	15.25887247	6.398741008	0.115884212	8.813430579	0.014711439	1.348242817	0.152975939	94.14520666	1.260082312	111.3338134	9.293775262	497.537038	192.2152715	94.14520666	1.260082312	18.9222509
070720HW-02 24	1238.16565	4350.348306	2.617826689	17.33002341	4.573598293	0.116249601	7.605546726	0.015472285	0.857349786	0.112726911	98.97701566	0.842097988	111.6662394	8.042657723	392.4096264	169.7621328	98.97701566	0.842097988	25.22288165
070720HW-02 25	1090.91247	4041.089304	6.671292946	19.33945491	3.462368559	0.099885858	3.994788838	0.015032152	0.845133873	0.211559085	96.18236114	0.80683564	96.6709746	3.68368115	109.762371	92.19953558	96.18236114	0.80683564	87.62780932
070720HW-02 26	242.832135	951.3487461	2.234387531	10.49347587	10.73464895	0.131979878	21.02458967	0.01186877	2.688308816	0.127864984	76.06052512	2.032726332	125.8752133	24.89507646	1213.749773	414.669732	76.06052512	2.032726332	6.266573788
070720HW-02 27	316.764985	1577.681805	5.132587862	13.96123266	10.46531925	0.127551501	16.09390273	0.014772416	1.741152501	0.10818709	94.53258093	1.633946754	121.8951806	18.48793727	696.3739157	342.9511466	94.53258093	1.633946754	13.57497442
070720HW-02 28	4296.68264	5675.181415	1.836858588	18.64252504	3.751810595	0.042759295	4.498901817	0.006036482	0.735966028	0.163587928	38.79668318	0.28467292	42.51446215	1.873196708	258.6479943	101.9981205	38.79668318	0.28467292	14.99980051
070720HW-02 29	466.829058	1945.545876	5.223039264	15.36350692	5.790583838	0.118988518	7.642391195	0.0148592	1.470903035	0.192466336	95.08385797	1.38832737	114.154611	8.25178991	533.6389128	164.4286559	95.08385797	1.38832737	17.81801433
070720HW-02 30	332.540085	1251.755959	3.452950872	12.99738269	10.60831765	0.132359441	17.62628007	0.014554507	1.751971341	0.09939541	93.14814783	1.620195108	126.2156233	20.92293748	805.8793838	369.8032861	93.14814783	1.620195108	11.55857188
070720HW-02 31	502.271369	1590.76972	3.985855626	16.51264606	9.70586899	0.106845581	11.55959368	0.014973641	1.555750212	0.134585199	95.81075067	1.479553708	103.0757481	11.33078593	275.4471685	263.1161476	95.81075067	1.479553708	34.78371231
070720HW-02 32	1352.98779	2263.665289	3.246172275	15.06693234	5.897137462	0.049708809	7.357248596	0.005964401	1.985744905	0.269903195	38.33479313	0.758972284	49.25907576	3.537623524	620.4854698	153.006902	38.33479313	0.758972284	6.178193527
070720HW-02 33	293.59769	4570.4407	2.002750175	16.32466462	4.306917174	0.465222732	5.778372472	0.057547228	0.946203977	0.163749219	360.6916436	3.319155906	387.8837048	18.6312271	554.412771	124.4605081	360.6916436	3.319155906	65.0583216
070720HW-02 34	1566.93826	2899.066068	2.304284785	16.04756124	7.360122794	0.047498936	8.831679357	0.005948053	0.865561041	0.098006393	38.23002748	0.329924958	47.11921321	4.066359929	527.6066621	192.9486598	38.23002748	0.329924958	7.245933425
070720HW-02 35	934.538444	1416.012696	2.74932434	12.56263947	7.557819752	0.056575151	8.399437368	0.005842641	1.295812568	0.154273734	37.55448008	0.48522094	55.8792587	4.566761878	935.9227621	170.4803822	37.55448008	0.48522094	4.01256189
070720HW-02 36	400.104417	356.7598156	5.784401307	11.17059337	10.59329491	0.103755784	74.530525	0.01544496	1.82098469	0.024432737	98.80355094	1.785479694	100.2373085	71.25502656	135.4797596	NA	98.80355094	1.785479694	72.92864353
070720HW-02 37	1397.06514	1858.165145	4.172867486	14.87537398	9.117974099	0.049134065	11.54511866	0.005933946	1.617960202	0.140142362	38.13962651	0.615262114	48.70297367	5.490150486	606.4214209	247.9826246	38.13962651	0.615262114	6.289294078
070720HW-02 38	68.0906187	8908.83693	1.45104657	5.353581145	1.189723118	13.32066206	1.572584041	0.51661886	0.776027624	0.493472911	2684.824645	17.04080875	2702.648519	14.85379642	2716.708503	22.54899755	2716.708503	22.54899755	98.82637911
070720HW-02 39	508.708719	2571.543899	3.211480871	15.79173968	9.567187282	0.120825352	10.60714417	0.015043748	1.13199418	0.106719977	96.25600766	1.081517864	115.8200087	11.61094146	540.1741114	231.2385237	96.25600766	1.081517864	17.81944111
070720HW-02 40	653.730969	1310.809081	3.510161722	11.56080897	11.66422023	0.062765368	16.64265207	0.005957652	1.932671745	0.11612763	38.29154171	0.737856217	61.81078231	9.980426895	1106.691423	332.5536954	38.29154171	0.737856217	3.460001671
070720HW-02 41	823.068767	3826.720236	3.236912648	16.84825207	3.409796039	0.115324588	7.235874637	0.014907698	0.87037391	0.12028593	95.39191323	0.824153515	110.8244638	7.59713222	457.5568105	159.5296998	95.39191323	0.824153515	20.84810258
070720HW-02 42	451.124336	1403.417892	4.585913547	15.61158706	6.447206749	0.109620551	11.11067201	0.014676863	1.906375317	0.171580559	93.92554619	1.777592091	105.6182273	11.14564408	379.0745704	246.8276583	93.92554619	1.777592091	24.77759088
070720HW-02 43	187.646499	10861.42912	1.354195311	10.50312892	1.189424172	3.304533649	1.810282253	0.252548796	1.004689196	0.554990358	1451.606849	13.05873716	1482.122967	14.11198927	1526.880017	28.37166429	1526.880017	28.37166429	95.07013211
070720HW-02 44	108.410637	12383.37386	0.838962973	8.844283859	1.372725339	5.153511036	1.832044456	0.328789882	0.837348236	0.457056723	1832.513555	13.35632779	1844.974178	15.58045831	1859.824182	29.43350615	1859.824182	29.43350615	98.53154792
070720HW-02 45	492.810581	992.9359974	3.081140968	10.24920554	25.6627454	0.069015865	30.22743374	0.005954716	2.785134538	0.092139298	38.27272734	1.062788917	67.76511412	19.81760244	1294.75737	599.0705347	38.27272734	1.062788917	2.95597679
070720HW-02 46	4467.81836	5850.098054	6.462427371	19.81323215	1.960270393	0.03959005	3.117071983	0.005939181	0.847410412	0.271861034	38.17317615	0.322527585	39.42372182	1.205315882	117.2389464	70.72031642	38.17317615	0.322527585	32.56014945
070720HW-02 47	627.916924	1846.40519	4.437128651	15.03899775	7.048027061	0.119142437	10.46182155	0.014621481	1.315328309	0.12572651	93.57368407	1.221911318	114.2942685	11.30931473	571.6777816	226.3120586	93.57368407	1.221911318	16.36825622
070720HW-02 48	423.707944	2027.766614	4.618732597	16.84667206	5.99697321	0.107677921	12.86475628	0.014859762	2.375226656	0.184630521	95.08743187	2.241966476	103.8390226	12.69893441	310.6425142	288.8079423	95.08743187	2.241966476	30.60992219
070720HW-02 49	299.647949	13220.80285	1.929324753	12.84780784	1.333969722	2.007314151	1.907965336	0.188912667	0.642721158	0.336862073	1115.482123	6.583427822	1117.984842	12.93184289	1123.729633	35.80661625	1123.729633	35.80661625	99.26605919
070720HW-02 50	1751.92609	17416.25058	1.167842106	19.04822889	1.957886349	0.181020645	2.372241187	0.025271447	0.61926746	0.261047428	160.8857598	0.983983259	168.9384351	3.691996534	284.2507357	52.39091592	160.8857598	0.983983259	56.59994493
070720HW-02 51	216.637153	3123.329943	1.669525672	16.14059367	4.178269775	0.429922734	5.802748682	0.05410884	1.253885744	0.216084792	339.6983604	4.149148657	363.1217048	17.71681224	516.5176919	124.5212087	339.6983604	4.149148657	65.76703291
070720HW-02 52	733.772944	2973.823682	2.775755444	14.99746939	7.976529302	0.125359426	10.21227265	0.014681683	1.114322495	0.109116015	93.95617039	1.039381882	119.9192506	11.55145759	672.5088711	217.6627592	93.95617039	1.039381882	13.97099346
070720HW-02 53	382.305484	15881.26002	1.449160009	10.78938007	1.000362416	3.093682641	1.659618465	0.243030312	1.224322165	0.737713029	1402.431579	15.43097873	1431.126533	12.73569153	1474.864669	21.25682993	1474.864669	21.25682993	95.08883144
070720HW-02 54	995.708317	2518.728399	4.352518973	16.43414125	4.302708801	0.086657097	9.787428246	0.01135459	1.04591716	0.106863328	72.78395116	0.756978423	84.38452614	7.9253589	427.4084116	217.4482274	72.78395116	0.756978423	17.029134
070720HW-02 55	851.902069	2409.980288	2.278333496	18.00059793	4.041326854	0.098873132	7.376818017	0.014422286	0.920914605	0.124839003	92.30797398	0.844020318	95.73562415	6.739630636	182.9793916	170.6875647	92.30797398	0.844020318	50.4471969
070720HW-02 57	935.135895	3161.178106	2.258292603	18.38418839	3.88096081	0.103801562	4.535914038	0.015105858	1.001634193	0.22082301	96.65044974	0.960862899	100.2794208	4.331220026	188.4171937	102.9846609	96.65044974	0.960862899	51.29598199
070720HW-02 58	476.9312	1447.142878	2.953794283	13.14129222	6.633121728	0.133289106	13.04496774	0.014589613	1.169327237	0.089638185	93.3712097	1.083945997	127.0489091	15.5797664	815.5197938	272.6222553	93.3712097	1.083945997	11.44928798
070720HW-02 59	680.652666	2251.08082	3.925614466	15.87736024	6.632206054	0.117025338	8.305691011	0.014993947	1.146255113	0.138008398	95.93972103	1.091571085	112.3716341	8.835548647	477.1581776	182.1564182	95.93972103	1.091571085	20.10648157
070720HW-02 60	7304.78894	710.1924211	7.082325409	18.28911059	2.455229507	0.027361224	7.485644278	0.005910858	0.683539162	0.091313337	37.99166985	0.258924213	27.40884088	2.024286742	NA	NA	37.99166985	0.258924213	34.30863622
070720HW-02 61	2575.29188	4117.223893	3.754155265	17.87433507	4.978508456	0.042268002	5.422154364	0.005841557	0.898813363	0.165766834	37.54753364	0.336501312	42.03595441	2.232722766	307.330386	121.8658053	37.54753364	0.336501312	34.08374915
070720HW-02 62	1023.43778	4527.252987	2.413079667	19.90437514	1.74841729	0.09812381	4.674460429	0.015066564	0.94255343	0.201638979	96.40090768	0.901869894	95.04299762	4.241183062	62.12556125	NA	96.40090768	0.901869894	33.85886207
070720HW-02 63	112.399691	1829.089917	0.567566155	16.39213579	5.181821049	0.618174174	7.797253765	0.084404477	1.052798453	0.135021699	522.3591734	5.282478277	488.7023005	30.25419946	334.8387554	175.3450352	522.3591734	5.282478277	33.633975
070720HW-02 64	316.745042	1153.228849	4.704575356	10.59117989	13.63326109	0.16603656	17.98555121	0.014626205	2.948982291	0.163963965	93.60369887	2.74041275	155.9734405	26.0099909	1254.268594	349.7351695	93.60369887	2.74041275	33.40908792
070720HW-02 65	1436.17436	1549.472478	2.440835165	17.05569948	5.388771715	0.039751994	6.267924841	0.005858795	1.26823375	0.202337102	37.65800911	0.476199321	39.58188332	2.433232915	158.8687333	143.7520997	37.65800911	0.476199321	33.18420084
070720HW-02 66	338.339266	35302.43196	1.060737947	8.088075084	0.746602217	5.955604834	1.086921877	0.349770684	0.750192143	0.690198771	1933.503394	12.5318353	1969.383952	9.449998788	2008.046534	13.95837461	2008.046534	13.95837461	32.95931377
070720HW-02 67	415.727978	3201.692665	4.67077997	15.61502245	4.617783906	0.262913524	7.252134735	0.031984668	0.94703462	0.130587014	202.9576817	1.892137424	237.0121054	15.3309154	590.6527479	156.0977624	202.9576817	1.892137424	32.73442669
070720HW-02 68	1026.13672	1407.394847	1.694539703	15.8124799	10.41501585	0.041403023	12.73716432	0.00565935	1.492620783	0.11718627	36.3796704	0.541481189	41.19293778	5.141852267	332.3424278	287.8495447	36.3796704	0.541481189	32.50953962
070720HW-02 69	139.99267	17819.21618	1.860651184	6.86033901	1.025316542	8.497785227	1.32262507	0.42156891	0.802230378	0.606544059	2267.597925	15.33623613	2285.686792	12.01628833	2302.637638	18.06362899	2302.637638	18.06362899	32.28465254
070720HW-02 70	110.081025	6677.248457	1.745696823	11.22862827	2.718637464	2.872810407	3.05337837	0.237699376	0.789647671	0.258614418	1374.725639	9.776080465	1374.8088	23.00199719	1375.757998	56.72769217	1375.757998	56.72769217	32.05976546
070720HW-02 71	389.872005	1846.324567	2.908946948	14.10919759	6.997683547	0.131294985	10.91043391	0.014986799	1.452886928	0.133164908	95.89432183	1.382924665	125.2606799	12.85782235	727.2127797	229.8697995	95.89432183	1.382924665	31.83487839
070720HW-02 72	544.101296	2198.10283	3.053578569	14.07576738	9.507674804	0.132900993	12.05135366	0.014832538	1.357466797	0.112640193	94.91449693	1.278993988	126.7011153	14.35591728	774.7381279	252.740881	94.91449693	1.278993988	31.60999131
070720HW-02 73	2482.4757	2876.473621	3.16940522	18.07974728	3.565306371	0.040215995	6.065989638	0.005751158	0.913754898	0.15063575	36.96814608	0.336831512	40.03490835	2.381264657	228.9113042	138.6239608	36.96814608	0.336831512	31.38510424
070720HW-02 74	412.763481	1733.485362	3.353903948	12.38662655	10.03354399	0.146408598	10.48468423	0.014492865	1.620887394	0.154595728	92.75646884	1.492712974	138.7359475	13.59685205	1022.220869	210.1749237	92.75646884	1.492712974	31.16021716
070720HW-02 75	590.516448	2095.188453	3.249190694	16.63052708	5.004750127	0.10799311	12.61826615	0.014583111	1.194864392	0.094693231	93.32989325	1.107131917	104.1279074	12.4885058	359.8157346	284.4167061	93.32989325	1.107131917	30.93533009
070720HW-02 76	1360.39346	2021.407251	2.973565162	17.35422929	5.268781441	0.041599679	12.23717739	0.00592928	1.049846228	0.085791535	38.10972569	0.398913214	41.38466224	4.962537136	236.5895002	NA	38.10972569	0.398913214	30.71044301
070720HW-02 77	190.794205	15919.35628	1.481972168	8.733108828	0.89308279	4.950526671	1.571130331	0.312526129	1.165854108	0.742047992	1753.125695	17.89542034	1810.915095	13.27280938	1878.852583	18.97904542	1878.852583	18.97904542	30.48555593
070720HW-02 78	154.147208	14562.64815	3.181081175	8.83142552	1.019493027	5.13313179	1.425361214	0.328976344	0.653773218	0.458671957	1833.418081	10.43261377	1841.605844	12.11366527	1851.642767	22.89997674	1851.642767	22.89997674	30.26066886
070720HW-02 79	159.054245	14430.34407	1.003586539	8.711642562	0.923212061	4.950495935	1.407773835	0.313497633	0.783883442	0.556824841	1757.895427	12.06077387	1810.909851	11.89263811	1873.246087	21.08452863	1873.246087	21.08452863	30.03578178
070720HW-02 80	518.152492	1808.457414	4.250663104	13.50059214	7.320186929	0.134730973	9.079849045	0.014695936	1.358695339	0.149638538	94.04672064	1.268532618	128.339945	10.94712061	822.8281946	187.7549344	94.04672064	1.268532618	29.81089471
070720HW-02 81	364.494275	1047.032137	4.826467804	16.38812819	5.993270512	0.093764894	11.53981437	0.014410926	1.7356993	0.150409638	92.23578281	1.589537143	91.00449379	10.04521387	59.87367765	NA	92.23578281	1.589537143	29.58600763
070720HW-02 82	387.578165	1987.547355	5.443758011	14.70982496	6.906644497	0.132289629	8.553398493	0.015718787	1.550259792	0.181244893	100.54167	1.546565241	126.1530215	10.14731971	641.5550867	181.1544647	100.54167	1.546565241	29.36112056
070720HW-02 83	621.234235	1984.008165	5.407243244	16.58238507	6.566547476	0.109271683	7.351634182	0.014840504	1.090253634	0.148300855	94.9651017	1.027771605	105.2989378	7.353449231	346.8884755	164.6221628	94.9651017	1.027771605	29.13623348
070720HW-02 84	609.451642	1250.974477	4.024367092	10.34275221	14.7777138	0.068330114	16.52687095	0.005732738	1.868727236	0.113072054	36.8500812	0.686663027	67.11355834	10.73355029	1349.014258	319.0511641	36.8500812	0.686663027	28.9113464
070720HW-02 85	968.012778	3597.28498	2.897003687	15.59732167	5.50842812	0.121054544	5.758413996	0.014445151	0.70331251	0.122136496	92.45326941	0.645594846	116.0276177	6.313827979	632.4006274	123.1441947	92.45326941	0.645594846	28.68645933
070720HW-02 86	1991.51046	3136.086073	1.49038967	16.99695882	5.43333056	0.044051243	6.498096149	0.005830263	1.615168439	0.248560255	37.47515373	0.603530894	43.77171273	2.783899043	404.9646524	141.028409	37.47515373	0.603530894	28.46157225
070720HW-02 87	489.956824	1770.667529	3.371424198	14.35028122	8.925811561	0.133942649	13.90175145	0.015613656	1.461100553	0.105101904	99.87440756	1.448019486	127.6342894	16.67501617	682.5051356	296.5445459	99.87440756	1.448019486	28.23668518
070720HW-02 88	705.934169	2817.459883	6.020202516	16.22452614	6.795558415	0.117890801	10.41127219	0.014996241	1.043509352	0.100228803	95.95428674	0.993876732	113.1580405	11.14889176	493.1152481	228.9518344	95.95428674	0.993876732	28.0117981
070720HW-02 89	269.988691	12383.40198	1.885044281	8.176077253	0.818084974	5.177441597	1.181054206	0.305528175	0.823737646	0.697459644	1718.6636	12.42718247	1848.915271	10.05125953	1999.551627	15.03555431	1999.551627	15.03555431	27.78691103
070720HW-02 90	2368.98364	6307.889247	1.618780191	19.81285407	1.898061615	0.09565537	2.765599171	0.014216517	0.806496683	0.291617343	91.00022469	0.728757972	92.75797906	2.451632531	139.2323561	62.14086454	91.00022469	0.728757972	27.56202395
070720HW-02 91	65.1660338	3449.957894	3.081861567	11.34414843	3.629792824	2.947571141	3.976602799	0.250764593	0.941602927	0.236785763	1442.417655	12.16962394	1394.222967	30.15811096	1322.067747	74.87748261	1322.067747	74.87748261	27.33713687
070720HW-02 92	288.609803	1059.950801	4.318283081	13.10997018	10.02226157	0.135190251	13.85240511	0.015444666	1.904169058	0.13746126	98.80168632	1.867007197	128.7508343	16.75217569	725.3939607	292.2440188	98.80168632	1.867007197	27.1122498
070720HW-02 93	492.379735	2445.091209	3.453723261	14.77646165	9.777723813	0.126590418	11.88947847	0.014666358	2.00473031	0.168613814	93.85880257	1.867984136	121.0293365	13.56604758	695.6124475	250.5246761	93.85880257	1.867984136	26.88736272
070720HW-02 94	9457.79251	50751.18955	15.63065765	20.66537774	0.824622997	0.131366411	2.087113311	0.019588378	1.873350924	0.897579884	125.0539574	2.320122783	125.3247857	2.460695312	131.4729928	21.63731344	125.0539574	2.320122783	26.66247565
070720HW-02 95	706.157771	2671.126386	4.348584502	14.98619766	4.461520546	0.125814153	9.007696282	0.014753412	1.536021329	0.170523215	94.41185844	1.439618508	120.3294572	10.22165247	669.8352259	190.2900925	94.41185844	1.439618508	26.43758857
070720HW-02 96	133.988461	10731.41377	1.781610409	8.195272328	1.07592344	6.108553322	1.842775479	0.363540917	1.200838819	0.651646841	1998.935901	20.63904186	1991.469515	16.08036063	1984.488441	24.87492301	1984.488441	24.87492301	26.2127015
070720HW-02 97	922.693573	3534.804839	2.300567512	18.8520292	3.200776297	0.112692118	8.369435073	0.016573037	1.549379051	0.185123493	105.9610188	1.628318699	108.4250497	8.607063078	163.8888549	NA	105.9610188	1.628318699	25.98781442
070720HW-02 98	483.570649	4410.970826	2.738988316	17.37581596	3.178500604	0.451240887	4.129974321	0.059797772	1.207039859	0.292263284	374.3955416	4.390377685	378.1479153	13.03977431	402.1459674	88.49528466	374.3955416	4.390377685	25.76292734
070720HW-02 99	381.023154	1554.747861	3.582695774	16.12027752	7.778926426	0.108383443	13.83980905	0.014875884	1.913774981	0.138280447	95.18983463	1.808335198	104.485552	13.74230037	323.0273661	312.6087471	95.18983463	1.808335198	25.53804027
070720HW-02 100	522.915284	1944.700666	3.973099039	15.28995159	6.372148733	0.119544941	8.623758087	0.01491525	1.736149204	0.20132165	95.43988018	1.644773188	114.6593894	9.350361905	535.6066433	185.1731594	95.43988018	1.644773188	25.31315319
070720HW-02 101	78.7256349	6985.478743	0.464040871	8.381254502	1.673504748	5.624573255	2.221296518	0.346182328	0.904960365	0.407401875	1916.342828	15.00201369	1919.872016	19.15224184	1924.451521	36.36033702	1924.451521	36.36033702	25.08826612
070720HW-02 102	1549.95989	1896.860192	2.758445954	17.01952316	4.855886987	0.042442377	9.980119562	0.006007817	1.144551536	0.114683149	38.613001	0.440624743	42.20581704	4.125871351	252.5203612	228.5380864	38.613001	0.440624743	24.86337904
070720HW-02 103	674.520697	1859.775415	3.101914942	15.57417202	7.368698019	0.116903579	11.84215309	0.014987097	1.14428836	0.096628405	95.89621353	1.089207661	112.260948	12.58620924	475.8690172	261.4397748	95.89621353	1.089207661	24.63849197
070720HW-02 104	440.750242	1322.150342	4.023777311	15.30118958	6.532094761	0.112297964	12.33097035	0.01494689	1.705360179	0.138298944	95.6408417	1.618981332	108.0653026	12.64155047	392.3272081	274.8847056	95.6408417	1.618981332	24.41360489
070720HW-02 105	119.673091	9768.753731	2.371845962	8.521771766	1.363180324	5.50668324	1.723593795	0.34308711	0.829478774	0.481249571	1901.503806	13.65917135	1901.639681	14.81242175	1902.553524	27.14897215	1902.553524	27.14897215	24.18871781
070720HW-02 106	551.261296	2795.058997	4.029405404	13.4082669	4.522958785	0.141771593	5.210344505	0.014750623	1.329271515	0.255121617	94.3941404	1.245612496	134.6205874	6.569198672	920.6539839	103.6113901	94.3941404	1.245612496	23.96383074
070720HW-02 107	226.706449	26705.17357	1.308994042	4.903901428	0.782071896	13.57046994	1.0994602	0.48209277	0.763776734	0.694683385	2536.374684	16.01550928	2720.208025	10.39790708	2860.413107	12.87022138	2860.413107	12.87022138	23.73894366
070720HW-02 108	1455.66742	2126.363196	1.899399302	15.67524023	7.890493327	0.045243	11.74289119	0.0057444	1.20516672	0.102629472	36.92482742	0.443733674	44.9300848	5.161106396	497.2108158	258.114791	36.92482742	0.443733674	23.51405659
070720HW-02 109	714.418597	1309.019587	3.527177618	10.69703774	12.00222976	0.0693524	13.14745935	0.00606156	1.752596601	0.133303063	38.95737092	0.680706645	68.08471469	8.658106368	1269.618592	255.3811935	38.95737092	0.680706645	23.28916951
070720HW-02 110	430.162335	1435.315899	3.779521425	14.32396363	9.57273577	0.124375609	14.78218094	0.0150623	2.053772697	0.138935703	96.37382895	1.964577648	119.0311897	16.60469641	600.4661188	318.4574318	96.37382895	1.964577648	23.06428244
070720HW-02 111	2220.36835	3390.859904	4.411789045	16.41193525	4.850524123	0.045747448	7.108958442	0.005839794	0.990305268	0.139303848	37.5362341	0.370643165	45.42000446	3.157747129	485.3456479	155.6036122	37.5362341	0.370643165	22.83939536
070720HW-02 112	857.498851	2304.550147	2.95898805	17.56942475	6.864234572	0.10315016	11.1950661	0.014762692	1.003189716	0.089609986	94.47080735	0.940810903	99.68002137	10.62937457	227.1080715	NA	94.47080735	0.940810903	22.61450828
070720HW-02 113	2310.06086	3287.272212	3.757747881	16.6515632	4.304916735	0.045245422	4.842246631	0.005881477	1.096408516	0.226425583	37.80337733	0.413266516	44.93243812	2.128304797	445.1243581	104.9004918	37.80337733	0.413266516	22.38962121
070720HW-02 114	166.328236	10381.85877	2.078094833	10.6034482	1.48933407	3.258666758	2.164788999	0.253352482	0.737499904	0.34067981	1455.741799	9.610200154	1471.245513	16.82098804	1494.494009	38.51343137	1494.494009	38.51343137	22.16473413
070720HW-02 115	402.463472	29026.03905	2.816660915	8.877531429	0.735604621	4.833665052	1.169258168	0.311464985	0.853250426	0.729736554	1747.911825	13.06314792	1790.775709	9.8375958	1841.851582	14.47029713	1841.851582	14.47029713	21.93984706
070720HW-02 116	477.111699	705.958994	3.415687507	11.15733074	12.56919868	0.055350603	15.55516351	0.005775053	2.441284973	0.156943704	37.12129782	0.903632417	54.70176867	8.283992959	914.9130404	317.8925073	37.12129782	0.903632417	21.71495998
070720HW-02 117	551.675188	1434.915392	4.198255385	15.20987428	9.441024293	0.112266772	11.84847383	0.014604707	1.096879067	0.092575557	93.46710698	1.017824546	108.0368281	12.14381951	443.4360558	263.1337825	93.46710698	1.017824546	21.49007291
070720HW-02 118	609.584755	828.7536391	3.171269024	9.103281986	26.93225329	0.074976822	27.69351342	0.005819439	2.142603331	0.077368418	37.40578196	0.799136768	73.41128134	19.61507237	1497.678578	532.6129813	37.40578196	0.799136768	21.26518583
070720HW-02 119	184.447804	17470.44884	1.825875185	8.173719281	1.003444251	6.030637823	1.243236495	0.358300013	0.694979656	0.55900841	1974.110731	11.81794331	1980.278652	10.8285086	1987.485089	18.33895381	1987.485089	18.33895381	21.04029875
070720HW-02 120	343.800157	1869.041356	5.258505772	12.43081013	6.820381856	0.148695168	10.02798363	0.014754205	2.011916889	0.200630253	94.41689614	1.885746107	140.7591631	13.18135281	1017.414055	199.4214616	94.41689614	1.885746107	20.81541168
070720HW-02 121	352.243294	1152.429618	4.327882656	15.83481553	9.254460941	0.104901571	15.68854262	0.015037589	1.863809901	0.118800704	96.21689156	1.779983253	101.2908111	15.12526652	223.4008659	NA	96.21689156	1.779983253	20.5905246
070720HW-02 122	404.374079	955.5927277	3.31844691	12.64968016	9.015252034	0.131184173	15.34486399	0.014823305	2.329350781	0.151800028	94.85585102	2.193348985	125.1612175	18.0711973	748.6403626	322.1470112	94.85585102	2.193348985	20.36563753
070720HW-02 123	662.999519	2156.298796	4.412610161	15.85376534	6.479215233	0.116664863	9.63480069	0.014879086	1.320332215	0.137037834	95.2101755	1.247852883	112.0439072	10.22126245	487.3652798	211.0481248	95.2101755	1.247852883	20.14075045
070720HW-02 124	5375.42827	4436.830242	4.711841359	18.65265995	2.647421602	0.041616706	5.661736134	0.005926812	0.689745429	0.121825781	38.09390527	0.261976158	41.40125978	2.296889158	238.5156152	129.6725372	38.09390527	0.261976158	19.91586337
070720HW-02 125	199.978906	2635.852011	2.182098915	14.52208067	7.593468918	0.380142934	8.686294137	0.042958826	1.263680928	0.145479868	271.1471333	3.35537388	327.1432898	24.29798082	748.4366849	181.8815961	271.1471333	3.35537388	19.6909763
070720HW-02 126	881.58627	4555.194808	2.462570398	19.58990213	2.014996593	0.199590924	3.03115477	0.02990071	0.688861735	0.227260496	189.9268298	1.289247848	184.780019	5.120935687	120.504828	69.59590061	189.9268298	1.289247848	19.46608922
070720HW-02 127	197.732547	17376.68807	2.774270209	9.046637491	0.874848541	4.901956532	1.21627268	0.319890652	0.762823389	0.627181225	1789.195126	11.91808003	1802.593199	10.25767856	1818.896774	17.19525883	1818.896774	17.19525883	19.24120215
070720HW-02 129	535.238438	2149.774548	4.360484911	15.32554496	3.229220038	0.123347736	11.4567376	0.015107624	1.212720725	0.105852186	96.66166431	1.163491184	118.1025301	12.77411307	575.9454813	248.3802604	96.66166431	1.163491184	19.01631507
070720HW-02 130	1278.7962	1798.851524	3.460234153	15.40508393	7.701444607	0.047705156	15.6743294	0.006015857	1.276602885	0.081445455	38.66452359	0.492115137	47.31909105	7.246903781	512.2054788	345.2158768	38.66452359	0.492115137	18.791428
070720HW-02 131	285.417874	13275.38081	3.056901313	11.99784386	1.140394173	2.513060813	1.731039129	0.218742161	1.157730363	0.668806582	1275.225213	13.3951295	1275.816301	12.57408307	1277.641825	25.08977744	1277.641825	25.08977744	18.56654092
070720HW-02 132	475.304291	1349.791031	4.386635294	15.24209086	7.30197976	0.113397788	19.29128433	0.014828912	3.962942396	0.205426571	94.89146359	3.732952455	109.0688021	19.95267712	431.8350302	424.0523571	94.89146359	3.732952455	18.34165384
070720HW-02 133	77.0227724	4195.466952	1.601292559	10.94605257	3.358195969	3.192918366	4.991751614	0.259540632	0.891353587	0.178565292	1487.491227	11.84027763	1455.447021	38.61567163	1409.785367	94.06030533	1409.785367	94.06030533	18.11676677
070720HW-02 134	213.577115	2733.848538	2.14342547	17.10230826	3.462062105	0.513117402	5.627626127	0.068881083	0.989805706	0.175883345	429.4110191	4.111864476	420.5432579	19.37992078	373.1573615	124.8197123	429.4110191	4.111864476	17.89187969
070720HW-02 135	564.270828	2309.715338	4.258290268	16.05136311	8.615233702	0.116207491	9.039352153	0.014805184	1.319407377	0.145962604	94.74073906	1.240875619	111.6279338	9.555847934	489.6859591	197.607328	94.74073906	1.240875619	17.66699262
070720HW-02 136	1285.56286	3283.008475	4.52929181	18.69299887	4.230794454	0.105845223	4.820095904	0.015402563	1.018212454	0.211243194	98.53439125	0.995660656	102.1576389	4.684525303	188.5231792	109.6910957	98.53439125	0.995660656	17.44210554
070720HW-02 137	646.107176	2190.713431	3.461972232	15.65024636	6.025707492	0.121639542	8.38364468	0.015154974	1.498600745	0.178752893	96.96234746	1.442204987	116.5573355	9.23200874	538.7305303	180.7233714	96.96234746	1.442204987	17.21721847
070720HW-02 138	394.304242	1105.007117	4.796779811	12.34732432	12.03942476	0.140346359	15.65794872	0.014775421	1.508279281	0.096326748	94.55167022	1.415695659	133.352328	19.56964363	896.3683103	323.4721467	94.55167022	1.415695659	16.99233139
070720HW-02 139	325.61087	29547.09026	1.155809869	8.928222011	0.593279023	4.203619705	1.204193934	0.270973637	1.011440893	0.839931895	1545.742146	13.90112299	1674.726588	9.877747384	1841.139023	11.83109069	1841.139023	11.83109069	16.76744431
070720HW-02 140	1881.55834	2303.638929	4.279891826	17.37826408	4.242380161	0.043592409	4.700960828	0.006126742	0.964430182	0.205155971	39.37501639	0.378587151	43.32538007	1.99387102	268.8602348	105.5681381	39.37501639	0.378587151	16.54255724
070720HW-02 142	180.211716	5823.252345	1.799516932	13.50594424	1.935337126	1.69298737	3.022892694	0.170035348	0.764079203	0.252764249	1012.30595	7.158087373	1005.890363	19.2985346	992.8263984	59.47629082	992.8263984	59.47629082	16.31767016
070720HW-02 143	598.467444	1939.593303	4.095597326	16.42791732	3.250369822	0.111971822	8.805579064	0.015100453	1.352987133	0.153651125	96.61612468	1.297456601	107.7675339	9.003558223	362.7920721	196.5627671	96.61612468	1.297456601	16.09278309
070720HW-02 144	1703.9629	2049.441805	4.360504744	15.74834671	4.573981124	0.046790873	7.280152287	0.005962222	1.610669458	0.221241177	38.32082419	0.6153909	46.43262727	3.304251769	489.3277958	156.8068631	38.32082419	0.6153909	15.86789601
070720HW-02 145	684.057687	2501.002931	2.409142338	17.36256006	4.865460285	0.117518955	8.642880253	0.016361086	1.067353829	0.123495154	104.6168297	1.107619831	112.8202359	9.228973283	290.5457817	196.2637954	104.6168297	1.107619831	15.64300894
070720HW-02 146	750.101803	2501.164461	4.152324542	18.58607903	5.349817426	0.098274948	8.012100044	0.014772996	1.024532667	0.127873175	94.53626453	0.96148761	95.18273862	7.27973319	112.4361889	NA	94.53626453	0.96148761	15.41812186
070720HW-02 147	3400.97401	5759.967591	4.694350679	18.08267776	3.496199302	0.043273213	4.795574812	0.005907081	0.76612854	0.159757395	37.96746288	0.290024651	43.01476418	2.019724975	335.3867571	107.3397691	37.96746288	0.290024651	15.19323478
070720HW-02 148	480.632931	2588.613084	4.08978299	15.3860743	7.293811074	0.125671708	7.746514801	0.015241445	1.223076054	0.157887267	97.51143546	1.183664136	120.2009764	8.781584034	597.3104436	165.9087625	97.51143546	1.183664136	14.96834771
070720HW-02 149	1038.66722	1427.496353	3.16444545	11.79592367	4.805779077	0.060483067	9.692111632	0.005850696	1.767083814	0.182321859	37.60610269	0.662596799	59.62789042	5.612841892	1068.765731	191.9472962	37.60610269	0.662596799	14.74346063
070720HW-02 150	559.047908	2086.43357	4.208784356	18.02184025	5.887555006	0.100029786	6.627061173	0.014953687	1.526268761	0.230308537	95.68401687	1.449610398	96.80383611	6.119008324	125.4799318	NA	95.68401687	1.449610398	14.51857356
070720HW-02 151	377.774661	1097.365638	3.740111416	16.30363265	6.83632397	0.095674585	28.60493771	0.014461003	2.048869805	0.071626438	92.55400457	1.882762937	92.77578597	25.3674176	99.50125126	NA	92.55400457	1.882762937	14.29368648
070720HW-02 152	632.835238	890.5099342	4.348593148	15.77428928	6.150690996	0.038897293	30.64681701	0.006013594	2.80116788	0.091401592	38.6500183	1.07941282	38.74687093	11.65148057	45.79028603	NA	38.6500183	1.07941282	14.06879941
070720HW-02 153	313.328447	1373.854698	4.666494574	13.82522852	10.00547137	0.127684451	11.78423237	0.014928222	1.863928561	0.158171402	95.50068008	1.766943947	122.0148977	13.54900506	676.712456	249.526535	95.50068008	1.766943947	13.84391233

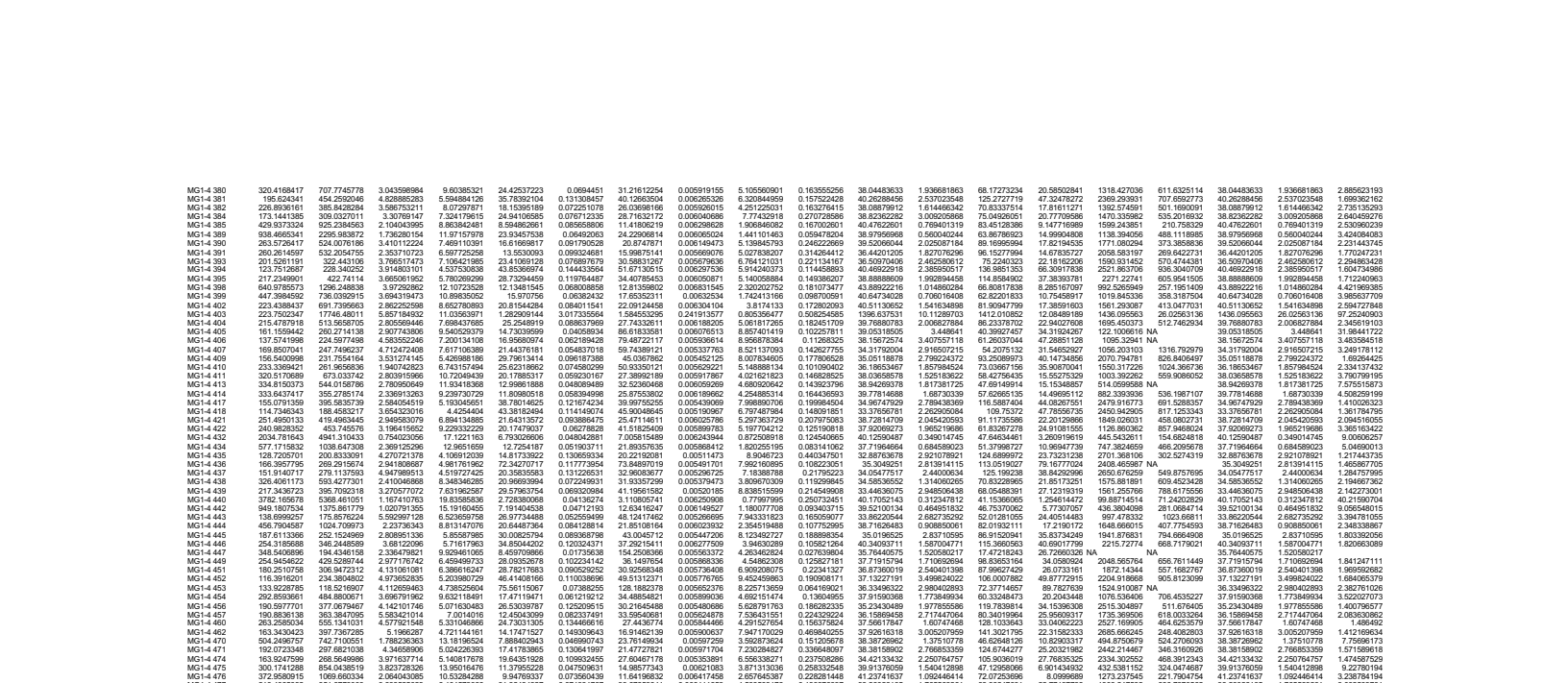
070720HW-02 154	312.567601	8481.944342	4.359881603	15.85657735	3.906207996	0.86803406	4.626374378	0.102157496	2.021623577	0.436977947	627.0402516	12.07940629	634.4992364	21.83180168	662.0735394	89.2015249	627.0402516	12.07940629	13.61902525
070720HW-02 155	2957.68098	5121.883992	3.610279637	18.88895895	2.511561944	0.041391667	3.587127358	0.0059703	1.07446223	0.29953278	38.37259149	0.411074319	41.18186562	1.447690833	209.0653383	79.38015903	38.37259149	0.411074319	13.39413818
070720HW-02 156	359.391963	1267.810643	4.019705142	12.85227346	17.11015668	0.141948905	18.0207542	0.01542796	2.360002124	0.13096023	98.69562769	2.3114793	134.778259	22.74892631	830.2681557	375.3425916	98.69562769	2.3114793	13.1692511
070720HW-02 157	3422.6698	3750.449266	3.194884585	18.57340885	2.403459674	0.040520721	4.140940153	0.005872756	0.826458878	0.199582425	37.74748774	0.311055869	40.33231552	1.637403334	197.9496208	94.30665112	37.74748774	0.311055869	12.94436403
070720HW-02 158	3018.65617	3788.448039	3.145259291	17.84836507	4.521637212	0.040827772	5.432609504	0.005665295	0.789717617	0.145366166	36.41777645	0.286786761	40.63190428	2.163793758	298.1457615	122.7000357	36.41777645	0.286786761	12.71947695
070720HW-02 159	538.539238	686.3135687	5.008802159	13.78666134	8.119497215	0.105391108	24.52845337	0.014917351	1.825872056	0.074438939	95.45322607	1.730013899	101.740586	23.75019999	252.6748479	NA	95.45322607	1.730013899	12.49458988
070720HW-02 160	1132.23689	3449.109156	2.517701205	18.62092667	3.498515864	0.100719618	5.07746452	0.014744175	0.915570003	0.180320315	94.35317548	0.85757808	97.4403858	4.717558512	174.6559628	116.5708766	94.35317548	0.85757808	12.2697028
070720HW-02 161	374.438236	1089.168753	4.04705215	14.51952446	5.465296779	0.11359214	15.41868858	0.014822579	1.579072374	0.102412885	94.85123879	1.486804639	109.2460298	15.97111681	436.6013545	343.2578868	94.85123879	1.486804639	12.04481572
070720HW-02 162	492.373701	1386.781849	2.903798896	16.61796123	7.808860175	0.074704648	19.05127325	0.010913348	2.128825954	0.111741925	69.97084616	1.481502731	73.15416297	13.44738383	179.4664244	NA	69.97084616	1.481502731	11.81992865
070720HW-02 163	325.966318	843.3502936	4.674949114	11.24821952	21.06000695	0.148834613	22.37993957	0.014947768	1.872785618	0.083681442	95.64642185	1.778029414	140.8824174	29.44808048	992.8757895	458.8685536	95.64642185	1.778029414	11.59504157
070720HW-02 164	443.208518	27811.3526	2.76363729	12.69560105	1.03395049	2.222718392	1.278224064	0.20520893	0.694032467	0.542966203	1203.242145	7.617844609	1188.226861	8.95179725	1161.847774	21.29457074	1161.847774	21.29457074	11.3701545
070720HW-02 165	408.749896	1645.485844	4.172063976	13.57520715	8.889135982	0.134570285	14.13326326	0.014983595	1.9136071	0.1353974	95.8739699	1.821075649	128.196147	17.02279271	779.6807295	295.7068478	95.8739699	1.821075649	11.14526742
070720HW-02 166	508.922693	1296.163291	4.066900151	13.77804209	9.018369597	0.129626605	16.37705567	0.015255732	1.396199729	0.085253403	97.6021526	1.352456716	123.7621363	19.08429429	662.0477192	351.7856495	97.6021526	1.352456716	10.92038035
070720HW-02 167	459.780308	1312.433602	3.329441115	13.7550844	7.771946146	0.128159501	9.646467436	0.015018638	1.171935165	0.121488532	96.09653572	1.117836624	122.4425491	11.12745638	671.21251	205.3017247	96.09653572	1.117836624	10.69549327
070720HW-02 168	1516.29142	2267.821471	3.30916511	15.37497713	5.498182012	0.048724614	6.697171704	0.005999204	1.235512824	0.184482775	38.55781089	0.474964834	48.30661821	3.159436969	564.5207789	143.5118757	38.55781089	0.474964834	10.47060619
070720HW-02 169	1338.97844	2323.036368	5.148705015	13.49901096	13.54628287	0.055277586	15.83414347	0.005871559	1.687641245	0.106582415	37.73981213	0.635051903	54.63151415	8.422030279	877.9570388	327.7205466	37.73981213	0.635051903	10.24571912
070720HW-02 170	458.46075	547.6332093	2.871357484	15.7200626	6.791083945	0.073607334	24.51183074	0.014629784	1.328925787	0.054215689	93.62643671	1.235234017	72.11688967	17.06562392	NA	NA	93.62643671	1.235234017	10.02083204
070720HW-02 171	92.0691947	11052.89599	0.761745765	5.478348069	0.948159103	13.49218166	1.3901634	0.536166745	0.85686059	0.61637401	2767.382347	19.27929654	2714.737582	13.1422106	2676.499204	18.11408184	2676.499204	18.11408184	9.795944967
070720HW-02 172	287.733636	1350.901588	3.370651956	10.14790007	29.77811763	0.180519273	30.92964076	0.014762067	1.908833738	0.061715354	94.46683828	1.790066922	168.5072886	48.0595192	1398.291785	606.5571182	94.46683828	1.790066922	9.571057891
070720HW-02 173	1825.45208	1616.480238	3.870707631	17.0516998	6.981471465	0.040497618	8.766352566	0.005906395	1.158626543	0.132167459	37.96306574	0.438557552	40.30977031	3.464486836	183.3159783	NA	37.96306574	0.438557552	9.346170815
070720HW-02 174	502.876504	1634.268478	4.784376661	15.0501075	6.162069937	0.11785808	12.9292988	0.014772824	1.091939602	0.084454665	94.53517271	1.024734883	113.1283202	13.84217956	525.4802767	283.5426645	94.53517271	1.024734883	9.121283739
070720HW-02 175	840.525384	17511.70672	0.833044814	18.10972095	1.324471249	0.43779844	1.534259706	0.05804549	0.681155744	0.443963784	363.7281469	2.408955576	368.6988705	4.743600993	401.0234616	30.79923166	363.7281469	2.408955576	8.896396664
070720HW-02 177	869.079323	2770.628936	4.70375459	15.35631491	6.88993549	0.123202642	10.48644634	0.014837063	0.800064294	0.076295083	94.94324442	0.75404059	117.9713724	11.67990491	612.5585346	226.4784781	94.94324442	0.75404059	8.671509588
070720HW-02 178	88.4587534	13703.76436	1.299049441	5.113354206	0.882756303	14.48922878	1.163558069	0.537239207	0.736614515	0.633070695	2771.881287	16.59532202	2782.29666	11.05224744	2790.555621	14.74683806	2790.555621	14.74683806	8.446622512
070720HW-02 179	454.514096	24544.19128	2.963393937	12.80696813	0.835556013	2.076735965	1.101686048	0.193644266	0.668636861	0.60692142	1141.086453	6.992595657	1141.157824	7.550693146	1142.160942	17.39890526	1142.160942	17.39890526	8.221735436
070720HW-02 180	140.227251	12296.45367	1.470448898	9.276725904	1.225492585	4.684240784	1.530144767	0.317300419	0.697252965	0.455677776	1776.531863	10.8266675	1764.428665	12.80419254	1750.90956	24.93285413	1750.90956	24.93285413	7.996848361
070720HW-02 181	961.711501	956.3229062	3.081564973	13.24714773	10.45182427	0.045898402	14.96283574	0.005501741	1.617802056	0.108121354	35.36929646	0.570638326	45.56656459	6.667424845	622.6259861	322.4878253	35.36929646	0.570638326	7.771961285
070720HW-02 182	1173.90374	3128.197322	1.743573205	17.9798824	3.426389884	0.099208111	5.155262132	0.014080645	0.922817198	0.179004903	90.13655735	0.826007403	96.04510471	4.724447784	246.3442059	116.8473644	90.13655735	0.826007403	7.547074209
070720HW-02 183	209.622629	840.7472649	4.224563586	11.49378186	14.78854584	0.141459183	18.95467383	0.014633105	3.246502942	0.171277173	93.64753916	3.018293767	134.3427209	23.8559592	932.5131635	386.4039719	93.64753916	3.018293767	7.322187133
070720HW-02 184	366.755688	869.9281271	3.580801907	12.57789612	8.894300839	0.128075686	27.8773225	0.014736161	1.761692285	0.063194458	94.30226673	1.649223436	122.3671104	32.1480403	710.3535851	602.4178559	94.30226673	1.649223436	7.097300058
070720HW-02 185	798.944427	2019.670058	2.882279073	17.77640851	3.999778163	0.099010287	5.163110193	0.014627786	0.79213204	0.153421486	93.61374239	0.736186127	95.86235025	4.723054952	153.1946313	119.5701652	93.61374239	0.736186127	6.872412982
070720HW-02 186	998.413654	1916.286663	2.763453036	10.86985492	12.07446879	0.076204928	13.28879054	0.006511495	2.02585843	0.152448669	41.83972091	0.84486879	74.57064273	9.554682664	1313.605997	255.8120473	41.83972091	0.84486879	6.647525906
070720HW-02 187	9290.32223	12206.7333	2.978638036	20.16156144	1.353134851	0.039875662	2.300327323	0.005960486	1.366812161	0.594181596	38.30970404	0.522068884	39.70264556	0.89566614	125.726026	43.56145083	38.30970404	0.522068884	6.42263883
070720HW-02 188	180.081958	8513.721533	2.314620301	12.52576002	1.625211005	2.115787784	2.460910297	0.195468897	0.677883302	0.275460387	1150.933057	7.1451722	1153.964584	16.96955135	1160.506757	46.93079572	1160.506757	46.93079572	6.197751755
070720HW-02 189	356.118012	1096.324232	3.506089432	14.49568906	9.450011454	0.12200928	14.52252629	0.015854988	2.111966016	0.145426903	101.4060301	2.124904134	116.8919914	16.03631591	445.8343443	320.8349796	101.4060301	2.124904134	5.972864679
070720HW-02 191	468.298585	1436.322086	4.560178751	13.64403208	6.486866155	0.12947837	10.97253508	0.014814314	1.408694653	0.1283837	94.79873726	1.325653571	123.6288846	12.7725938	722.2134824	231.5355682	94.79873726	1.325653571	5.747977603
070720HW-02 192	707.277886	1358.476902	4.847298009	11.42266318	14.84933673	0.064422478	18.98213449	0.006045559	2.123025672	0.111843358	38.85484748	0.822417399	63.39277813	11.66587857	1129.459989	378.9929618	38.85484748	0.822417399	5.523090527
070720HW-02 194	258.57959	951.2659538	4.214589242	13.04354134	9.710538959	0.124671715	13.51703584	0.014721259	2.181691331	0.161403088	94.20759356	2.040373695	119.2985571	15.21549344	654.9477613	287.3545773	94.20759356	2.040373695	5.298203452
070720HW-02 195	244.744833	30920.53557	2.467291936	6.009027725	0.660514234	10.54068591	0.958538759	0.459224452	0.680095203	0.709512471	2436.132777	13.79721673	2483.503779	8.889717016	2523.20347	11.34588925	2523.20347	11.34588925	5.073316376
070720HW-02 196	209.69598	670.3987434	4.925310015	12.84340633	11.5229668	0.115429269	16.07484125	0.014886294	3.41724085	0.212583179	95.25596108	3.231194093	110.9197596	16.89236962	462.7542847	350.0482751	95.25596108	3.231194093	4.8484293
070720HW-02 197	2187.11498	2998.457097	3.530461558	18.04963397	3.360388557	0.042345064	7.463852642	0.006065305	1.111819064	0.148960479	38.98136811	0.432094531	42.11102599	3.078829063	225.253212	170.8106576	38.98136811	0.432094531	4.623542224
070720HW-02 198	415.707205	8170.839336	1.590373712	17.82440456	2.988327387	0.518400573	3.39592649	0.069028456	0.767462978	0.225995168	430.2997657	3.194585901	424.0823742	11.77298976	391.3766341	74.26256815	430.2997657	3.194585901	4.398655149
070720HW-02 199	150.892733	17299.34393	1.411541671	7.929200708	0.962039509	6.447663755	1.270790412	0.371317884	0.773527908	0.608698256	2035.598624	13.50213838	2038.788032	11.17129918	2042.769115	17.82277035	2042.769115	17.82277035	4.173768073
070720HW-02 200	444.794968	2129.042723	4.651830264	15.14355955	7.806681996	0.124734547	10.56101223	0.015238152	1.371774513	0.129890439	97.49052412	1.327288449	119.3552823	11.89301689	581.5457646	228.0055194	97.49052412	1.327288449	3.948880997
070720HW-02 201	402.475492	1471.212921	4.354812048	13.70906348	8.613506107	0.128881875	17.45295124	0.01477062	2.97629088	0.170532241	94.52117229	2.792701048	123.0925035	20.23483273	718.6830524	367.6308447	94.52117229	2.792701048	3.723993921
070720HW-02 202	30.63718	3154.465345	0.78261093	8.995102554	4.857242611	4.944148579	5.950893053	0.334320552	1.141095293	0.191751941	1859.289043	18.4308007	1809.82617	50.30011357	1754.111853	106.9548531	1754.111853	106.9548531	3.499106846
070720HW-02 203	2838.13525	3618.893318	3.554222081	18.34488253	4.203859287	0.041289059	4.983470125	0.005893748	0.904328193	0.181465559	37.88201852	0.341573172	41.08181539	2.006439272	233.2093713	113.1706834	37.88201852	0.341573172	3.27421977
070720HW-02 204	398.208681	1656.773085	3.201184105	12.31781064	10.90153844	0.148945663	15.70964118	0.014781801	1.936826385	0.123289028	94.59219736	1.818710524	140.9805627	20.68162222	1017.038877	317.6298345	94.59219736	1.818710524	3.049332694
070720HW-02 207	1204.28362	880.6075561	2.328186458	17.76794346	5.024839257	0.077229764	11.19702387	0.014074939	0.857381989	0.07657231	90.1002868	0.767130131	75.53709941	8.151137259	NA	NA	90.1002868	0.767130131	2.824445618
070720HW-02 208	499.570953	1521.397825	4.629539565	14.08790532	7.281515085	0.129706643	8.335337546	0.01518925	1.597560185	0.191661127	97.18000557	1.540865614	123.8340772	9.717686805	672.7432627	175.2628812	97.18000557	1.540865614	2.599558543
070720HW-02 209	2280.49663	2876.374745	3.20373637	16.29928983	4.857816906	0.0454025	5.899439338	0.005806086	0.878929769	0.148985305	37.32019532	0.327070639	45.08501678	2.601583887	481.3947905	128.9494179	37.32019532	0.327070639	2.374671467
070720HW-02 210	480.23653	1658.591209	2.530335604	14.58082625	9.185147251	0.125377686	10.74577045	0.015082277	2.344552932	0.218183791	96.50069513	2.245659641	119.9357266	12.15654522	614.9527065	227.0673416	96.50069513	2.245659641	2.149784391
070720HW-02 211	516.909904	26166.80212	0.518476708	14.03182522	1.291695874	1.561742453	1.541412971	0.158917461	0.665011721	0.43142995	950.7580728	5.878502906	955.1583211	9.541917438	966.2154965	28.3952588	966.2154965	28.3952588	1.924897316
070720HW-02 212	274.764574	432.9671756	3.673173718	11.39937687	8.531746283	0.108464277	40.75187231	0.014526339	2.946952603	0.072314533	92.96917037	2.720096005	104.5596007	40.5109894	378.4096063	NA	92.96917037	2.720096005	1.70001024
070720HW-02 213	472.067667	5369.032239	0.991001323	18.2376884	2.751242825	0.350994219	3.317180314	0.04860484	0.692987811	0.208908695	305.9504071	2.070672791	305.4686296	8.750970411	302.7794581	73.9640638	305.9504071	2.070672791	1.475123164
070720HW-02 214	916.17674	8171.939923	4.465670682	11.54337085	1.960358897	0.358322374	3.337791452	0.030448492	2.601341369	0.779360067	193.3546298	4.955131039	310.9614562	8.940697589	1324.342068	40.50761713	193.3546298	4.955131039	1.250236088
070720HW-02 215	2098.39152	4059.969614	3.998761119	15.96672516	6.833364426	0.049039677	7.124922056	0.005992596	1.218048181	0.170956001	38.51546494	0.467738229	48.61161821	3.381951068	580.9381005	152.6672938	38.51546494	0.467738229	1.025349013
070720HW-02 216	995.853983	1437.399446	2.232823774	13.68906653	7.637655907	0.052367492	11.80677347	0.005999832	1.794382245	0.151979052	38.56183785	0.689881315	51.82756828	5.965687393	719.3160103	248.4998599	38.56183785	0.689881315	0.800461937
070720HW-02 217	515.593996	2658.236542	4.068295939	16.46742938	7.311994606	0.118020077	11.46229536	0.015418806	1.50160181	0.131003587	98.63751475	1.469868718	113.2754557	12.28652285	433.9387454	253.8346656	98.63751475	1.469868718	0.575574861
070720HW-02 218	338.221661	8790.803355	2.277940415	12.08183061	1.162352271	1.933133315	1.545497642	0.172056141	0.977808629	0.632682058	1023.430085	9.253246522	1092.624504	10.34292274	1234.096759	23.49019111	1234.096759	23.49019111	0.350687785
070720HW-02 219	257.734082	23699.13971	2.465024241	9.161412721	0.898230558	4.771696584	1.223520282	0.317928714	0.762641931	0.623317767	1779.60579	11.85979571	1779.932043	10.27129553	1781.090293	17.44735995	1781.090293	17.44735995	0.12580071
070720HW-02 220	636.080497	2058.101862	3.074042705	15.04309179	7.163958502	0.123230698	8.605821939	0.015005731	1.025306133	0.119140989	96.01456123	0.977148179	117.9967352	9.58705272	588.6185623	185.6568408	96.01456123	0.977148179	-0.09908637
070720HW-02 221	416.308362	1483.748808	2.655762394	17.67047999	5.073972832	0.095773456	12.33921236	0.014858117	2.522495192	0.20442919	95.07697926	2.380712835	92.86740728	10.95112081	37.48612254	NA	95.07697926	2.380712835	-0.32397344
070720HW-02 222	548.937972	1831.877233	4.749758495	15.47148728	7.391820512	0.1170001	11.0618636	0.014936095	1.525426357	0.137899581	95.57227836	1.447130914	112.3486923	11.76550755	485.2431183	242.5487574	95.57227836	1.447130914	-0.54886052
070720HW-02 223	1144.87845	1838.178401	1.527790548	13.19721038	11.13932084	0.055356726	11.90843257	0.005893206	1.83740873	0.154294759	37.87854492	0.693942924	54.70765938	6.342511632	873.2932681	244.4507295	37.87854492	0.693942924	-0.77374759
070720HW-02 224	479.813687	1891.782866	3.241346966	14.33387454	5.59925043	0.129654625	7.957415346	0.015088792	2.121880875	0.266654533	96.54207029	2.033244765	123.7873219	9.273770427	686.0812958	163.8926859	96.54207029	2.033244765	-0.99863467
070720HW-02 225	391.141811	2070.916006	3.58508953	13.961222	13.03592902	0.137390822	16.83436085	0.015359071	2.226788489	0.13227639	98.25827276	2.171413269	130.7172529	20.65068291	771.2497009	353.5358214	98.25827276	2.171413269	-1.22352174
070720HW-02 226	454.132118	1299.944294	2.708934504	14.38461643	8.170776546	0.119535469	11.40198098	0.014814541	1.358373082	0.119134831	94.80017657	1.278317668	114.6507987	12.36205328	550.245178	247.8685985	94.80017657	1.278317668	-1.44840882
070720HW-02 227	384.080894	1562.318565	4.315314359	17.16789609	4.951310451	0.103153967	19.57435184	0.015272854	1.853601507	0.094695422	97.71086865	1.797512956	99.68352562	18.58727021	148.1456954	NA	97.71086865	1.797512956	-1.6732959
070720HW-02 228	73.9569967	4639.145805	2.784615962	8.148692872	1.711122481	5.114562768	1.966229246	0.307709372	0.866967944	0.440929228	1729.424888	13.15077464	1838.526948	16.7011482	1965.134477	31.48090889	1965.134477	31.48090889	-1.89818297
070720HW-02 229	508.202585	374.8744539	2.474210047	9.423396236	13.37237089	0.05307653	29.40909929	0.005664546	2.947386315	0.100220217	36.41297229	1.070205565	52.51145722	15.0517166	868.1610106	619.2399302	36.41297229	1.070205565	-2.12307005
070720HW-02 230	317.140829	560.2097567	3.519476042	14.0216448	7.05937513	0.092923824	39.0833568	0.014963366	1.595529651	0.040823762	95.7454899	1.516358958	90.22339645	33.75350497	NA	NA	95.7454899	1.516358958	-2.34795712
070720HW-02 231	190.598466	577.0290746	4.590303991	8.304528638	21.4825631	0.191601141	29.9950372	0.014363552	3.295477497	0.109867425	91.93471744	3.008186723	177.9945167	49.00987313	1563.109605	572.1656961	91.93471744	3.008186723	-2.5728442
070720HW-02 232	537.989473	1802.810766	3.865660176	14.87693802	5.22695902	0.117007193	6.551977185	0.014297326	1.212451101	0.185051179	91.51383201	1.101721904	112.3551399	6.968923499	581.0664192	139.9801619	91.51383201	1.101721904	-2.79773128
070720HW-02 233	298.004088	285.473061	2.729684074	8.506470685	12.98405838	0.046443228	34.07316945	0.005007009	6.766260879	0.19858032	32.19671682	2.173082672	46.09535652	15.35614756	847.1624529	713.7401437	32.19671682	2.173082672	-3.02261835
070720HW-02 234	365.352933	865.3913419	3.273604291	12.9231694	12.52110508	0.116378724	14.3248708	0.013881245	1.702937101	0.118879753	88.8688684	1.502997158	111.7836878	15.16404102	633.324184	307.6364919	88.8688684	1.502997158	-3.24750543
070720HW-02 235	255.321887	841.1899431	3.598299795	10.25204735	12.92525059	0.163747843	16.59566091	0.014662435	2.386340376	0.143793031	93.83388432	2.222977895	153.9784702	23.71483565	1222.204806	324.8510751	93.83388432	2.222977895	-3.4723925
070720HW-02 236	1889.45515	4392.420978	2.55217013	17.62674444	4.449277128	0.047132867	7.545239703	0.006381071	0.95987352	0.127215775	41.00433891	0.392340669	46.76430528	3.448471849	354.0384168	169.2770234	41.00433891	0.392340669	-3.69727958
070720HW-02 237	91.9472019	7720.809096	1.103571302	8.915164993	2.803551228	4.924993921	3.08643584	0.322433613	1.049514848	0.340041038	1801.603131	16.49582996	1806.548877	26.05555111	1813.036062	52.73297674	1813.036062	52.73297674	-3.92216665
070720HW-02 238	108.323254	11607.11577	1.517125211	8.688764165	1.437458243	5.402500845	1.751950422	0.342871963	0.757196203	0.432201844	1900.471081	12.46305586	1885.250212	15.01165455	1869.293804	28.50255555	1869.293804	28.50255555	-4.14705373
070720HW-02 239	230.887752	3005.165175	1.717869636	16.27782563	6.02765525	0.44948335	8.117338154	0.057498589	1.197034621	0.147466398	360.3951505	4.195680113	376.9174825	25.56440434	480.6831668	177.6410278	360.3951505	4.195680113	-4.37194081
070720HW-02 240	435.468405	2043.546169	3.420815384	11.50960136	6.227350445	0.16608276	7.104234093	0.015036588	1.52906608	0.215233065	96.21053675	1.460199117	156.0136706	10.27441671	1200.516912	136.8985099	96.21053675	1.460199117	-4.59682788
070720HW-02 242	299.845391	1118.069893	4.165242672	12.07633416	10.54535905	0.141823333	16.68546204	0.014670978	1.925625802	0.115407401	93.88815456	1.79483252	134.6665986	21.04646259	932.4854929	342.3297785	93.88815456	1.79483252	-4.82171496
070720HW-02 243	179.577263	17995.14497	4.264238963	8.666388751	0.927170058	5.514860726	1.257935626	0.348234728	0.812482813	0.645885843	1926.163598	13.52818693	1902.914995	10.81270008	1878.426813	17.30645161	1878.426813	17.30645161	-5.04660203
070720HW-02 244	713.089507	2388.870254	3.18555566	17.37074392	5.448460603	0.104324203	8.004158758	0.014675532	1.143499087	0.142863119	93.91709247	1.066155894	100.7600822	7.677898512	266.8246553	181.978723	93.91709247	1.066155894	-5.27148911
070720HW-02 245	492.061199	1640.398255	4.257674061	13.27139196	9.687598453	0.130170444	10.48351877	0.014203536	1.355664622	0.129313893	90.91771931	1.22388846	124.2508573	12.26101818	822.0859259	217.6166045	90.91771931	1.22388846	-5.49637618
070720HW-02 246	80.4023044	7472.076172	2.426279049	5.329430064	0.914297804	13.4688947	1.304393658	0.525880985	0.830606191	0.636775705	2724.073736	18.45361104	2713.104688	12.32981431	2705.651225	16.60012854	2705.651225	16.60012854	-5.72126326
070720HW-02 247	453.635516	4011.787882	2.150650729	7.188011957	1.113990617	1.322135289	1.988944653	0.070691189	1.142231519	0.574290248	440.3185236	4.861535771	855.4471702	11.49898621	2173.086829	28.36467167	2173.086829	28.36467167	-5.94615034
070720HW-02 248	512.962556	1357.519413	3.901144352	14.71251676	7.33935428	0.113998316	9.565769363	0.014468652	1.311922622	0.137147633	92.60260717	1.206190375	109.6163171	9.939798732	498.025392	209.1457705	92.60260717	1.206190375	-6.17103741
070720HW-02 249	273.651781	1320.590663	3.688759035	11.3660988	18.35345004	0.16318481	19.82363776	0.015384514	3.27597597	0.165256045	98.4198043	3.199721581	153.4870988	28.24595599	1120.256724	393.6057709	98.4198043	3.199721581	-6.39592449
070720HW-02 250	441.963439	1678.493731	3.662834788	12.96045568	8.521772402	0.141188539	11.10591811	0.014994504	1.37998051	0.12425632	95.94325454	1.314194267	134.1019417	13.95255533	878.3030525	228.6831722	95.94325454	1.314194267	-6.62081156
070720HW-02 251	1307.23568	1901.982148	2.744737599	14.23909972	8.243021494	0.047874152	14.24390338	0.0055705	1.508817316	0.105927236	35.81010142	0.538811068	47.48286006	6.607802097	686.4417289	303.688935	35.81010142	0.538811068	-6.84569864
070720HW-02 252	502.446045	1962.695571	3.255395644	14.90937736	8.602603272	0.119526385	12.85974502	0.014642709	1.292134062	0.10047898	93.70855757	1.202081982	114.6425602	13.94180523	575.5162235	279.1989006	93.70855757	1.202081982	-7.07058571
070720HW-02 253	762.075386	34298.12559	1.854413912	10.65629184	0.734717446	3.107427571	1.073351512	0.242285383	0.731518022	0.681526987	1398.567184	9.197067417	1434.530068	8.24541521	1489.085238	14.87336419	1489.085238	14.87336419	-7.29547279
070720HW-02 254	1621.62401	1999.113378	3.887873798	17.93778161	4.063468699	0.039983667	13.46662303	0.006022468	1.350654328	0.100296438	38.70688467	0.521229811	39.80810117	5.257128588	107.7548664	NA	38.70688467	0.521229811	-7.52035987
070720HW-02 255	256.712445	946.8566811	4.715996341	11.82011648	8.800337015	0.143240562	17.92717989	0.015027012	2.134519554	0.119066109	96.14971866	2.03710491	135.9261084	22.81094781	903.6197743	369.6493265	96.14971866	2.03710491	-7.74524694
070720HW-02 256	303.219374	977.3707139	4.436344162	11.52402742	16.74469489	0.147654472	18.32233039	0.014910737	1.385301042	0.075607252	95.41121672	1.311999416	139.838828	23.9401317	981.7534943	375.03912	95.41121672	1.311999416	-7.97013402
070720HW-02 257	428.82118	1411.181178	3.712256163	12.87795986	12.53951356	0.092208304	17.39241983	0.00993258	1.972440499	0.113408055	63.71362504	1.250523358	89.55842338	14.91027636	848.8739116	361.7999056	63.71362504	1.250523358	-8.19502109
070720HW-02 258	2475.57553	3245.238353	4.034429352	17.36709438	4.238032728	0.04599321	4.950351362	0.006275267	0.891440851	0.180076279	40.3265719	0.358365461	45.65860212	2.21019951	336.5094548	110.3702148	40.3265719	0.358365461	-8.41990817
070720HW-02 259	572.274889	2319.107762	3.775854487	15.96292888	6.515687567	0.11426599	9.977794856	0.014679864	1.089538887	0.109196361	93.94461327	1.016140928	109.8602658	10.38981341	471.2218805	219.9709676	93.94461327	1.016140928	-8.64479524
070720HW-02 260	243.015212	866.5517818	4.12497594	12.08169834	10.60707984	0.13845498	15.10043709	0.01515557	3.075132594	0.20364527	96.96613189	2.959523152	131.6668144	18.64923317	815.4499073	310.5894037	96.96613189	2.959523152	-8.86968232
070720HW-02 261	568.441736	2299.869474	4.674863314	16.02705729	7.53347311	0.116666761	8.364111207	0.015070017	1.063079657	0.127100134	96.42283771	1.017423509	112.045633	8.873282654	459.1660454	184.2623478	96.42283771	1.017423509	-9.0945694
070720HW-02 262	1206.62355	2876.20366	2.68357642	15.13593947	7.194637686	0.048903654	8.339304036	0.005803171	1.512246759	0.181339684	37.30151753	0.562462107	48.47995053	3.947913382	644.3730881	176.5066419	37.30151753	0.562462107	-9.31945647
070720HW-02 263	519.91801	1554.024054	2.911040204	18.19812795	7.096762334	0.069479217	18.39992632	0.011058171	1.467394073	0.079749997	70.89428611	1.034599144	68.20512422	12.13805903	NA	NA	70.89428611	1.034599144	-9.54434355
070720HW-02 264	398.451978	1773.101346	3.111492014	12.69989934	12.76739753	0.149000594	14.47988021	0.015245388	1.480233552	0.10222692	97.53646772	1.432900073	141.0291064	19.0683746	954.9413665	296.0047855	97.53646772	1.432900073	-9.76923062
070720HW-02 265	2933.47663	4594.941123	2.968254759	17.75437104	5.469529924	0.04460829	6.113658109	0.006069846	0.736454663	0.120460557	39.0104657	0.286426864	44.31331993	2.650904937	342.6010885	137.4849675	39.0104657	0.286426864	-9.9941177
070720HW-02 266	722.292637	2390.589069	3.732082229	17.24201001	7.373730843	0.104583511	8.413613584	0.014580555	0.989821182	0.117645192	93.31365355	0.916985492	100.9984782	8.088841457	287.3984212	191.2933745	93.31365355	0.916985492	-10.2190048
070720HW-02 267	422.5135	1493.163054	3.458489249	16.24853105	5.250814665	0.106514469	19.09265581	0.014891678	1.736728705	0.090963181	95.29015712	1.642760089	102.7719515	18.66365372	280.9509869	NA	95.29015712	1.642760089	-10.4438919
070720HW-02 268	473.274757	2033.355486	3.345278332	16.18648389	8.397555459	0.117742714	9.032383364	0.015547554	1.368034059	0.151458813	99.45482324	1.350134208	113.0235238	9.6613446	410.1272779	200.032693	99.45482324	1.350134208	-10.6687789
070720HW-02 269	142.448958	645.9955425	3.596854291	8.514683582	20.13603821	0.204111693	26.53266646	0.015264595	4.254079879	0.160333673	97.65842267	4.123157621	188.5993914	45.69882291	1567.625895	499.5596023	97.65842267	4.123157621	-10.893666
070720HW-02 270	274.902369	881.7594425	4.554884966	12.01678368	8.673932584	0.137713145	18.24269733	0.014780614	2.313484387	0.126817013	94.58465665	2.172226441	131.0049596	22.42498628	856.4097316	378.681576	94.58465665	2.172226441	-11.1185531
070720HW-02 271	97.5162822	9094.174435	1.282929938	8.158160893	0.943517743	6.324179163	1.331160522	0.374855632	0.734333057	0.551648764	2052.207772	12.90680676	2021.811534	11.67144619	1991.67784	19.74293674	1991.67784	19.74293674	-11.3434402
070720HW-02 272	2242.92157	3230.439509	3.81748419	17.13508405	4.364564533	0.042345417	5.742334575	0.005647938	0.862370112	0.150177615	36.30651233	0.312216477	42.11137001	2.368721191	387.6514988	127.5477935	36.30651233	0.312216477	-11.5683272
070720HW-02 273	281.855316	987.6574619	4.282455195	11.49754221	13.50517302	0.150413813	14.43207994	0.014836849	2.535068636	0.175655113	94.94188418	2.389204914	142.2772147	19.1621406	1029.365337	288.6445794	94.94188418	2.389204914	-11.7932143
070720HW-02 274	104.100836	7326.499352	0.850294359	9.7357817	1.452541481	4.189552061	1.724218403	0.296345846	0.744440987	0.431755621	1673.163055	10.97051118	1671.97785	14.13474431	1671.277432	28.75674942	1671.277432	28.75674942	-12.0181014
070720HW-02 275	73.818731	7798.659238	1.017481484	5.715239244	0.860009459	12.20744271	1.13997546	0.502159413	0.683720615	0.599767836	2623.069663	14.73408668	2620.480796	10.69910489	2619.192335	15.17919475	2619.192335	15.17919475	-12.2429885
070720HW-02 276	590.088061	2025.040914	3.277630442	14.22161773	5.419377787	0.133079093	5.969392931	0.015026831	1.153850042	0.193294369	96.14856978	1.10117785	126.8607285	7.118964066	750.1286886	123.8161189	96.14856978	1.10117785	-12.4678755
070720HW-02 277	270.76067	7067.987767	1.842415038	16.4484422	2.31493727	0.826900507	2.683049651	0.100405667	0.684239177	0.255022928	616.7858174	4.024682316	611.8909668	12.33156889	594.7703819	56.22692143	616.7858174	4.024682316	-12.6927626
070720HW-02 278	1003.06191	3564.250153	3.662912385	17.92652565	4.465990944	0.110108686	5.150881904	0.015241534	0.89597671	0.173946273	97.51199643	0.867110058	106.0648079	5.187658302	303.7108161	115.6703943	97.51199643	0.867110058	-12.9176497
070720HW-02 279	3396.73986	6161.79839	5.453094967	19.01746275	4.691765773	0.041675921	5.52999097	0.005960585	0.698964697	0.126395269	38.31033718	0.266981625	41.45898258	2.246506223	228.6807814	126.8093666	38.31033718	0.266981625	-13.1425368
070720HW-02 280	70.8002016	6166.117543	0.721640264	8.458758743	1.735930785	5.593823065	2.580281192	0.346051177	0.695768004	0.269648132	1915.714759	11.53086481	1915.147801	22.22991299	1915.299712	44.58718369	1915.299712	44.58718369	-13.3674238
070720HW-02 281	3066.73434	5471.542524	3.339877261	17.7503895	2.807283653	0.043586888	3.318525733	0.00583146	0.880675826	0.265381647	37.48282321	0.329144327	43.32000852	1.407351664	380.7290462	71.93739547	37.48282321	0.329144327	-13.5923109
070720HW-02 283	534.759072	2142.476167	5.466183373	14.32541998	8.292612502	0.131068347	13.17631124	0.014946225	1.45951852	0.11076837	95.63662334	1.385531224	125.0572433	15.50481121	729.3364014	278.6121181	95.63662334	1.385531224	-13.817198
070720HW-02 284	553.527645	2554.679051	3.704868079	15.35982237	10.36598347	0.124389004	11.14241993	0.015055245	1.3581923	0.121893835	96.32902334	1.298606666	119.043286	12.51690136	601.7134617	240.0590918	96.32902334	1.298606666	-14.0420851
070720HW-02 285	414.594176	58874.62355	1.538558586	4.606316366	0.584389995	17.74532904	0.868522881	0.588325803	0.641674851	0.738811683	2982.630184	15.32189023	2976.03148	8.348567248	2972.266932	9.432369575	2972.266932	9.432369575	-14.2669721
070720HW-02 286	128.380831	9118.483462	1.555060864	11.93001672	4.926250731	2.498968127	5.149015112	0.218405128	0.835942478	0.162349976	1273.442264	9.659753347	1271.734888	37.35688845	1269.690653	99.20615735	1269.690653	99.20615735	-14.4918592
070720HW-02 287	314.451605	1353.514281	4.685646963	11.35656671	14.78619026	0.165741971	17.61635275	0.015366359	2.833120423	0.160823325	98.30454082	2.763958152	155.71688	25.43705413	1153.506508	347.6482208	98.30454082	2.763958152	-14.7167463
070720HW-02 288	525.339159	562.1081323	2.955716534	8.383151574	10.64160524	0.073407155	13.1857025	0.005576895	2.714009987	0.20582976	35.85109854	0.970301782	71.92754886	9.156275724	1538.06876	243.755586	35.85109854	0.970301782	-14.9416334
070720HW-02 289	201.195397	15212.11449	1.854870051	7.443563119	0.738142236	6.838339332	1.058878088	0.367709023	0.714960396	0.675205583	2018.611404	12.39114106	2090.701114	9.380258642	2163.196013	13.62266124	2163.196013	13.62266124	-15.1665204
070720HW-02 290	498.788665	1582.291139	3.145539617	14.24324868	8.799506685	0.124777051	10.94573731	0.014672346	1.322429531	0.120816853	93.89684561	1.232720091	119.3936526	12.33004175	663.9332244	233.389465	93.89684561	1.232720091	-15.3914075
070720HW-02 291	950.397811	4367.969836	3.47413347	18.06202668	3.629104674	0.115742922	5.228692802	0.015974395	1.002415922	0.191714442	102.163722	1.016033038	111.20524	5.507539211	310.4037574	116.8633555	102.163722	1.016033038	-15.6162946
070720HW-02 292	924.963072	2792.508963	6.581195345	19.49149188	2.561568784	0.093839979	5.261609093	0.014639388	1.01512907	0.192931298	93.68745907	0.944171075	91.07419575	4.583576658	24.161948	NA	93.68745907	0.944171075	-15.8411817
070720HW-02 293	166.119379	6740.309648	1.178165933	15.27497776	2.789212124	1.179432996	3.623560105	0.133674308	0.939987735	0.259410002	808.7926361	7.144966723	791.0491441	19.91364716	742.258352	74.03765935	808.7926361	7.144966723	-16.0660687
070720HW-02 294	427.68149	1274.981535	3.350351679	15.2773032	7.397856217	0.116320253	10.14976843	0.01550585	1.350315194	0.133039015	99.19009291	1.329127143	111.7305052	10.73912192	388.9098697	226.3382069	99.19009291	1.329127143	-16.2909558
070720HW-02 295	111.375005	10215.42951	1.401131831	8.230560917	1.153377689	6.106101886	1.499411029	0.366215349	0.723565606	0.482566549	2011.567432	12.5029947	1991.119293	13.08299758	1970.717607	23.41014457	1970.717607	23.41014457	-16.5158429
070720HW-02 296	46.4068449	3887.813475	0.852747319	8.528868157	3.215765554	5.783462457	4.091153611	0.366362973	0.987122373	0.241282158	2012.263951	17.06222657	1943.938324	35.43140814	1872.672634	71.62576635	1872.672634	71.62576635	-16.74073
070720HW-02 297	339.133458	1132.204327	3.270308668	10.49553781	8.963959132	0.168752608	10.32403616	0.014687863	2.507914361	0.242919951	93.99543085	2.340222113	158.3358204	15.13698909	1277.739929	195.7012045	93.99543085	2.340222113	-16.965617
070720HW-02 298	737.107386	960.9134403	3.026261768	13.40025837	13.15996424	0.049438215	18.72668501	0.005991017	2.473328612	0.13207509	38.50534747	0.949525136	48.99729684	8.957936747	599.0647017	405.1238589	38.50534747	0.949525136	-17.1905041
070720HW-02 299	272.489923	1403.925089	4.7991066	10.67514021	12.44515727	0.178632547	13.22489118	0.015440515	1.793910595	0.13564653	98.77532976	1.758434917	166.8831887	20.3545895	1291.22345	256.0120074	98.77532976	1.758434917	-17.4153912
070720HW-02 300	147.841287	11884.85926	1.590950513	9.064011869	1.041428815	4.717660592	1.382671935	0.313379442	0.642428389	0.464628212	1757.315338	9.881515539	1770.381007	11.58447142	1786.602698	22.31313357	1786.602698	22.31313357	-17.6402783
070720HW-02 301	1100.18186	3492.601394	3.322639903	18.02616732	2.311094572	0.106050346	7.119235276	0.015002555	0.962131357	0.135145324	95.99439074	0.916749483	102.3459641	6.931180282	253.9051094	162.3728711	95.99439074	0.916749483	-17.8651653
070720HW-02 302	890.181729	5722.434806	2.588548606	16.33235984	3.495089357	0.116497086	4.613855234	0.014426855	1.181646443	0.256108262	92.33700842	1.083319847	111.8913364	4.888264523	551.9113251	97.39492452	92.33700842	1.083319847	-18.0900524
070720HW-02 303	347.596158	2009.428742	5.577586344	11.80826073	13.77636983	0.130426277	15.27013174	0.012196883	2.739134472	0.179378575	78.15052663	2.127724724	124.4806806	17.89124205	1136.405484	300.5539956	78.15052663	2.127724724	-18.3149395
070720HW-02 304	1095.87836	1623.88546	3.674251953	13.39277663	4.506208326	0.053135225	12.04691112	0.005863151	2.296630316	0.190640596	37.68593071	0.862981549	52.56804992	6.171764588	798.616429	248.6564754	37.68593071	0.862981549	-18.5398266
070720HW-02 305	742.227539	1057.764724	2.94291181	11.38839307	10.27272729	0.061077849	11.98638236	0.005965403	2.376773755	0.198289499	38.34121275	0.90857924	60.19721782	7.00585553	1049.382014	237.5785553	38.34121275	0.90857924	-18.7647137
070720HW-02 306	327.701384	1028.195522	2.029286898	9.821944404	15.3889646	0.111608149	16.74185063	0.009186081	2.593583711	0.15491619	58.94695213	1.521869872	107.4353961	17.06940827	1385.875077	319.7714516	58.94695213	1.521869872	-18.9896007
070720HW-02 307	1220.12807	2736.545273	4.990057652	15.23079898	5.115897348	0.053514648	10.10949376	0.006418878	1.809552456	0.178995358	41.24651102	0.743994544	52.93380511	5.214290571	621.2153035	215.0644912	41.24651102	0.743994544	-19.2144878
070720HW-02 308	835.521241	36359.42874	2.304956313	9.261030893	0.782702022	4.448576838	1.208530521	0.298255788	0.856474585	0.708690902	1682.653744	12.68416431	1721.434172	10.01935225	1769.702218	15.5703839	1769.702218	15.5703839	-19.4393749
070720HW-02 309	561.666834	1674.823973	4.167215232	15.76624858	6.323693744	0.115513557	15.04878449	0.015236856	1.504243849	0.09995783	97.48229335	1.455339912	110.9964852	15.82430327	412.5241784	336.4354288	97.48229335	1.455339912	-19.664262
070720HW-02 310	241.855778	30068.70893	1.457421592	6.073387801	0.826721076	10.70553557	1.223913821	0.470255606	0.886721271	0.724496493	2484.68182	18.28300736	2497.905118	11.36621846	2509.388761	14.18661355	2509.388761	14.18661355	-19.889149
070720HW-02 311	179.394682	2845.540126	1.232849284	17.96365776	4.261958151	0.412225125	6.780011369	0.058873942	1.138904455	0.167979726	368.7737274	4.082107233	350.4762789	20.09775591	231.9314903	154.4605552	368.7737274	4.082107233	-20.1140361
070720HW-02 312	717.035228	2223.469039	2.6635467	16.62307962	6.742120089	0.113889947	12.81341994	0.015388717	1.262123773	0.098500149	98.44648916	1.233077118	109.5175365	13.30340849	358.4499514	288.8470763	98.44648916	1.233077118	-20.3389232
070720HW-02 313	1067.42146	4699.397502	2.609510051	17.73750208	2.843176006	0.110269333	3.899615836	0.014936634	0.927609929	0.237872131	95.57570023	0.88002983	106.2117363	3.932604865	352.8727859	85.60153291	95.57570023	0.88002983	-20.5638103
070720HW-02 314	166.745551	17534.61884	0.587945405	9.035352111	1.440577068	4.415978173	2.734482854	0.289879231	2.305148776	0.842992587	1640.92567	33.39558852	1715.34092	22.64264237	1808.201056	26.73670595	1808.201056	26.73670595	-20.7886973
070720HW-02 315	323.610159	393.9177105	2.960106484	7.202303479	16.22206651	0.083849527	29.98704918	0.0058149	3.191291209	0.106422316	37.37668953	1.189347735	81.75771024	23.55988667	1707.760069	561.8795918	37.37668953	1.189347735	-21.0135844
070720HW-02 317	1158.80392	18813.9635	0.608046324	18.86726179	1.547069089	0.335451407	1.868391551	0.046340388	0.858497263	0.459484663	292.0143865	2.451002873	293.7192135	4.765434691	308.267364	37.81459786	292.0143865	2.451002873	-21.2384715

070720HW-02 318	435.354028	1850.31755	5.946692352	16.90668173	7.056658009	0.107141128	10.27664154	0.015110623	1.570719819	0.152843691	96.68070701	1.507252223	103.3468367	10.09830923	260.922933	233.7725311	96.68070701	1.507252223	-21.4633586
070720HW-02 319	310.490766	19796.54587	1.98279098	8.811099392	0.711483292	4.80402955	1.06706529	0.307360514	0.782332523	0.73316275	1727.704945	11.85667155	1785.604332	8.968261275	1854.718577	13.11396873	1854.718577	13.11396873	-21.6882456
070720HW-02 320	479.907592	4300.955888	4.634543618	19.11009391	2.474351269	0.220738247	4.226242439	0.03257612	1.062955511	0.251513141	206.6512007	2.161775519	202.5240357	7.759751444	155.7449676	95.81912086	206.6512007	2.161775519	-21.9131327
070720HW-02 321	217.031722	1017.442606	5.073048486	10.57681783	17.82233676	0.172070388	19.42247947	0.015399814	3.432319466	0.176718913	98.51694055	3.355709408	161.2141419	28.96041416	1223.206963	378.9846979	98.51694055	3.355709408	-22.1380198
070720HW-02 322	32.013477	2107.70441	2.320262393	12.0820201	9.991598904	2.004333317	12.88086282	0.190245842	1.396772784	0.108437828	1122.706691	14.39206763	1116.977901	87.47202498	1106.737073	256.922913	1106.737073	256.922913	-22.3629069
070720HW-02 323	185.556965	22898.1768	2.253861211	8.757625374	0.786811126	5.258404239	1.082976506	0.333354351	0.65425402	0.604125774	1854.619408	10.544489	1862.136608	9.239560012	1871.308333	15.56731689	1871.308333	15.56731689	-22.5877939
070720HW-02 324	20.9536258	2354.235798	0.580022163	5.424334259	2.700815502	12.75452427	3.178276734	0.511483708	1.026247007	0.322894164	2662.960559	22.38722117	2661.692448	29.93409278	2661.436802	49.85917515	2661.436802	49.85917515	-22.812681
070720HW-02 325	325.284342	4133.286143	3.024593634	16.86786369	4.206920359	0.243892069	6.017601125	0.031437666	1.395550978	0.231911512	199.5398607	2.74202393	221.6025074	11.98087236	463.8667846	129.8022952	199.5398607	2.74202393	-23.0375681
070720HW-02 326	5038.20443	7769.361868	4.10926415	19.57509222	1.693360831	0.040266949	2.593779309	0.005883288	0.836793307	0.322615461	37.81498303	0.315506953	40.08464448	1.019452521	179.1394216	57.25051425	37.81498303	0.315506953	-23.2624552
070720HW-02 327	372.86004	1320.336495	5.925997371	15.83979346	5.214371511	0.107671699	13.79158071	0.014876127	2.018426854	0.146352104	95.19137687	1.907251936	103.8333183	13.61320803	307.9624891	311.9740649	95.19137687	1.907251936	-23.4873422
070720HW-02 328	559.110092	1920.985919	1.919918502	14.83002747	6.989164955	0.133660131	8.750221932	0.01607801	1.296348853	0.148150397	102.8211303	1.322346729	127.381279	10.47570832	615.0334087	187.2051747	102.8211303	1.322346729	-23.7122293
070720HW-02 329	134.7972	22767.04885	1.663641983	5.411116585	0.763825035	13.36087821	1.098718664	0.521191425	0.765387273	0.696618068	2704.231167	16.90494766	2705.495982	10.3797178	2707.145622	13.00851715	2707.145622	13.00851715	-23.9371164
070720HW-02 330	348.71239	1735.071109	5.818175343	12.6374762	12.33242028	0.146386079	14.88188724	0.014847373	1.385333324	0.093088551	95.00873618	1.306536037	138.7160013	19.29785682	972.851564	303.7326392	95.00873618	1.306536037	-24.1620035
070720HW-02 331	55.7806831	3903.187885	0.630195462	7.981119193	1.974073454	6.288538066	2.349105431	0.370860926	0.817910405	0.348179521	2033.450155	14.26403276	2016.858391	20.58264419	2000.671066	39.11830327	2000.671066	39.11830327	-24.3868905
070720HW-02 332	1170.12362	1374.934671	3.968553981	16.05176046	6.202344468	0.042567107	13.92792737	0.005928784	1.52693785	0.109631377	38.10654763	0.580146906	42.3273025	5.774191756	289.5827773	NA	38.10654763	0.580146906	-24.6117776
070720HW-02 333	439.787381	1494.038848	10.93113815	13.88978538	9.599975464	0.130142339	12.24932054	0.014999198	1.435582979	0.117196948	95.97306991	1.367567764	124.2256067	14.32373179	706.7704196	259.6439019	95.97306991	1.367567764	-24.8366647
070720HW-02 334	807.935504	935.6643297	3.330583229	11.29460197	8.749188428	0.059534422	10.00710326	0.005838344	2.717619228	0.27156902	37.52694406	1.016876778	58.71918318	5.709471944	1041.144097	194.8102745	37.52694406	1.016876778	-25.0615518
070720HW-02 335	1043.18815	1340.733358	4.192698755	14.23803408	8.603374417	0.048660071	16.64130248	0.005887551	1.915314021	0.115093997	37.84230313	0.722675709	48.24412481	7.84086296	602.4312113	360.0147145	37.84230313	0.722675709	-25.2864388
070720HW-02 336	1776.66837	2169.672086	2.778913181	17.79171684	5.97253935	0.040191684	7.053480473	0.005843942	1.438543478	0.203948034	37.56281999	0.538786238	40.01117706	2.76730661	190.4536489	160.7855656	37.56281999	0.538786238	-25.5113259
070720HW-02 337	4926.43374	11373.86904	5.130659245	19.63013367	2.944553282	0.040723017	3.371856965	0.005893445	1.10487493	0.327675504	37.88007489	0.417300192	40.52970507	1.339689303	201.3455208	73.95562635	37.88007489	0.417300192	-25.736213
070720HW-02 338	610.985768	2552.969426	4.818047864	15.58556873	6.240084123	0.120939565	8.582909231	0.014890864	1.730820232	0.201658923	95.28498393	1.637083079	115.9234714	9.402926644	564.4895997	183.3920004	95.28498393	1.637083079	-25.9611001
070720HW-02 339	278.142244	1522.960516	1.477928307	13.72046131	10.01686128	0.249155611	12.70748084	0.028348561	1.592621982	0.125329481	180.204201	2.830229236	225.8900461	25.74165887	734.0853397	267.966154	180.204201	2.830229236	-26.1859872
070720HW-02 340	1002.1235	3495.815092	3.309829222	16.71234201	5.941939229	0.116411272	6.700073017	0.015086408	0.968797168	0.144595016	96.52692981	0.928183636	111.8132905	7.093937099	451.8812501	147.3394283	96.52692981	0.928183636	-26.4108742
070720HW-02 341	295.998913	1952.353187	3.740387269	14.94706619	5.705494381	0.264895904	7.400639354	0.032131165	1.153986075	0.155930592	203.8727302	2.315849747	238.6046902	15.73817552	597.0412611	158.5409951	203.8727302	2.315849747	-26.6357613
070720HW-02 342	17.2723044	2486.301616	0.894021464	5.389579833	3.526667659	12.81519032	4.775764553	0.511594061	2.366184564	0.495456704	2663.431193	51.62575598	2666.161075	45.01169399	2668.940911	68.72666917	2668.940911	68.72666917	-26.8606484
070720HW-02 343	1818.90761	5754.852721	2.462513518	18.5990716	2.980390785	0.107507975	3.503415314	0.015141541	0.873168803	0.249233598	96.87704467	0.839575742	103.6832246	3.453162598	264.0932244	77.92182669	96.87704467	0.839575742	-27.0855355
070720HW-02 344	347.131071	1446.193001	4.797050959	14.90913359	12.5719241	0.121982837	14.32167977	0.015403858	2.206707915	0.154081641	98.54261663	2.158011639	116.8680617	15.81144232	509.1679272	312.5462481	98.54261663	2.158011639	-27.3104225
070720HW-02 345	908.284865	2605.983608	6.297366155	17.34365116	5.832788722	0.111896214	7.429026822	0.015389939	0.93539686	0.125911089	98.45424983	0.913941022	107.6984908	7.591385907	318.2650125	167.7446215	98.45424983	0.913941022	-27.5353096
070720HW-02 346	545.622032	2002.49611	3.513281472	16.94466121	6.40343686	0.10751777	9.830321656	0.014885858	1.048060486	0.106615076	95.25319059	0.990971656	103.6922049	9.690370212	303.2259647	223.2514011	95.25319059	0.990971656	-27.7601967
070720HW-02 347	3665.29253	4148.481021	3.914416282	18.22269074	3.59306688	0.042080611	4.766640477	0.005865846	0.771515929	0.161857378	37.70319702	0.290037173	41.853381	1.954445509	287.7106802	107.5651612	37.70319702	0.290037173	-27.9850838
070720HW-02 348	88.371838	8576.642321	1.51187375	9.274344152	1.520695294	4.760224644	2.078957645	0.320621646	0.697067147	0.335296464	1792.764348	10.90957073	1777.911839	17.44641966	1761.297429	35.80768986	1761.297429	35.80768986	-28.2099708
070720HW-02 349	382.575335	1627.078796	4.939513535	12.72790836	9.320420404	0.1453922	14.39806557	0.015000923	1.856290253	0.128926365	95.9840274	1.768543136	137.8353162	18.55962972	937.8439606	294.1588835	95.9840274	1.768543136	-28.4348579
070720HW-02 350	266.956532	1009.207294	4.61177326	12.10279104	10.94115428	0.143384469	16.42691665	0.015096778	2.511867661	0.152911695	96.59278285	2.408195782	136.0539136	20.91978572	896.1492274	337.1094942	96.59278285	2.408195782	-28.659745
070720HW-02 351	1283.48652	5682.838198	4.370951736	17.64079382	4.096101617	0.111707792	4.863720026	0.014864257	0.977819521	0.201043546	95.11598093	0.923234783	107.5264091	4.962434103	392.9427065	106.933144	95.11598093	0.923234783	-28.8846321
070720HW-02 352	1179.04264	3277.591023	2.597352787	19.4920107	2.797933388	0.098323674	5.414568123	0.015089626	0.86526885	0.159803853	96.54736354	0.829169569	95.22778588	4.921810502	63.31403802	NA	96.54736354	0.829169569	-29.1095191
070720HW-02 353	764.708863	2497.525009	5.59909135	16.75210078	5.173664086	0.115993489	6.927175468	0.015514683	1.126569072	0.162630365	99.24615931	1.109513838	111.4332432	7.310810962	381.3108842	153.8205471	99.24615931	1.109513838	-29.3344062
070720HW-02 354	619.26176	2481.278348	4.587883673	15.02678972	7.407428281	0.127380384	8.415698588	0.015110275	1.457217026	0.173154612	96.67849573	1.398303956	121.7410742	9.655288426	645.1362455	178.3821863	96.67849573	1.398303956	-29.5592933
070720HW-02 355	4584.54001	8266.714298	1.408975035	19.08155298	2.729937143	0.041567171	3.191171149	0.005911747	0.886340151	0.277747607	37.99736199	0.335795258	41.35297202	1.293133705	241.6588926	70.68109842	37.99736199	0.335795258	-29.7841804
070720HW-02 356	9492.97392	4245.194719	5.270355688	20.1280318	2.215532681	0.041508667	5.705936223	0.006469535	2.637036853	0.462156735	41.57097691	1.092714911	41.29593635	2.309050688	26.39339619	NA	41.57097691	1.092714911	-30.0090674
070720HW-02 357	141.93766	2384.369371	1.794403725	15.60433455	7.773257911	0.473986064	8.400716342	0.059032135	1.090107849	0.129763678	369.7367345	3.917121825	393.9385075	27.43620903	539.5042635	182.4799583	369.7367345	3.917121825	-30.2339545
070720HW-02 358	147.542913	2968.682836	1.505557731	16.39965879	5.221449493	0.52487057	7.08743342	0.067733331	1.106450225	0.156114373	422.4852177	4.524700035	428.3997909	24.7756079	461.2850567	155.3498239	422.4852177	4.524700035	-30.4588416
070720HW-02 359	854.295009	1075.748983	2.575021332	12.09351351	9.173517004	0.058089949	19.93361886	0.00606224	1.554338448	0.077975728	38.96173211	0.603770769	57.33395757	11.11250088	914.4449411	412.794244	38.96173211	0.603770769	-30.6837287
070720HW-02 360	351.64339	1450.942849	4.353859468	14.85524248	7.06664507	0.118740601	8.92033285	0.01500305	1.524666635	0.170920375	95.99753662	1.45279833	113.9296229	9.613771386	507.9458606	193.6005757	95.99753662	1.45279833	-30.9086157
070720HW-02 361	953.622333	2233.074923	5.098694716	16.44641143	7.156201569	0.074401526	8.481202147	0.009924358	1.637906122	0.193121929	63.66114166	1.037578046	72.8677331	5.963586843	387.4598369	187.1480633	63.66114166	1.037578046	-31.1335028
070720HW-02 362	680.671037	2482.145794	6.346900518	17.30753754	4.403804985	0.109922245	11.49263483	0.015334688	0.919151611	0.079977449	98.10346653	0.894892953	105.8942614	11.55743095	285.9012642	262.6721058	98.10346653	0.894892953	-31.3583899
070720HW-02 363	1791.08975	2444.050603	3.855201471	17.80259552	4.723940857	0.040881512	6.842088166	0.005907405	1.142324724	0.166955569	37.96953865	0.432460576	40.68432915	2.728633926	204.8972675	156.6564281	37.96953865	0.432460576	-31.583277
070720HW-02 364	725.589169	2618.409305	4.415084849	16.80259647	7.112820023	0.111546852	8.229140196	0.014990097	1.08084204	0.131343253	95.91526776	1.029018254	107.3794039	8.385400142	370.7518673	183.9946533	95.91526776	1.029018254	-31.808164
070720HW-02 365	771.944335	2775.719643	6.50635474	15.76021923	6.473181315	0.122057413	7.075118514	0.01519587	0.912345702	0.128951296	97.2220409	0.880345931	116.9355499	7.814861536	540.3585504	153.6195733	97.2220409	0.880345931	-32.0330511
070720HW-02 366	536.550652	2197.392524	2.924790964	14.40492483	10.88183217	0.130789023	11.42516579	0.015083528	1.308902681	0.114563124	96.50863827	1.253795527	124.8064571	13.41860639	705.3848541	242.1973842	96.50863827	1.253795527	-32.2579382
070720HW-02 367	738.700356	2707.194289	3.747892207	16.7145108	4.918747512	0.110917664	8.390550844	0.014768505	0.950811547	0.113319324	94.50773518	0.892035638	106.8044862	8.506470241	391.5154138	187.3465375	94.50773518	0.892035638	-32.4828253
070720HW-02 368	34.886393	3403.597933	0.686589919	7.926527929	3.198942507	6.307534518	3.936510355	0.373197529	1.014123177	0.257619842	2044.42858	17.76706782	2019.501388	34.51415828	1994.874165	67.63478998	1994.874165	67.63478998	-32.7077123
070720HW-02 369	161.579176	2192.786428	2.08839764	15.79014012	5.700283027	0.458369996	9.677818193	0.05858746	1.097184226	0.113371031	367.0293917	3.914494956	383.1236966	30.8951157	482.5307952	212.8384194	367.0293917	3.914494956	-32.9325994
070720HW-02 370	1167.81847	1736.768555	4.672304896	13.81229946	5.427118183	0.050649777	7.565277327	0.005728354	1.1976694	0.158311368	36.82197763	0.43974844	50.16886667	3.703192235	746.7495458	158.066204	36.82197763	0.43974844	-33.1574865
070720HW-02 371	608.67541	2121.837229	3.622804111	19.02564669	2.799908786	0.095134729	6.684628593	0.015122182	1.158056962	0.173241781	96.75411028	1.112101092	92.27536745	5.896354787	NA	NA	96.75411028	1.112101092	-33.3823736
070720HW-02 372	611.242374	1171.051605	3.33104684	11.61191464	12.72193058	0.061134444	15.88822581	0.005992502	1.808222915	0.113808989	38.51486434	0.694358277	60.25137443	9.29464913	1042.070071	320.4441198	38.51486434	0.694358277	-33.6072607
070720HW-02 373	194.887471	13832.37057	1.717932253	10.6872186	1.358693267	3.286677105	1.79146276	0.256836428	0.652248181	0.364086933	1473.636053	8.592295439	1477.902082	13.94765761	1484.84007	31.61378192	1484.84007	31.61378192	-33.8321477
070720HW-02 374	251.438287	12213.7381	2.123364164	15.64883528	1.935664723	0.945663073	2.600547149	0.109192863	0.786660597	0.30249811	668.0586639	4.992210342	675.8418343	12.83472496	702.8094553	52.74638357	668.0586639	4.992210342	-34.0570348
070720HW-02 375	485.963419	1535.131705	3.407223722	15.37029858	7.919786649	0.114191873	12.68370919	0.01488943	1.025936564	0.080886163	95.27587718	0.97028218	109.7927243	13.20005866	438.3059919	282.3965833	95.27587718	0.97028218	-34.2819219
070720HW-02 376	365.641086	152.7555076	5.325031403	9.571335646	20.18696974	0.004760418	4052.041447	0.014533479	3.812550785	0.000940896	93.01453726	3.52076539	4.822178781	197.3826776	NA	NA	93.01453726	3.52076539	-34.506809
070720HW-02 377	1799.38508	2845.721534	5.250565824	15.06701926	6.197530819	0.050007926	7.836922597	0.005911066	1.129810021	0.14416501	37.99300076	0.427986288	49.5483707	3.789865106	652.7375462	166.6631607	37.99300076	0.427986288	-34.731696
070720HW-02 378	266.73547	4946.534822	4.758201021	16.63461495	4.756899902	0.458800168	5.594250064	0.057990394	0.975383915	0.174354722	363.3924494	3.44641974	383.4231562	17.86670098	507.1338684	121.2592765	363.3924494	3.44641974	-34.9565831
070720HW-02 379	442.950034	1381.157739	3.552943612	14.13388773	9.704493296	0.120660743	10.54944973	0.014451565	1.296532787	0.122900513	92.49403105	1.190653199	115.6708742	11.533742	624.3810795	226.3139102	92.49403105	1.190653199	-35.1814702
070720HW-02 380	515.052053	2106.693417	3.385791225	13.95794277	8.330929163	0.133513435	9.709514798	0.014867021	1.096156568	0.112895092	95.13353947	1.035155563	127.2498795	11.6130066	779.5230775	203.2238897	95.13353947	1.035155563	-35.4063573
070720HW-02 383	172.991165	23161.09653	2.095944307	7.680787381	0.799677641	6.935651823	1.12120172	0.385610999	0.765279402	0.682552825	2102.441237	13.72925519	2103.229422	9.950209979	2104.750829	14.38266737	2104.750829	14.38266737	-35.6312443
070720HW-02 384	506.510516	8210.751583	1.521353974	18.15434846	2.147711927	0.438040354	2.966397366	0.059058673	0.727692936	0.245312022	369.8982725	2.615953704	368.8696972	9.1751697	363.3718604	64.8624167	369.8982725	2.615953704	-35.8561314
070720HW-02 385	794.348943	2302.486286	3.220591929	15.88295511	3.256709735	0.117864908	4.238622449	0.014959208	1.161609613	0.27405357	95.71908186	1.103667926	113.1345222	4.537877167	498.0526802	89.84901716	95.71908186	1.103667926	-36.0810185
070720HW-02 386	732.759856	3025.780096	4.696089739	18.00388095	3.614586167	0.104602256	4.629114312	0.01483149	0.827856619	0.178836936	94.90783934	0.779945343	101.0157092	4.45108333	248.6255382	104.903601	94.90783934	0.779945343	-36.3059056
070720HW-02 387	162.226133	9454.514377	0.652704414	8.067163305	0.869014156	5.412361453	1.445272592	0.317400023	0.82726363	0.572392803	1777.019275	12.84848729	1886.812819	12.38711071	2010.651055	21.02701421	2010.651055	21.02701421	-36.5307926
070720HW-02 388	383.258835	1044.717083	6.610529425	11.82167041	8.60334819	0.148973483	16.074077	0.015082302	1.075109235	0.066884664	96.50085117	1.029762725	141.005148	21.16497754	976.5555718	328.8713326	96.50085117	1.029762725	-36.7556797
070720HW-02 389	391.614886	857.3961478	5.088729979	11.55519374	14.60137898	0.056297253	20.51068714	0.005782615	7.120310836	0.347151258	37.16976521	2.638987508	55.61215981	11.10014054	947.0143835	397.3258677	37.16976521	2.638987508	-36.9805668
070720HW-02 390	3895.04916	4207.221211	4.662943012	19.06922729	2.633866392	0.040536478	3.080672698	0.005938886	0.830900093	0.26971385	38.17128019	0.316228035	40.34769194	1.218609002	172.760756	69.23617251	38.17128019	0.316228035	-37.2054539
070720HW-02 391	238.923282	1457.531117	2.944418959	8.003694028	22.55583172	0.225510568	24.790893	0.013975709	7.211508651	0.29089346	89.46945609	6.407531931	206.4858077	46.35253135	1912.095674	432.1610107	89.46945609	6.407531931	-37.4303409
070720HW-02 392	551.108124	7041.114095	5.035434995	6.794216536	0.734077181	6.912409898	1.112044431	0.340978274	0.827145173	0.743805868	1891.374072	13.55830978	2100.251206	9.86475764	2312.381169	12.7541865	2312.381169	12.7541865	-37.655228
070720HW-02 393	1542.84184	3659.233921	3.483479013	17.73635786	5.127830722	0.080499777	6.289763348	0.011020177	2.261075626	0.359485008	70.6520377	1.588773734	78.61470315	4.758141902	328.8838997	133.2638638	70.6520377	1.588773734	-37.8801151
070720HW-02 394	380.453878	1132.898616	5.027543687	13.8156318	8.970450879	0.121944989	17.06653803	0.014665636	1.998989405	0.117129168	93.85421759	1.8625445	116.8338091	18.83725256	615.4976496	368.4182374	93.85421759	1.8625445	-38.1050022
070720HW-02 395	708.1769	1647.753517	2.637162435	16.51181639	5.072779086	0.078977992	12.62049007	0.010963032	1.296166665	0.102703354	70.28765957	0.906096488	77.18362089	9.380197524	297.2997824	287.4168298	70.28765957	0.906096488	-38.3298892
070720HW-02 396	337.715948	1311.127333	4.211073156	13.12099642	17.46370323	0.133701578	19.58535131	0.014700312	1.514101027	0.077307831	94.07451824	1.41404041	127.4184004	23.45720742	806.1326553	412.4261774	94.07451824	1.41404041	-38.5547763
070720HW-02 397	826.81397	1473.061885	3.945506739	15.93339726	5.573955941	0.045113433	11.59221202	0.006125627	1.323708728	0.114189486	39.36787529	0.519528024	44.80421178	5.080919328	347.394798	261.2008526	39.36787529	0.519528024	-38.7796634
070720HW-02 398	912.034048	5035.329493	2.999604996	17.24358991	3.920388848	0.118593759	5.138978691	0.015434062	1.373358879	0.267243544	98.73436247	1.345645779	113.7963384	5.532233052	442.5290989	110.2058177	98.73436247	1.345645779	-39.0045505
070720HW-02 399	617.644004	1365.047411	4.076634695	13.77977765	8.446384286	0.047059672	18.68421529	0.005456314	5.43146285	0.290697938	35.07804716	1.900076849	46.69332736	8.526925026	694.0171289	383.9113891	35.07804716	1.900076849	-39.2294375
070720HW-02 400	3183.99163	4341.792383	3.333011726	18.4166075	4.419402762	0.041153563	5.250082071	0.005795352	0.877560597	0.167151786	37.25140023	0.325960901	40.9496816	2.10712006	264.3543389	118.8786646	37.25140023	0.325960901	-39.4543246
070720HW-02 401	1045.33248	3928.887427	5.254220944	16.52916111	3.056751719	0.119379302	3.697080147	0.015072028	0.896312926	0.242438057	96.43560401	0.857931644	114.5091503	4.003527247	509.619353	78.87810169	96.43560401	0.857931644	-39.6792117
070720HW-02 402	321.22501	1571.383945	4.774927482	15.44359275	7.751035543	0.115441558	11.40217014	0.014914353	1.418857972	0.124437537	95.43418618	1.344101835	110.9309469	11.98265203	458.8119737	251.6062462	95.43418618	1.344101835	-39.9040988
070720HW-02 403	467.685486	1428.15862	4.396277431	15.00491965	6.38187114	0.117449962	8.989387109	0.014961644	2.151956573	0.239388575	95.73455417	2.044943966	112.7575464	9.593955775	489.9332932	192.8542262	95.73455417	2.044943966	-40.1289858
070720HW-02 404	754.233751	2417.504613	5.724499428	17.30918583	3.98273307	0.107074931	7.120731538	0.014887008	0.924464393	0.129827166	95.26049339	0.874174477	103.2861245	6.993139253	293.6327355	161.3748716	95.26049339	0.874174477	-40.3538729
070720HW-02 405	101.818965	14563.61096	0.694680415	5.546505503	0.722412271	12.30795844	1.03004891	0.49298081	0.715404596	0.694534589	2583.559486	15.22812833	2628.179149	9.673318364	2663.434557	12.28003226	2663.434557	12.28003226	-40.57876
070720HW-02 406	40.3218085	3590.679401	1.664203497	7.373593686	2.013159992	7.755089132	2.831745614	0.422333585	1.155313439	0.407986308	2271.064577	22.11433522	2203.010759	25.47425397	2141.024838	45.20279697	2141.024838	45.20279697	-40.8036471
070720HW-02 407	930.964858	18113.65066	41.38980557	18.64433888	1.865989966	0.439802196	2.033990585	0.059854582	0.744198698	0.365881093	374.7410943	2.709307252	370.1129516	6.308687269	342.2293869	42.8510981	374.7410943	2.709307252	-41.0285342
070720HW-02 408	253.367637	15328.10634	2.420314714	8.933866978	0.771007778	5.018101097	1.297696892	0.326131851	0.711135777	0.547998366	1819.60562	11.27399104	1822.380847	10.98752949	1826.326473	19.68587208	1826.326473	19.68587208	-41.2534212
070720HW-02 411	1661.86049	1686.902963	3.943787057	18.34177781	4.272498362	0.036952539	19.02714416	0.00583024	1.551101708	0.081520469	37.47500608	0.579589163	36.84435225	6.884867337	NA	NA	37.47500608	0.579589163	-41.4783083
070720HW-02 412	2460.66534	3004.146427	4.601078613	16.90581611	9.732517347	0.043679905	11.05276958	0.005837947	1.068533414	0.096675626	37.52439703	0.399795992	43.41050696	4.696977562	383.0217658	247.89224	37.52439703	0.399795992	-41.7031954
070720HW-02 413	162.019158	10306.83832	1.199472587	8.944201363	0.975846516	4.830469898	1.255045952	0.317479882	0.708475975	0.56450202	1777.410032	11.00565698	1790.219421	10.55822743	1805.9547	18.83413415	1805.9547	18.83413415	-41.9280825
070720HW-02 415	1588.97156	4417.108155	4.631327234	18.64026014	3.99915117	0.041326838	6.541870841	0.005964667	1.03713573	0.158538093	38.33649785	0.3964216	41.11865292	2.636197619	207.6217106	149.9009653	38.33649785	0.3964216	-42.1529695
070720HW-02 416	152.63701	10694.8083	2.820552861	8.878277969	1.008751558	5.191370806	1.359026186	0.338499208	0.752988485	0.554064736	1879.44556	12.27570953	1851.202231	11.57102335	1820.386723	20.53250707	1820.386723	20.53250707	-42.3778566
070720HW-02 417	178.745949	18310.54556	1.468454932	7.971100376	0.797664339	6.17644709	1.169604181	0.359603978	0.684822236	0.585516234	1980.296306	11.67639005	2001.121416	10.22145523	2023.447881	16.79748152	2023.447881	16.79748152	-42.6027437
070720HW-02 418	396.44273	1259.785593	3.484483114	14.99618091	8.035615843	0.110702499	20.64314235	0.014586054	1.674917053	0.081136729	93.34859169	1.552245585	106.6078053	20.89424519	415.0043432	NA	93.34859169	1.552245585	-42.8276308
070720HW-02 419	637.067425	2329.040301	3.614179656	16.1100428	5.977673044	0.114274274	8.015360498	0.014876332	1.102337642	0.137528143	95.19268409	1.04163508	109.867815	8.346782935	441.8684932	176.8390508	95.19268409	1.04163508	-43.0525178
070720HW-02 420	1624.23613	1878.665854	4.056136498	16.17217294	7.004005918	0.041495715	14.83712714	0.005578426	1.072510846	0.072285614	35.86091341	0.383544383	41.28330954	6.002477654	369.9165717	334.9374269	35.86091341	0.383544383	-43.2774049
070720HW-02 421	382.757012	8020.571429	1.333717474	16.0770094	2.857564469	0.779337586	3.089336701	0.093737239	0.754952906	0.244373786	577.6018805	4.17097212	585.1055005	13.74006954	615.2513281	64.69060838	577.6018805	4.17097212	-43.502292
070720HW-02 422	500.710067	1487.231317	5.055098788	16.09465091	6.448658455	0.106272277	8.061221597	0.014770168	1.197307682	0.148526829	94.51830126	1.123418898	102.5496825	7.863165376	294.4505393	182.2345009	94.51830126	1.123418898	-43.7271791
070720HW-02 423	1546.53963	1669.725072	3.212349568	13.92514484	6.901512738	0.050941703	12.94187184	0.005849661	1.249489808	0.096546297	37.59947106	0.468434133	50.45095414	6.369825512	714.558207	274.7070121	37.59947106	0.468434133	-43.9520661
070720HW-02 424	320.698109	2615.446891	1.889110166	17.12544935	5.782901194	0.212214609	8.24014794	0.029201152	1.026546333	0.124578629	185.5466296	1.877551557	195.4093943	14.64842093	317.20199	186.1738578	185.5466296	1.877551557	-44.1769532
070720HW-02 425	473.390281	1706.831568	4.815469495	18.51334042	5.249247372	0.095483271	8.511756397	0.015296853	1.614837517	0.189718484	97.86324715	1.568397391	92.5984766	7.533184513	NA	NA	97.86324715	1.568397391	-44.4018403
070720HW-02 426	342.715201	1518.249071	4.552355837	12.20120683	7.254834547	0.151641744	11.31726173	0.015184887	1.746821876	0.154350223	97.15230077	1.684353565	143.3604384	15.13229479	998.8545047	227.8146582	97.15230077	1.684353565	-44.6267274
070720HW-02 427	893.829458	1796.442743	3.343083728	14.73958575	9.543383744	0.045290584	14.8381619	0.005506475	2.268922549	0.152911295	35.39964138	0.800989173	44.97630828	6.528101207	591.9644628	319.4597537	35.39964138	0.800989173	-44.8516144
070720HW-02 428	1009.32697	3129.085726	3.727964809	17.87427742	2.801402813	0.104710044	5.312235665	0.014813243	0.710464147	0.133741082	94.79193236	0.668535378	101.1147859	5.112707576	253.8322852	121.1375123	94.79193236	0.668535378	-45.0765015
070720HW-02 429	421.784072	1197.107524	4.268573663	14.21972196	11.26427079	0.119430751	21.81515022	0.014873345	1.872199596	0.085821073	95.17370746	1.768752907	114.5558183	23.63662604	539.657091	480.5745584	95.17370746	1.768752907	-45.3013886
070720HW-02 430	1001.32496	3587.424696	2.777024404	18.52319607	3.883855702	0.102371047	5.326580335	0.014864016	0.719817741	0.135136935	95.11444926	0.679624549	98.96264109	5.022631083	193.7246505	122.7559019	95.11444926	0.679624549	-45.5262757
070720HW-02 431	332.161098	3344.981853	2.142688047	17.4620685	5.4719028	0.245399048	8.873543061	0.033606449	1.435754099	0.161802671	213.0803739	3.009301572	222.8319021	17.75560925	328.0987042	199.0422794	213.0803739	3.009301572	-45.7511627
070720HW-02 432	641.807651	3793.430175	5.101409135	17.90586461	2.952622637	0.109537054	5.077525027	0.015263649	2.089412789	0.411502214	97.65241927	2.024985902	105.5418188	5.089848648	288.5197197	105.8083962	97.65241927	2.024985902	-45.9760498
070720HW-02 434	367.649754	1792.49185	3.191700969	13.31636193	17.25249604	0.143463045	18.07276887	0.01543083	2.233534416	0.123585624	98.71384662	2.188012565	136.1236906	23.02750915	851.9699853	375.5302324	98.71384662	2.188012565	-46.2009369
070720HW-02 435	606.596658	847.7053752	2.952210041	10.37571733	21.65078158	0.068469404	23.90494519	0.006199829	2.574922866	0.107715071	39.84328133	1.022769804	67.24593684	15.55557592	1200.214466	475.120297	39.84328133	1.022769804	-46.425824
070720HW-02 436	377.799645	1999.965378	3.41646499	16.15497061	8.841672691	0.111070355	11.90921384	0.014677723	1.915476918	0.160839913	93.93100902	1.786181969	106.9440363	12.08899289	408.4134844	263.7830273	93.93100902	1.786181969	-46.650711
070720HW-02 437	154.744878	1837.955063	2.220126935	15.01371542	6.054926091	0.433516	8.028428095	0.053268128	1.48741274	0.18526824	334.5549289	4.849291347	365.6700696	24.65746223	568.9892829	171.9481611	334.5549289	4.849291347	-46.8755981
070720HW-02 438	504.372667	1684.88966	4.470470543	14.57497374	3.752626178	0.117589101	6.373159443	0.014171995	2.008803233	0.315197392	90.71723677	1.809568384	112.8839692	6.808886856	610.8857291	130.7986287	90.71723677	1.809568384	-47.1004852
070720HW-02 439	2056.01192	3612.369035	2.872647831	16.66304119	6.543482394	0.045529551	7.739804323	0.005868109	1.059854833	0.136935611	37.71770424	0.39858572	45.20841173	3.422304041	464.081393	170.1119265	37.71770424	0.39858572	-47.3253723
070720HW-02 440	907.557429	1112.989136	3.429877382	11.72734203	17.39048559	0.059572846	19.79598366	0.005933991	1.127420117	0.056951962	38.13991142	0.428727511	58.75600501	11.30166579	1009.575556	404.5610072	38.13991142	0.428727511	-47.5502593
070720HW-02 441	109.794065	8804.746181	3.480772262	7.683224821	1.354797314	6.708962208	1.896178936	0.376153211	0.962800765	0.507758391	2058.288984	16.96499048	2073.80167	16.75745586	2089.995751	28.72205459	2089.995751	28.72205459	-47.7751464
070720HW-02 442	91.5816299	11899.03719	2.469635246	6.370074586	1.031135682	9.948879725	1.391373091	0.460256123	0.869155202	0.624674437	2440.688778	17.65598625	2430.052437	12.83811163	2421.88509	18.43398946	2421.88509	18.43398946	-48.0000335
070720HW-02 443	582.993404	1754.395702	3.495842871	15.57396713	7.364898129	0.11567791	15.79195446	0.014931173	1.353512178	0.085708972	95.5410178	1.283623666	111.1460742	16.62708851	460.8089087	350.7536223	95.5410178	1.283623666	-48.2249206
070720HW-02 444	199.94426	624.244803	4.671587552	11.2712583	12.59015954	0.139856907	15.19493073	0.015343329	3.882199043	0.25549304	98.15832861	3.781836408	132.9164184	18.9326997	810.7305297	308.8367295	98.15832861	3.781836408	-48.4498077
070720HW-02 446	1573.48353	7932.558783	1.886336398	19.95529808	1.946527255	0.103687631	3.808657419	0.015526325	0.865474739	0.227238799	99.32006314	0.853002077	100.1746107	3.633159406	121.5946645	87.41526178	99.32006314	0.853002077	-48.6746947
070720HW-02 447	164.170662	8247.282816	2.837057489	11.43511697	1.182188945	2.814967832	1.650054936	0.237188614	0.799654165	0.484622753	1372.064842	9.882769626	1359.529099	12.36324089	1340.695488	27.89156139	1340.695488	27.89156139	-48.8995818
070720HW-02 448	4600.3928	5467.389751	3.0230584	20.18164648	2.453296244	0.039038468	5.974696754	0.006021264	0.795567473	0.133156126	38.69917021	0.306955729	38.88484042	2.279332289	51.42117856	NA	38.69917021	0.306955729	-49.1244689
070720HW-02 449	364.371575	1257.82953	4.949078872	15.438744	7.698529942	0.116063684	12.2732233	0.015804799	1.702279096	0.138698617	101.0875318	1.707370166	111.497108	12.96043284	340.9216405	276.0847328	101.0875318	1.707370166	-49.349356
070720HW-02 450	311.909394	832.1602536	7.249579195	12.79122048	8.53016403	0.111573023	11.19877252	0.013301332	2.528691405	0.225800765	85.18063668	2.139787188	107.4033105	11.41405155	634.4096336	235.4868147	85.18063668	2.139787188	-49.574243
070720HW-02 451	282.39779	922.2743916	3.449474997	12.08886493	14.54444782	0.137052533	19.38413638	0.014786433	1.799704388	0.092844187	94.62162624	1.690472717	130.415207	23.72804447	845.5983039	405.004655	94.62162624	1.690472717	-49.7991301
070720HW-02 452	312.386356	4375.802683	1.452564739	17.62442445	4.630646129	0.4166975	5.956234631	0.056705355	0.761159539	0.12778871	355.5578528	2.633011019	353.6868193	17.79057206	342.4013565	133.7943279	355.5578528	2.633011019	-50.0240172
070720HW-02 453	478.601903	2287.668183	4.267890134	13.07241705	7.149461358	0.147369477	10.54541728	0.01523979	1.165820138	0.1105523	97.50092483	1.128132515	139.5866483	13.75385651	933.1682385	215.603193	97.50092483	1.128132515	-50.2489043
070720HW-02 454	375.348393	479.9741718	3.410383091	8.461863377	20.2868402	0.071543158	35.57778779	0.005836837	2.778397998	0.078093613	37.51728406	1.039352098	70.16277924	24.12398188	1402.766606	702.3689277	37.51728406	1.039352098	-50.4737913
070720HW-02 455	396.948983	1367.85378	3.18457574	13.73262608	8.328363924	0.124913164	15.3673489	0.014578437	1.896654206	0.123421042	93.30019524	1.756837927	119.5165202	17.32847049	679.9624321	327.5648993	93.30019524	1.756837927	-50.6986784
070720HW-02 456	482.378575	1703.137177	4.261244506	13.20872566	9.589703665	0.138675257	10.26348938	0.014974596	2.127493757	0.207287568	95.81681359	2.023421893	131.8632601	12.69248515	843.8167947	209.4084743	95.81681359	2.023421893	-50.9235655
070720HW-02 457	2023.93653	726.4929706	2.673263085	17.48719984	4.760052683	0.031647269	36.60057684	0.006288291	1.423771087	0.038900236	40.4100056	0.573546432	31.63610209	11.40095151	NA	NA	40.4100056	0.573546432	-51.1484526
070720HW-02 458	28.2970578	3742.669369	0.737175747	5.33615589	2.399819025	13.43109697	2.916615175	0.529562676	0.860942892	0.295185631	2739.609102	19.21515654	2710.448687	27.5694363	2689.485878	46.06532618	2689.485878	46.06532618	-51.3733396
070720HW-02 459	364.28275	1483.984976	5.40048964	16.57849592	7.249568897	0.106597739	17.69673269	0.015357743	1.697390358	0.095915466	98.24984372	1.655039142	102.8483612	17.31104525	211.7409517	NA	98.24984372	1.655039142	-51.5982267
070720HW-02 460	327.47259	1273.631865	3.447021143	14.95893203	5.702304461	0.115522121	11.66829698	0.015150845	1.420552147	0.1217446	96.93613035	1.366726665	111.0042799	12.27002621	425.3321127	259.1401047	96.93613035	1.366726665	-51.8231138
070720HW-02 461	531.190731	728.3411579	3.767249914	11.03192089	15.11552579	0.057272999	21.06019052	0.005861165	3.468209412	0.164680818	37.67319976	1.302775025	56.54967817	11.58440763	954.5476865	429.2119282	37.67319976	1.302775025	-52.0480009
070720HW-02 462	444.48231	1812.005953	2.774466942	14.34098417	10.09194032	0.131137273	16.3110749	0.015410885	1.302817457	0.079873182	98.58722641	1.274640016	125.1191172	19.20326615	665.2323933	350.325221	98.58722641	1.274640016	-52.2728879
070720HW-02 463	65.2640252	9209.177591	1.795732209	6.73746033	0.905474813	8.748461946	1.257736435	0.431713752	0.811957747	0.645570665	2313.438548	15.7830957	2312.138421	11.46129269	2311.721388	16.4839881	2311.721388	16.4839881	-52.497775
070720HW-02 464	556.540999	2538.281869	4.037706993	15.30026834	7.955425402	0.126075634	9.567469644	0.015340228	1.457955125	0.1523867	98.13863804	1.419981178	120.565262	10.87695209	590.2881904	205.4743513	98.13863804	1.419981178	-52.7226621
070720HW-02 465	560.636259	1867.189698	4.304857098	16.16334533	6.249676325	0.11105095	10.19625816	0.014913614	1.154082486	0.113186864	95.42948997	1.093223311	106.9263023	10.34842059	372.2371119	228.6159041	95.42948997	1.093223311	-52.9475492
070720HW-02 466	838.292489	2801.290333	3.424650884	16.02276662	6.515087346	0.13510455	6.91631527	0.017135642	1.282589566	0.185444057	109.5276895	1.392924006	128.6741746	8.358890046	499.585061	149.8115239	109.5276895	1.392924006	-53.1724362
070720HW-02 467	335.41872	1472.706244	4.460115214	13.34182892	10.58341958	0.134736868	11.66837093	0.015004989	1.848978009	0.158460681	96.00984989	1.762046936	128.3452202	14.06886984	779.2798691	242.9414847	96.00984989	1.762046936	-53.3973233
070720HW-02 468	512.202566	1997.68228	2.804739631	14.19436207	7.937707728	0.126336087	10.81826792	0.014490507	1.33532916	0.123432805	92.7414852	1.229538512	120.8000853	12.32163624	716.9740091	228.5939577	92.7414852	1.229538512	-53.6222104
070720HW-02 469	567.609042	2384.691518	6.575928869	15.30700304	7.13084673	0.132366995	8.588588739	0.016194929	1.499489854	0.174590948	103.5628684	1.540507329	126.2223975	10.19433306	578.2856169	184.0610674	103.5628684	1.540507329	-53.8470975
070720HW-02 470	831.937677	3068.524966	5.484856263	16.19192641	5.661375639	0.124964056	6.394975665	0.015885975	1.037993545	0.162313916	101.6026661	1.046361553	119.5624557	7.213110366	494.5012256	139.2317877	101.6026661	1.046361553	-54.0719845
070720HW-02 471	124.370832	12489.66765	3.445071778	8.905541469	1.066498818	5.152662959	1.483808897	0.335777569	0.75919695	0.51165413	1866.324391	12.30242488	1844.834228	12.61824186	1821.455102	23.13466177	1821.455102	23.13466177	-54.2968716
070720HW-02 472	650.82089	860.1468968	2.925900409	9.39165966	9.539990761	0.075252009	13.72775426	0.006043767	2.409166885	0.175496067	38.84336128	0.932987686	73.67117992	9.755524153	1432.788425	259.0130136	38.84336128	0.932987686	-54.5217587
070720HW-02 473	792.154545	2655.280503	3.37279919	15.14888732	7.681359383	0.122942657	10.17496328	0.014716466	1.022803889	0.100521629	94.17714735	0.95624552	117.7363173	11.31164435	625.6130234	218.755011	94.17714735	0.95624552	-54.7466458
070720HW-02 474	61.8670814	5648.347467	1.352259983	9.155234356	1.836302785	4.843665322	2.541256324	0.328501989	0.858244256	0.337724396	1831.116732	13.68061298	1792.514823	21.39101626	1748.664956	43.80165422	1748.664956	43.80165422	-54.9715328
070720HW-02 475	217.522112	9445.467815	19.89348797	13.52443153	1.931836524	1.734018815	2.550732303	0.173439374	0.850233183	0.333329053	1031.033503	8.101091261	1021.244474	16.42801125	1001.186114	48.84553344	1001.186114	48.84553344	-55.1964199
070720HW-02 476	252.034953	684.0874438	4.737453897	12.10426274	9.067349451	0.120603742	15.93973861	0.014226493	3.380531354	0.212081982	91.06363028	3.056793464	115.619227	17.42057277	657.1400332	335.9311962	91.06363028	3.056793464	-55.421307
070720HW-02 477	217.138453	13976.88116	2.141158853	8.742359777	0.820195641	5.302672008	1.247777386	0.338706471	0.815449185	0.653521368	1880.443693	13.30006784	1869.293468	10.65989764	1857.688184	17.06252555	1857.688184	17.06252555	-55.6461941
070720HW-02 478	869.347752	1411.387031	3.261618366	11.88309734	15.33200692	0.064295835	16.09460825	0.006294362	2.91931975	0.181384952	40.44889607	1.177135714	63.27196259	9.872894204	1044.639876	321.1964265	40.44889607	1.177135714	-55.8710812
070720HW-02 479	465.027799	2129.570744	3.396318902	14.57730427	7.918519257	0.126175987	9.71876084	0.01479586	2.008059602	0.206616835	94.68150744	1.887366906	120.6557461	11.05677366	669.8335743	203.9103957	94.68150744	1.887366906	-56.0959682
070720HW-02 480	230.013931	12170.7078	2.335637948	12.43083968	1.3575913	2.314075311	1.655275514	0.211491256	0.794465814	0.479959866	1236.757736	8.940582824	1216.61029	11.73639336	1181.924637	28.72086828	1181.924637	28.72086828	-56.3208553

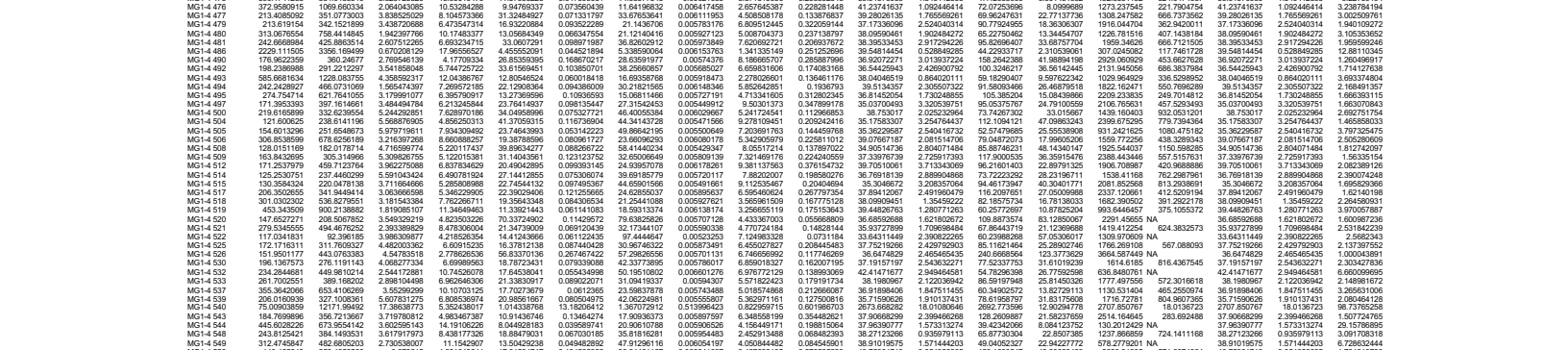
Sample MG1-04

Analysis	U	206Pb	U/Th	206Pb*	±	207Pb*	±	206Pb*	±	error	206Pb*	±	207Pb*	±	206Pb*	±	Best age	±	Conc
	(ppm)	204Pb		207Pb*	(%)	235U	(%)	238U	(%)	corr.	238U	(Ma)	235U	(%)	207Pb*	(Ma)	(Ma)	(Ma)	(%)
MG1-4 1	180.0282027	222.396664	4.355627766	8.323422216	24.33291356	0.0407789	33.94969852	0.005382453	6.437899613	0.189630538	34.60447368	2.22183261	40.58422599	13.50729782	41.0771001	NA	34.60447368	2.22183261	8.418123696
MG1-4 2	170.8337979	244.4689621	3.645004879	6.317376865	30.75863601	0.081963266	56.63416188	0.005756098	7.263153006	0.128246853	36.99980856	2.679655437	79.98906412	43.5894914	1684.55962	1139.881438	36.99980856	2.679655437	2.196408374
MG1-4 3	178.954846	463.1370269	5.496927198	9.081171847	41.34043548	0.065743071	42.45999773	0.005905663	6.802057535	0.160199197	37.95837801	2.574364105	64.66174958	26.60153484	1215.957882	863.5335833	37.95837801	2.574364105	3.121685264
MG1-4 4	186.0594838	301.559644	5.039835348	6.514042393	10.63194285	0.080483997	20.36968115	0.00590182	4.367726702	0.214422926	37.93374881	1.651977238	87.02257887	16.98944508	1799.614812	365.7673631	37.93374881	1.651977238	2.108815062
MG1-4 5	152.0428852	342.0730937	4.388616765	6.52229962	34.1081398	0.089739489	43.62730786	0.005650536	9.330515369	0.213868694	36.32316757	3.379608677	87.26066614	36.49523701	1883.535745	808.1492217	36.32316757	3.379608677	1.928456504
MG1-4 6	151.0894817	319.5203442	4.597181899	6.015642425	28.04645929	0.095871653	33.80450124	0.005525275	8.504505862	0.251579096	35.52016977	3.012507958	92.95839625	30.03735065	2041.465694	595.8323508	35.52016977	3.012507958	1.739934688
MG1-4 7	253.4524131	323.6087743	3.958517931	10.01152408	24.70911606	0.042866425	53.32138813	0.005628328	6.478366363	0.121496581	36.18080778	2.337359977	42.61877407	22.25871191	422.811403	NA	36.18080778	2.337359977	8.55719773
MG1-4 8	119.5996867	248.6464971	4.865911314	3.079057334	37.02064967	0.23159254	38.76646792	0.005876905	9.1759532	0.236698201	37.77407792	3.455996597	211.5124946	74.15061021	3395.622434	612.9985761	37.77407792	3.455996597	1.112434573
MG1-4 9	228.3218374	430.5338755	5.468173845	7.747489217	24.74923294	0.077718196	33.59740458	0.005760887	5.43160822	0.161667494	37.03048869	2.005585761	75.99738521	24.80583669	1584.220544	638.3139584	37.03048869	2.005585761	2.337458558
MG1-4 10	169.8526985	313.5911817	5.13927626	6.591585867	24.2951257	0.086529424	35.03182391	0.00574343	7.246313699	0.206849455	36.91981083	2.667552565	84.26521972	29.33552614	1788.013775	644.7536948	36.91981083	2.667552565	2.064735356
MG1-4 11	154.682793	402.4746966	3.01255569	4.850443381	40.76001214	0.139564928	42.54715675	0.005784199	8.442764325	0.198433103	37.17991506	3.129978047	132.6562904	52.95795631	2606.7323	731.829512	37.17991506	3.129978047	1.42630354
MG1-4 12	202.2285905	366.1674092	4.749390583	6.621163227	24.6717481	0.09431024	31.96653052	0.005999893	5.945077174	0.189975699	38.56094478	2.285608227	91.51503488	28.95139405	1865.00097	582.2171134	38.56094478	2.285608227	2.067609904
MG1-4 13	189.7154283	380.5094223	4.68248009	7.115131056	26.26135627	0.081318691	29.1487533	0.005990303	6.192480481	0.212445046	36.61653634	2.261044355	81.59397336	22.26145044	1689.450676	536.8287853	36.61653634	2.261044355	2.167607784
MG1-4 14	475.8360171	1966.804722	5.528904648	14.09191677	7.059969455	0.128724494	11.99848492	0.014711221	1.18618317	0.099861079	94.14382232	1.108603428	122.9509357	13.89493992	724.6597774	254.0687432	94.14382232	1.108603428	12.99180999
MG1-4 15	170.4826009	279.2895208	4.155942219	6.639306747	26.37151176	0.07743344	41.1699219	0.005372229	8.589384326	0.208307313	34.53897194	2.962861241	75.24206339	29.16325441	1623.896302	606.1496693	34.53897194	2.962861241	2.092143137
MG1-4 16	133.5218831	267.0535566	3.526866448	4.862989458	31.41432846	0.117926212	43.36789199	0.005473976	8.805300188	0.203037311	35.19128741	3.090256121	113.1902457	46.48344222	2416.141442	760.4855814	35.19128741	3.090256121	1.456501905
MG1-4 17	176.7554459	336.1635789	5.38670251	8.709226758	24.12378448	0.058993404	49.91897587	0.005936734	9.014142463	0.180575469	38.15749256	3.429411398	58.2005766	28.24345108	988.7991425	1065.316016	38.15749256	3.429411398	3.858973064
MG1-4 18	241.4735458	447.7880938	4.735852589	8.771926586	21.3899083	0.086362843	26.79365227	0.005851126	5.847746527	0.219537452	37.60885846	2.012867902	85.24206339	19.93252553	1852.52962	520.4561083	37.60885846	2.012867902	3.002639352
MG1-4 19	198.1973372	227.6291588	4.608491368	6.910250861	23.72745537	0.061664379	42.81878684	0.005421171	6.590815029	0.153923441	34.85272739	2.290880455	80.75833404	25.25811576	1258.218378	867.4606129	34.85272739	2.290880455	2.770006224
MG1-4 20	218.363354	302.2380853	2.692215597	7.6280092	20.54997224	0.076057425	31.54322873	0.006539244	4.152457848	0.131643399	42.01744025	1.739082748	74.43146612	22.64196949	1301.589549	622.9635351	42.01744025	1.739082748	3.228163617
MG1-4 21	311.5164834	530.1578966	3.147437678	8.508029226	20.39909885	0.073377611	27.3597884	0.005845409	5.136347065	0.229713581	37.57222317	1.924228819	72.42268819	19.3239926	1237.922357	453.9007664	37.57222317	1.924228819	3.294203333
MG1-4 22	238.4505512	331.1314582	3.600347268	7.212599123	15.60543167	0.07716494	19.64981319	0.005791439	4.39551274	0.223692342	37.22632431	1.63157238	75.47599496	14.2940348	1560.938657	362.5790956	37.22632431	1.63157238	2.384867857
MG1-4 23	96.12157503	215.1544488	7.220823497	5.811074081	27.56398808	0.096327427	38.89643381	0.006423457	8.684755771	0.223278972	41.2758353	3.573254072	93.38060693	34.71510989	1779.574056	719.480689	41.2758353	3.573254072	2.319422204
MG1-4 24	194.8948957	307.8723751	4.000599318	6.375541595	21.01414046	0.086362843	43.60722516	0.005771452	8.261129376	0.212376903	37.13667173	3.229224481	85.53519986	35.94720448	1846.498222	811.4335099	37.13667173	3.229224481	2.011193903
MG1-4 25	274.2577799	438.3259666	3.598236179	9.49428607	12.27794326	0.060748508	16.82004379	0.006059848	4.126279222	0.245319172	38.94640479	1.602192696	59.8820112	9.781234111	1006.644461	332.9300991	38.94640479	1.602192696	3.868933501
MG1-4 26	199.4378353	446.4773237	4.110170334	5.415730843	17.05136929	0.128830181	22.62298433	0.005981832	6.548473512	0.289461082	38.44648927	2.510165525	123.0460058	26.22197156	2415.666297	372.4452978	38.44648927	2.510165525	1.591548026
MG1-4 27	122.2396393	273.3646482	4.152618228	3.537038363	33.3989454	0.206863742	34.9872606	0.005845498	7.533183498	0.209542701	37.36770513	2.731644141	190.9435728	63.97408992	2735.903747	568.907664	37.36770513	2.731644141	1.154784198
MG1-4 60	106.1645309	238.5358647	5.039559943	6.06408726	32.68505809	0.088986329	57.48851194	0.005944961	8.542505564	0.148595002	38.21021601	3.254455414	87.40679345	48.18296852	1794.726116	1142.317582	38.21021601	3.254455414	2.129027692
MG1-4 61	317.4510396	388.7965265	3.409987274	7.484023957	24.07565223	0.082290103	40.9914459	0.005977108	5.262991251	0.07960176	38.41621708	1.249790172	80.29574198	31.65685359	1622.112542	795.9574023	38.41621708	1.249790172	2.368283094
MG1-4 62	210.3949433	267.5570507	4.317366302	8.742619453	16.02317976	0.049011996	57.42981887	0.005761466	5.999908937	0.104473757	37.03420989	2.215648488	48.5848252	27.25169708	664.5864092	NA	37.03420989	2.215648488	5.57243605
MG1-4 67	119.4197068	216.582473	4.608110162	6.370053606	25.20768069	0.078405247	43.07404273	0.005927365	7.466962498	0.173351792	38.09744958	2.836333026	76.64449065	31.80905141	1547.322468	837.4082628	38.09744958	2.836333026	2.462153195
MG1-4 69	103.9820035	156.2177874	5.670159748	5.773818515	35.50086962	0.066756126	64.44755808	0.005681829	8.710500525	0.135156409	36.52376302	3.172407309	65.6164755	40.97302139	1321.197404	1402.827251	36.52376302	3.172407309	2.764444049
MG1-4 72	671.7105999	1283.602988	2.034679892	11.72245347	11.12966455	0.09863493	12.46029946	0.00633569	3.974227894	0.158441563	40.71364183	0.801247195	65.50110926	7.904110304	1103.285201	246.8752402	40.71364183	0.801247195	3.690205778
MG1-4 73	238.4193463	388.2746409	5.311003415	7.988095455	25.60259573	0.074229816	34.58299942	0.005919438	3.482789384	0.100708135	38.04665141	1.32118212	72.77066048	24.29026208	1448.109178	675.8389606	38.04665141	1.32118212	2.627333077
MG1-4 74	103.1315393	149.1270152	5.495052165	5.436153181	23.96816524	0.079558978	61.31408668	0.006216849	9.800281109	0.15983735	39.95232124	3.903332122	77.73021692	45.9122773	1484.920888	1282.05868	39.95232124	3.903332122	2.690535701
MG1-4 75	293.2029362	477.7644894	2.051025084	10.07285344	18.00262291	0.058274987	27.93829142	0.005939425	4.141447248	0.148235523	38.17473647	1.576314644	57.5115109	15.62239971	962.9232512	574.9329026	38.17473647	1.576314644	3.964463048

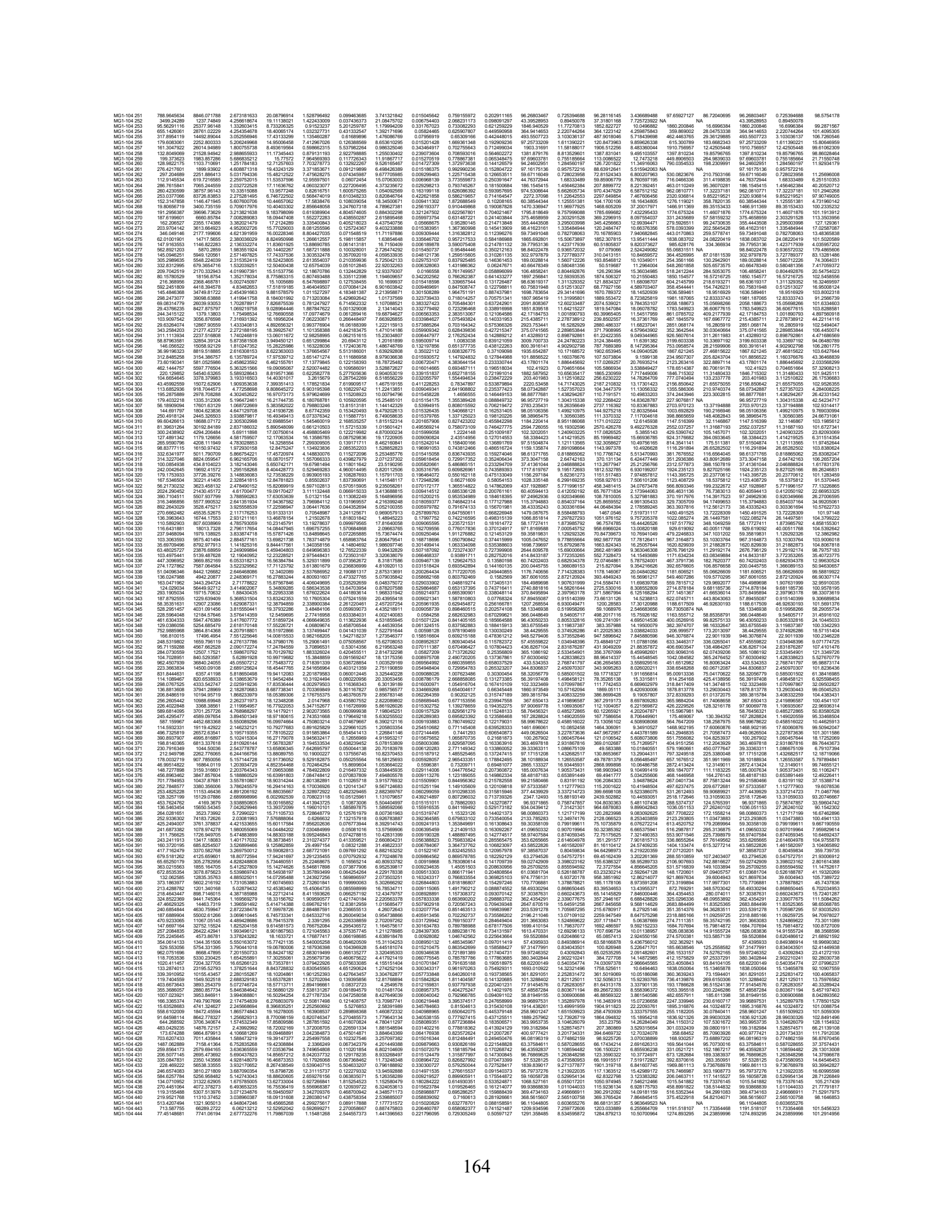
MG1-4 76	445.7471369	636.0271799	2.744689799	8.856223387	22.93570813	0.076832295	27.26805667	0.005957673	3.223398557	0.118211525	38.29167363	1.230634669	75.16238156	19.7576206	1499.513116	521.7836789	38.29167363	1.230634669	2.553607115
MG1-4 78	145.9317214	220.12613	3.845326817	6.299662419	36.95639086	0.075384404	52.38686312	0.005585694	9.214068522	0.175885097	35.90750553	3.299344996	73.79619517	37.30486044	1584.956688	1041.238667	35.90750553	3.299344996	2.26551967
MG1-4 79	260.1965798	441.8876933	2.981576933	7.936847397	23.91586436	0.075868335	31.09285497	0.005742407	6.371390923	0.204914953	36.9120535	2.345090948	74.25302272	22.26699199	1545.085764	586.0376482	36.9120535	2.345090948	2.388997061
MG1-4 80	230.3627227	471.1378249	2.699270957	7.242678309	23.75449301	0.091504746	31.70752388	0.005999137	4.796691916	0.151279297	38.55737943	1.8439587	88.90414256	26.99681608	1810.481929	584.8090018	38.55737943	1.8439587	2.129674912
MG1-4 81	156.6194374	352.8509146	4.323865393	5.94820161	13.06533179	0.112446634	21.54034661	0.006159219	8.619246849	0.400144297	39.58310224	3.401312335	108.2010096	22.11151568	2130.912958	349.1483917	39.58310224	3.401312335	1.85756542
MG1-4 82	267.2564246	407.069249	4.996263879	8.152118881	23.18126787	0.071729256	27.40076429	0.005817026	3.959104326	0.144488828	37.39031617	1.476036878	70.33910885	18.62312349	1414.247481	528.4865714	37.39031617	1.476036878	2.643831203
MG1-4 83	255.4176304	389.167089	3.545370665	6.84582396	26.2818514	0.088398302	31.38928636	0.005712699	3.10479957	0.098912716	36.72163163	1.136891879	86.01022277	25.8917578	1836.578297	580.8831146	36.72163163	1.136891879	1.999459086
MG1-4 84	157.9156998	246.1154449	5.83361234	10.05108813	20.73168495	0.030782972	98.86042154	0.005719924	7.158263342	0.072407777	36.76794319	2.624454774	30.78507459	29.98623311	NA	NA	36.76794319	2.624454774	
MG1-4 86	146.3537833	304.8720566	3.139460211	5.489584323	28.68198995	0.104678978	33.08880581	0.005418004	8.882747865	0.268451751	34.83241993	3.085732076	101.0862314	31.84760447	2229.50372	567.8036577	34.83241993	3.085732076	1.56233962
MG1-4 87	220.404801	406.8192702	4.874834726	7.615883397	14.65461257	0.080519371	29.78419889	0.005969404	7.239469846	0.243064112	38.36685043	2.769307579	78.63311659	22.54005547	1583.945047	552.1754957	38.36685043	2.769307579	2.422233682
MG1-4 88	155.9116804	248.3524471	4.856295093	3.880397782	60.96873086	0.152497708	62.77834279	0.005237261	8.592958817	0.136877758	33.67345071	2.886001733	144.1148471	84.54052104	2915.33532	NA	33.67345071	2.886001733	1.155045544
MG1-4 89	164.6273248	255.2881498	5.340323331	6.084060346	23.82911736	0.088955589	36.26457082	0.005804281	8.908748959	0.245659848	37.30862592	3.314132594	86.52999108	30.08864407	1819.13477	660.017565	37.30862592	3.314132594	2.050899501
MG1-4 90	568.8518214	2023.84202	6.569076223	15.02353136	10.25428476	0.082467069	13.97570759	0.010074386	1.729321756	0.123737689	64.6187106	1.111883375	80.46175446	10.81150101	581.5841534	302.4931197	64.6187106	1.111883375	11.11081006
MG1-4 95	177.6228835	282.3978485	4.264537982	6.864853061	30.46233521	0.071484671	42.32029949	0.005366882	7.098532977	0.167733524	34.50463697	2.442779791	70.10735637	28.67616345	1560.322623	820.7536876	34.50463697	2.442779791	2.211378369
MG1-4 96	109.8355853	170.5464217	3.570355306	5.9247676	30.26514916	0.066904948	55.76080063	0.005614138	9.862060544	0.176863683	36.08984753	3.549258552	65.7581205	35.51963703	1348.681559	1155.399591	36.08984753	3.549258552	2.67593542
MG1-4 98	168.8312169	308.330997	4.450757432	7.690669041	35.85978381	0.067948705	46.84982644	0.005842707	9.575627647	0.204389821	37.5549025	3.58566335	66.75098819	30.27592141	1301.379377	943.5628026	37.5549025	3.58566335	2.885776674
MG1-4 100	136.9643724	218.5820391	3.272043221	6.603002191	25.17647446	0.061568614	60.33796247	0.005087271	7.957970756	0.131889948	32.71151832	2.596579623	60.66673957	35.54751395	1378.394483	1279.780218	32.71151832	2.596579623	2.373160857
MG1-4 102	179.0521927	268.3326588	5.813715486	6.094759949	18.27532498	0.09009085	27.10673712	0.005716248	6.456813873	0.238199598	36.74438094	2.365767583	87.58799965	22.7508598	1869.737337	483.8186992	36.74438094	2.365767583	1.965216195
MG1-4 104	1284.950458	2385.124373	2.021668358	16.19102548	6.926958323	0.047907197	9.139199396	0.00617709	1.156315524	0.126522628	39.69759956	0.457619031	47.51487945	4.242467508	463.1996161	201.2815742	39.69759956	0.457619031	8.570300617
MG1-4 105	224.4259748	416.2682654	3.846145998	6.992544289	30.73163303	0.092014137	34.12495284	0.005981501	6.932490545	0.203150187	38.44437042	2.657221207	89.37789868	29.20438076	1825.901245	624.6857582	38.44437042	2.657221207	2.10550108
MG1-4 106	161.6896022	264.0581382	5.87102073	4.85216579	39.51495573	0.120399068	41.60887412	0.005466999	4.673908761	0.112329614	35.14655336	1.638247861	115.433754	45.43138091	2453.474659	735.5222297	35.14655336	1.638247861	1.432521556
MG1-4 108	177.9669775	339.3157808	4.56496879	6.341376719	31.27979295	0.098864347	40.46288077	0.005953846	5.444796116	0.13456274	38.26715441	2.077396596	95.72750605	36.98062875	1963.389765	748.5629236	38.26715441	2.077396596	1.949035036
MG1-4 109	186.5635764	488.1814743	4.645151228	5.72345044	26.18238541	0.119591127	27.24972998	0.005732074	5.573618531	0.204538487	36.84581954	2.047787642	114.7012777	29.56339588	2361.58411	464.5206563	36.84581954	2.047787642	1.560216271
MG1-4 112	1177.290284	1573.67226	2.272579332	16.04296846	5.064328577	0.045618429	14.14635114	0.006099314	1.268488745	0.089668971	39.19928352	0.495729759	45.29472307	6.266816102	382.1827898	318.082384	39.19928352	0.495729759	10.25668465
MG1-4 113	252.5240437	417.0409936	3.021897585	9.98417285	8.094012357	0.054781589	24.95770505	0.005941474	4.562145478	0.182795071	38.18786605	1.737035959	54.15415678	13.16227534	834.6814699	518.6952017	38.18786605	1.737035959	4.575142426
MG1-4 114	137.1952608	256.9037049	5.454848668	5.472436532	26.98764819	0.096786769	33.82316788	0.005239026	9.419901528	0.278504413	33.68476985	3.164796619	93.80594624	30.31565803	2151.619007	584.2077339	33.68476985	3.164796619	1.565554578
MG1-4 115	166.6935941	353.3771502	5.101621047	5.804540902	13.92432999	0.113113262	20.73643794	0.005951608	9.085068129	0.438120962	38.25281085	3.465003486	108.8092908	21.39944599	2200.99411	326.7863183	38.25281085	3.465003486	1.737978792
MG1-4 116	96.7949975	175.8379937	3.512203795	5.973531927	45.76101389	0.065796392	61.15857774	0.005335459	9.215098927	0.150675494	34.30314738	3.152673656	64.7025494	38.35496705	1414.401663	1291.55647	34.30314738	3.152673656	2.425276234
MG1-4 118	401.8946315	602.0257447	2.999003472	9.150591251	18.77451436	0.07452231	27.42898997	0.006184128	4.336263747	0.158090537	39.74268691	1.718046373	72.98187506	19.31803688	1370.128378	531.0452257	39.74268691	1.718046373	2.900654241
MG1-4 122	124.8147055	310.733518	3.324471593	6.515935138	51.30123218	0.114749217	60.57804833	0.007480812	7.629382182	0.125943017	48.04492789	3.651905884	110.3005149	63.39888256	1820.70684	1221.310889	48.04492789	3.651905884	2.638806359
MG1-4 123	346.4513955	434.6010464	2.290018828	9.628163155	8.76531862	0.054930616	19.85033771	0.005564938	9.372570067	0.472161744	35.77444896	3.343699066	54.29760623	10.49551724	975.2060494	359.3164684	35.77444896	3.343699066	3.668398999
MG1-4 124	288.5514679	353.2969719	3.510321817	9.463117138	31.09479361	0.05427648	58.68586298	0.006024436	3.569669279	0.060826732	38.71949302	1.378015297	53.66779755	30.68688146	786.2700037	NA	38.71949302	1.378015297	4.924452521
MG1-4 127	142.0267217	341.8282459	3.253968741	6.906441018	37.67750805	0.092783995	41.62535029	0.006371182	9.971817192	0.23956116	40.9409926	4.069624767	90.09347965	35.90107676	1725.940033	776.3764644	40.9409926	4.069624767	2.372098208
MG1-4 128	209.8043807	480.522161	3.544087228	5.250557244	39.38018508	0.149925604	41.77952079	0.006581535	4.495933819	0.107610948	42.2882896	1.895031098	141.8462183	55.3642626	2510.450734	735.2568441	42.2882896	1.895031098	1.684489922
MG1-4 130	174.7767076	320.8666565	3.764797669	6.57495428	21.87413713	0.09324404	36.89667233	0.006161657	6.700064726	0.181589946	39.59872369	2.645008135	90.52085052	31.9642487	1796.112015	684.7202396	39.59872369	2.645008135	2.204691208
MG1-4 131	327.2111489	682.4350561	3.274911853	9.623887418	18.9362693	0.06854177	28.18334544	0.005967856	4.520963364	0.160412587	38.35693035	1.728953969	67.31470525	18.35834753	1277.043576	553.1104909	38.35693035	1.728953969	3.003572554
MG1-4 134	114.1666528	230.4367863	3.804500447	6.20017849	32.06058015	0.07918351	49.84615157	0.005670313	7.063809679	0.141712238	36.44994454	2.567489331	77.37700798	37.15307391	1648.507934	981.2308954	36.44994454	2.567489331	2.211086995
MG1-4 136	173.7221896	283.6557572	5.354812324	5.708432398	25.06312629	0.119584616	26.76163483	0.006771946	6.235491789	0.233001154	43.50761672	2.703779698	114.6953728	29.03215458	2072.456198	467.0246519	43.50761672	2.703779698	2.099326237
MG1-4 140	308.1685273	825.8367285	3.126336649	12.40109001	11.19583011	0.051181191	21.30267783	0.005883949	4.24130166	0.199097113	37.81921476	1.599331027	50.68231229	10.5320397	712.0717826	448.2152701	37.81921476	1.599331027	5.311152005
MG1-4 141	258.456912	380.353851	2.767429641	9.541021153	15.39016874	0.053724915	29.13667902	0.005823388	7.581294324	0.260197613	37.43108752	2.829538292	53.13644173	15.08517663	835.9146889	597.3843442	37.43108752	2.829538292	4.477859764
MG1-4 144	127.4403219	247.1486768	6.070844179	4.872356406	33.137587	0.133819747	44.40672024	0.006341689	7.201704904	0.162176014	40.75206857	2.92558689	127.5242312	53.26634911	2380.939024	790.4872083	40.75206857	2.92558689	1.711596482
MG1-4 146	224.7896252	337.1884461	4.261738185	8.683778733	18.75740625	0.052985175	23.34962006	0.005303873	7.068311492	0.302716339	34.1006066	2.403973264	52.42336872	11.93058761	999.5735849	457.4146764	34.1006066	2.403973264	3.411515382
MG1-4 147	314.5423607	383.4287955	2.954473944	10.34818319	17.4868622	0.046234004	25.94700826	0.005740117	4.303144191	0.165843559	36.89737504	1.583212041	45.8923222	11.6431075	546.3683335	567.5375706	36.89737504	1.583212041	6.753205261
MG1-4 148	115.0079483	182.2329729	4.991483142	4.481455642	40.84199293	0.119256795	50.70201441	0.00567989	9.342429471	0.184261505	36.51132955	3.401403966	114.3980194	54.90748467	2372.413141	917.0840898	36.51132955	3.401403966	1.538995419
MG1-4 149	286.7875157	471.839904	3.817503101	9.175262505	16.63829356	0.064152375	38.48116288	0.005923127	5.403456361	0.140418219	38.07029423	2.051049449	63.13508638	23.55943882	1161.727001	784.1937458	38.07029423	2.051049449	3.277043075
MG1-4 150	190.3300091	382.7294732	4.579952398	6.478478116	29.66694211	0.095474844	41.11295633	0.005834168	6.02257387	0.146488465	37.50018112	2.251919899	92.5906649	36.39830257	1937.336326	762.6274084	37.50018112	2.251919899	1.935656737
MG1-4 151	97.63355952	137.9238128	4.083512603	6.29343133	27.50369554	0.039782961	83.95694364	0.0055254	6.49684204	0.077383022	35.52097334	2.30139524	39.61212409	32.627995	296.0313427	NA	35.52097334	2.30139524	11.99905828
MG1-4 154	109.5141318	143.2439707	4.833763583	3.934161187	33.03077649	0.119561729	40.11186921	0.005210321	7.852097017	0.195754952	33.50068878	2.623683453	114.6746156	43.5223971	2522.754159	691.5097045	33.50068878	2.623683453	1.327941079
MG1-4 157	201.9174443	334.6303015	4.887242272	6.373165613	30.30109018	0.091365286	33.20774034	0.005681888	7.007087547	0.211007659	36.52413879	2.552041999	88.77440056	28.23528905	1905.87498	600.0850549	36.52413879	2.552041999	1.916397412
MG1-4 160	128.7857382	285.4596917	4.179656965	3.531616698	22.91665627	0.22106943	24.66658442	0.006567312	5.306521885	0.215129983	42.19720213	2.231891084	202.799469	45.37495612	3147.845363	389.0744661	42.19720213	2.231891084	1.340510643
MG1-4 162	220.1937501	533.5762779	3.850063378	7.806449781	12.36688819	0.135562341	23.08682896	0.009640341	4.539295152	0.196618391	61.84798665	2.794038166	129.0835994	27.9918933	1661.388241	424.6672723	61.84798665	2.794038166	3.722669097
MG1-4 164	112.41369	225.9299049	4.239692345	3.967741602	33.82066247	0.164590422	38.10303955	0.005985186	8.322337729	0.218416636	38.46798317	3.191902673	154.7133639	54.7319862	2822.369868	632.6761329	38.46798317	3.191902673	1.36296747
MG1-4 165	138.6348849	254.1739788	4.289978379	5.331476679	23.72522194	0.108305255	34.98959531	0.005770642	7.607530274	0.217422643	37.0930283	2.813760505	104.4139226	34.73188078	2179.161265	614.3971647	37.0930283	2.813760505	1.702169953
MG1-4 166	237.7584998	431.0309384	3.490987619	9.811306249	18.02998654	0.056223125	28.17656935	0.005939839	6.090053267	0.21613892	38.17739346	2.318152562	55.54090036	15.23035071	889.1226985	578.8593007	38.17739346	2.318152562	4.293827334
MG1-4 167	243.766118	398.7513694	3.680897197	5.783988279	28.86642548	0.115925878	32.65291628	0.005990042	5.529245872	0.169333907	38.49909791	2.122365983	111.3717255	34.45589875	2232.415278	573.4321011	38.49909791	2.122365983	1.724549115
MG1-4 168	145.8469986	296.8682325	5.008184885	6.765501896	17.29553902	0.082587494	24.95726568	0.005900678	8.990789175	0.360247364	37.92642897	3.399874475	80.57471023	19.3343991	1652.711301	437.6067831	37.92642897	3.399874475	2.294800606
MG1-4 172	108.8126687	185.1960279	5.111913643	4.048041854	50.34544936	0.135904814	59.28281757	0.005440449	8.172459182	0.137855445	34.97632921	2.850685933	129.3897811	72.14089613	2664.365866	1090.622185	34.97632921	2.850685933	1.312744982
MG1-4 173	188.7125774	303.2113299	4.335289444	4.547262468	22.83595055	0.149078168	26.2488674	0.006011824	9.19338764	0.350239403	38.63867767	3.541579368	141.0976576	34.5917811	2652.179786	414.8459851	38.63867767	3.541579368	1.456864948
MG1-4 174	152.0772083	294.4757232	3.571773403	3.272094996	35.69314411	0.221766111	38.49016606	0.005940073	9.30242389	0.241683132	38.17888719	3.541065948	203.3786299	71.05504278	3311.169926	611.1624945	38.17888719	3.541065948	1.153033159
MG1-4 175	85.23169	5704.163934	1.815838931	8.800072693	1.224544179	5.127826658	1.60299863	0.33274	0.860896726	0.537053937	1851.6485	13.85573314	1840.727162	13.62121904	1829.174635	24.51506893	1829.174635	24.51506893	101.2286342
MG1-4 176	366.0927704	509.8272163	2.840458753	7.570067278	38.1041228	0.081889616	41.12705168	0.005617889	4.835880205	0.117583926	36.11389472	1.741541968	79.91994355	31.61867827	1727.642013	785.2709401	36.11389472	1.741541968	2.090357519
MG1-4 178	152.3325544	300.7143008	3.708728869	6.674774707	28.03151716	0.080117443	32.74780765	0.005545126	8.549490305	0.261070616	35.64743678	3.03926336	78.25534761	24.66912138	1711.392405	597.2654181	35.64743678	3.03926336	2.082949339
MG1-4 179	90.70355561	244.4516319	5.982668547	4.496535774	29.55884257	0.130158711	37.70693356	0.005485842	6.753487034	0.179104647	35.26736069	2.375273433	124.2403161	44.12230164	2578.684732	645.2022316	35.26736069	2.375273433	1.367649183
MG1-4 180	239.7236837	336.850617	3.903829077	6.432806548	19.7353525	0.087556179	36.75041635	0.005484047	5.444822216	0.148156749	35.25585508	1.914378984	85.22428984	30.0506623	1893.030611	678.1746988	35.25585508	1.914378984	1.862402799
MG1-4 181	128.853022	193.4805433	2.949379979	6.613387065	31.8807248	0.056611257	49.85617986	0.00525883	8.800778076	0.176523314	33.81176623	2.967908501	55.91395619	27.12937575	1149.639113	1040.56249	33.81176623	2.967908501	2.941076538
MG1-4 183	163.8762768	246.1584553	3.489218698	8.044679278	27.58248896	0.053524097	50.54119121	0.005891285	8.13896283	0.161036229	37.86622903	3.072884644	52.94291276	26.07808745	803.8639702	NA	37.86622903	3.072884644	4.710526959
MG1-4 184	275.3112393	318.4543401	2.153541453	6.84368967	27.17752371	0.084495081	29.26264042	0.00592204	3.541246513	0.12101596	38.063328	1.34394468	82.36230449	23.1538133	1688.252461	548.0142189	38.063328	1.34394468	2.254599291
MG1-4 185	212.3801945	450.4157377	3.348732324	5.411122075	25.26679782	0.127831432	30.46182897	0.005894894	6.874806779	0.225685949	37.88936367	2.597180628	122.1472328	35.07131129	2427.29729	515.9235037	37.88936367	2.597180628	1.560969224
MG1-4 186	214.7262688	366.7801785	3.24043282	6.516264794	26.78986871	0.090483521	38.56888309	0.005596118	5.640069907	0.146233685	35.97432959	2.023326548	87.95369404	32.50616166	1915.771684	712.9221591	35.97432959	2.023326548	1.877798377
MG1-4 189	195.7827364	348.9004438	3.613518997	7.233783524	23.05904076	0.078659573	31.29573759	0.005756446	8.945894553	0.285850254	37.00203726	3.300681604	76.88392538	23.17702556	1608.138552	572.4046652	37.00203726	3.300681604	2.300923463
MG1-4 191	199.0748493	419.028177	3.755197404	6.980140232	26.6667946	0.093047744	39.00967344	0.006060216	6.975718411	0.178820221	38.94876217	2.708764814	90.3381845	33.73095657	1822.448257	725.3707804	38.94876217	2.708764814	2.137166969
MG1-4 192	251.1150691	364.7867474	4.212121954	6.977808661	24.35431472	0.082668108	28.15508513	0.005640262	6.033545831	0.214296842	36.25731234	2.181461168	80.65031726	21.83214107	1737.709598	514.4344162	36.25731234	2.181461168	2.086500091
MG1-4 193	193.8151538	442.7968498	2.561423365	8.657136154	24.51015723	0.0706675	33.59761738	0.006096328	6.783608639	0.201907432	39.18014659	2.649767397	69.33267572	22.52032749	1295.041716	658.0370313	39.18014659	2.649767397	3.025396489
MG1-4 194	95.72566569	218.3168862	4.259288995	4.072278301	39.32043412	0.158882205	44.64830905	0.006024549	9.975480854	0.223423486	38.72021977	3.850951671	149.7242469	62.23206415	2753.824183	757.5411498	38.72021977	3.850951671	1.406052718
MG1-4 195	132.3800205	255.8928094	4.539584864	4.647814821	33.53278192	0.158441698	37.98952742	0.006875371	6.550563852	0.17243078	44.16982277	2.883482769	149.3382118	52.80564961	2529.89005	654.3392626	44.16982277	2.883482769	1.745918672
MG1-4 196	131.7818119	258.715764	4.586436519	5.701682928	29.80659057	0.096779884	37.32007732	0.005634146	8.738758276	0.234157025	36.21810576	3.156138546	93.79957153	33.44992365	2023.622295	666.9083746	36.21810576	3.156138546	1.789766096
MG1-4 199	331.6503453	707.6693926	2.284044289	7.917855094	19.24854187	0.094943419	24.99865295	0.006388946	3.248626234	0.129952051	41.05478193	1.329478468	92.09797433	22.01343134	1762.985532	460.4296894	41.05478193	1.329478468	2.328707819
MG1-4 200	192.1377967	254.3487622	2.655323139	8.402971776	25.83167539	0.048917413	37.08834468	0.005691355	7.464332465	0.201258172	36.58482427	2.723078733	48.49327014	17.56438155	686.6418412	NA	36.58482427	2.723078733	5.328079659
MG1-4 203	260.0651102	411.0229679	2.639982012	7.81860371	17.81217067	0.085134684	33.03806336	0.006526993	5.575942539	0.168773287	41.93898035	2.33090315	82.96097092	26.32477489	1520.927935	631.3800582	41.93898035	2.33090315	2.75746006
MG1-4 204	289.555237	416.1209077	4.064406941	8.966812691	19.10655173	0.061790912	24.25093472	0.005760874	4.287906416	0.176814068	37.03041809	1.583277905	60.87934418	14.33087904	1142.432127	481.2164475	37.03041809	1.583277905	3.241367011
MG1-4 205	2308.613537	5536.648462	1.227014642	18.8629948	3.215413966	0.043095802	5.572173031	0.006173099	0.924568251	0.165925976	39.67202793	0.365668636	42.842082	2.337577642	225.1440293	127.0987499	39.67202793	0.365668636	17.62073285
MG1-4 206	515.3155605	1205.560539	3.380865172	8.313235242	20.91342244	0.092779971	22.83856473	0.006140146	3.28221006	0.143713499	39.46090233	1.29123363	90.08974079	19.69131241	1793.395308	417.1098488	39.46090233	1.29123363	2.200346023
MG1-4 208	157.4409677	293.0284929	4.524886679	6.041084267	10.46509367	0.094606189	24.73207164	0.005682647	9.963090756	0.402840931	36.52900048	3.629125812	91.78520006	21.70792024	1968.013801	409.1958087	36.52900048	3.629125812	1.856135382
MG1-4 210	197.1418505	473.2137067	4.575791203	6.524516165	24.5705727	0.099653239	26.63481449	0.00572809	5.276491549	0.198105061	36.82028347	1.937281308	96.45620455	24.51317753	2046.127208	469.9372646	36.82028347	1.937281308	1.799510965
MG1-4 213	206.6168306	363.6270725	3.881676425	7.377166818	22.82832482	0.080960757	26.10902225	0.005974912	5.660823408	0.216818437	38.40214717	2.167415617	79.04780961	19.85822911	1592.438337	484.1725869	38.40214717	2.167415617	2.41153119
MG1-4 214	185.2292957	249.5029567	3.102012102	6.874527435	26.43065509	0.068827948	36.33578892	0.005539824	6.10399223	0.167988433	35.61344766	2.167848468	67.58660916	23.76297441	1428.650697	707.3377896	35.61344766	2.167848468	2.492803015
MG1-4 217	167.1700492	311.3200764	2.873824133	6.22847353	15.54521383	0.101561477	23.68819788	0.006230311	4.459578549	0.188261622	40.03856675	1.780017827	98.21668072	22.17947528	1930.36631	422.7300107	40.03856675	1.780017827	2.074143469
MG1-4 218	200.5895672	410.3337789	3.973526949	7.155285694	24.84574744	0.085621404	28.16413525	0.005791238	8.285551093	0.294188017	37.22503343	3.07541132	83.41630236	22.55805862	1753.61671	502.1018796	37.22503343	3.07541132	2.122757683
MG1-4 222	153.9967574	296.699015	3.614793636	6.971080763	12.12948673	0.076984421	42.48574722	0.005726311	9.754699117	0.22959933	36.80888272	3.580364498	75.30581644	30.84609353	1577.735862	810.9598785	36.80888272	3.580364498	2.333019336
MG1-4 223	235.7398588	324.626096	2.661710049	7.986754824	14.7436663	0.062747863	49.37457271	0.005517246	6.565084479	0.132964887	35.46869742	2.322155846	61.79405728	29.6090882	1257.928248	1021.915896	35.46869742	2.322155846	2.819612126
MG1-4 224	243.354433	174.4717903	3.362732528	7.508522286	19.83986047	0.039342279	50.56819093	0.005799836	3.688798779	0.072947019	37.2801407	1.371220633	39.18169197	19.4384352	158.2553698	NA	37.2801407	1.371220633	23.5569515
MG1-4 225	919.8211816	1546.444018	1.73374157	13.63414979	8.732198553	0.052004934	14.62037849	0.005827742	1.557803477	0.106550147	37.45899271	0.581845354	51.47769128	7.338762955	766.1660439	307.7702898	37.45899271	0.581845354	4.889148117
MG1-4 226	125.0620027	335.0452376	3.093791576	4.495289263	48.17611569	0.154247572	49.15468136	0.005943636	7.307073828	0.148654688	38.20172484	2.783173663	145.6553574	66.79438818	2727.373073	861.9110029	38.20172484	2.783173663	1.400678375
MG1-4 228	1647.751852	2717.111859	1.454267602	16.91883499	7.149788119	0.044620343	8.033564399	0.005965658	1.062770635	0.132291295	38.3428472	0.406287039	44.32503596	3.484290237	382.2615816	179.220326	38.3428472	0.406287039	10.03052596
MG1-4 230	284.3710554	492.3837392	3.394594878	7.493824936	17.72776498	0.086271576	19.25532606	0.005865395	3.373368254	0.175191438	37.70030791	1.268058652	84.02422686	15.52901682	1744.17066	350.5602005	37.70030791	1.268058652	2.161503388
MG1-4 231	171.6830832	241.1468279	4.393202925	8.068991025	20.07839196	0.050878889	48.39205086	0.005714596	7.161958688	0.14799866	36.73379442	2.623377792	50.39026394	23.79405042	761.3518293	NA	36.73379442	2.623377792	4.824812
MG1-4 233	816.9893421	966.1553263	2.451815623	14.9436172	11.07225373	0.044560224	13.04092483	0.00620856	1.990572875	0.152640468	39.89921637	0.791770177	44.26659786	5.648806096	288.7709205	295.5924945	39.89921637	0.791770177	13.81690937
MG1-4 234	310.6241115	727.7495589	4.779771691	8.861867663	29.19834667	0.076331009	33.54320035	0.005887313	4.950842268	0.147596002	37.84077436	1.867949262	74.68959127	24.15858527	1509.593283	644.8998408	37.84077436	1.867949262	2.50666672
MG1-4 235	440.0644718	904.2537879	3.071347028	12.11028782	13.76115172	0.055316888	17.21055785	0.006001618	4.651092669	0.27024648	38.57328049	1.78872216	54.66932966	9.160337806	833.956423	347.5380716	38.57328049	1.78872216	4.625335261
MG1-4 236	224.5050473	554.4770394	3.523565109	9.049211912	29.1036504	0.077063486	36.69808491	0.00654397	4.178211782	0.113853674	42.04771173	1.751125291	75.38035621	26.66738918	1325.675923	730.9933349	42.04771173	1.751125291	3.171794176
MG1-4 237	330.6366	369.5666301	3.343141397	9.039654603	12.74501789	0.061832047	50.04223532	0.006218121	3.101461916	0.061976886	39.96046959	1.235525375	60.91868016	29.59697861	990.2226808	1086.27471	39.96046959	1.235525375	4.035503364
MG1-4 238	109.8785664	146.5975163	4.645892334	4.333434723	75.49339214	0.10576719	82.83751992	0.005364081	9.765475207	0.117887103	34.48667682	3.358795817	102.0859863	80.62237664	2264.658146	NA	34.48667682	3.358795817	1.522820425
MG1-4 239	65.33609295	127.5663391	6.022064791	4.275385	39.81514543	0.100262507	53.7531525	0.005546484	9.630846761	0.179168036	35.65614067	3.42450911	97.01862656	49.77643621	2113.565672	1010.176418	35.65614067	3.42450911	1.687013617
MG1-4 241	154.2831253	284.9668692	5.412257331	5.227239232	40.83329497	0.117761351	45.301406	0.005813749	8.961109334	0.197810844	37.36930929	3.339017613	113.0404545	48.49817168	2310.973228	808.080979	37.36930929	3.339017613	1.617037741
MG1-4 242	388.0508611	632.0363615	2.800389607	11.32277924	15.14309702	0.0551463	28.67963119	0.006067528	3.482463722	0.121426377	38.99561561	1.353909028	54.50525113	15.22089612	804.6631769	607.7458815	38.99561561	1.353909028	4.84620357
MG1-4 244	85.25888716	234.524684	5.570135267	4.889646527	42.79559413	0.14526851	51.94716522	0.006988658	9.109103015	0.175353226	44.89508849	4.075332909	137.72566	67.00166982	2355.254285	947.1450305	44.89508849	4.075332909	1.906167363
MG1-4 245	232.4450344	317.0471539	4.520665417	12.88118591	15.21700653	0.024749336	89.39444967	0.00595947	6.22523569	0.069637832	38.30319476	2.377394283	24.82411805	21.9257203	NA	NA	38.30319476	2.377394283	
MG1-4 246	170.9078697	265.3558314	5.745190044	4.822829726	32.28255508	0.129036245	35.28703681	0.005843501	8.68703141	0.246181947	37.55999326	3.253361639	123.231343	40.97175343	2458.008642	597.9517315	37.55999326	3.253361639	1.528065956
MG1-4 247	305.9572783	390.4132109	5.294237719	11.95226604	9.080067022	0.038157413	35.47014749	0.006027612	5.568001046	0.156977104	38.73984338	2.150566558	38.02347939	13.23833073	NA	NA	38.73984338	2.150566558	
MG1-4 248	202.1392982	275.4723745	3.685843885	8.122308465	23.06706344	0.057039712	47.28693434	0.005797711	6.19087622	0.130921497	37.26651944	2.300468313	56.32560961	25.91500962	968.4842586	1013.686764	37.26651944	2.300468313	3.84792206
MG1-4 251	166.0230361	292.6051042	6.065651894	6.48540773	24.05738392	0.093480688	40.63108372	0.006315205	8.113903353	0.199696947	40.5824172	3.282475392	90.74062026	35.28367818	1755.822399	760.9817652	40.5824172	3.282475392	2.311305359
MG1-4 252	216.5568027	403.1822893	5.055846426	9.678265734	18.07842842	0.056840052	25.69461133	0.006105107	5.912089981	0.230090656	39.23639575	2.312645969	56.1338001	14.03281554	854.9068882	527.2187001	39.23639575	2.312645969	4.589551949
MG1-4 253	223.5902058	372.6906325	4.492004138	5.572179428	60.46222412	0.121277266	61.07820308	0.006081538	6.696953971	0.109645563	39.08538549	2.60961123	116.2293262	67.17621436	2284.14113	1179.042633	39.08538549	2.60961123	1.711163333
MG1-4 254	219.0635968	336.3750085	4.280123418	9.566866692	13.31009795	0.048146353	33.5440438	0.005691372	4.012158274	0.119608664	36.5849299	1.463688	47.74658717	15.64664296	652.5924799	733.9637592	36.5849299	1.463688	5.606091247
MG1-4 257	271.91002	482.8831078	4.434208211	7.993561219	10.46503218	0.076222502	18.50877304	0.00572861	5.92897092	0.320333007	36.82361666	2.17703778	74.58722313	13.3110879	1558.349037	331.5279961	36.82361666	2.17703778	2.362989021
MG1-4 259	198.3511333	389.4859144	5.87018946	7.310305113	37.88298244	0.078206159	49.84896996	0.005591317	8.822766545	0.176989947	35.943551	3.162391313	76.45702	36.7294658	1651.492781	974.4254638	35.943551	3.162391313	2.176427981
MG1-4 260	218.2272237	317.1696127	4.295775987	8.350362362	4.740387997	0.056270589	31.42466596	0.005457488	5.43872996	0.173072006	35.0855755	1.903026311	55.5865276	16.99994153	1063.49859	637.59116	35.0855755	1.903026311	3.299071183
MG1-4 261	441.8536257	638.6666707	4.535053954	13.47688307	16.24614629	0.041678803	28.59662523	0.005907045	3.152746744	0.110248909	37.96723084	1.193492561	41.46179099	11.618366	249.6300183	NA	37.96723084	1.193492561	15.20940114
MG1-4 262	153.3618604	266.2153469	3.965110206	5.631451611	26.06361118	0.10770272	33.12585412	0.006121217	8.034906873	0.242556972	39.33962099	3.151276957	103.8617545	32.71528358	2066.072559	583.0129103	39.33962099	3.151276957	1.904077416
MG1-4 264	154.7003912	262.6015764	4.569393944	7.73589904	23.38955822	0.060473881	41.7680757	0.00585078	8.646735986	0.20701782	37.60664573	3.242281151	59.61909483	24.18936058	1068.429645	857.6369452	37.60664573	3.242281151	3.51980553
MG1-4 265	128.0727217	241.6898055	4.628417093	4.262733887	23.58532228	0.135269161	35.04590301	0.005331522	8.094554772	0.230970073	34.27790506	2.767280138	128.8214131	42.42479268	2690.069928	583.0415217	34.27790506	2.767280138	1.274238439
MG1-4 266	164.1641819	240.6251475	5.496505579	6.026640928	28.31185756	0.081016501	35.68780374	0.005374313	6.15023042	0.172334237	34.55228241	2.119360183	79.10017024	27.16404743	1789.09647	662.393746	34.55228241	2.119360183	1.931269945
MG1-4 267	184.8349269	261.4303404	3.700926758	5.393198015	23.12165354	0.101146528	28.321812	0.005427151	8.441347604	0.298051114	34.89106988	2.937320435	97.83412233	26.42133863	2166.940908	480.8402429	34.89106988	2.937320435	1.61015327
MG1-4 268	232.4208149	398.9150337	5.534752057	10.43055827	10.48686011	0.04625805	26.97357456	0.005631661	4.186708582	0.155215193	36.20217679	1.511431702	45.91565893	12.10981506	589.0650716	587.6141286	36.20217679	1.511431702	6.145700796
MG1-4 272	145.9264641	212.6095169	6.660322695	5.550541643	21.90019426	0.087420678	52.18064161	0.005404033	9.269310337	0.177638872	34.74284225	3.211759498	85.09777297	42.61974575	1916.653942	996.4713782	34.74284225	3.211759498	1.812682065
MG1-4 275	184.228417	426.4842662	4.832721822	5.874042363	25.53675377	0.115964481	27.98866837	0.006000859	8.546058123	0.305339933	38.56841347	3.286238854	111.4068501	29.53991652	2229.86821	470.560358	38.56841347	3.286238854	1.729627487
MG1-4 280	218.6207444	695.8787596	3.346166913	8.362157884	18.185772	0.079967561	21.41907083	0.005736031	6.510903608	0.30397694	36.87118458	2.393795046	78.11443799	16.10534727	1645.410219	382.6240728	36.87118458	2.393795046	2.240850589
MG1-4 281	206.7894778	339.3709763	3.350341043	7.303146443	24.98548984	0.075934315	46.82225373	0.00565568	6.380571065	0.13627219	36.35614491	2.313200697	74.31529076	33.56546727	1575.25894	922.366155	36.35614491	2.313200697	2.307947221
MG1-4 282	215.9030143	390.6286595	3.323024194	9.536062371	33.93852855	0.054289399	60.635473	0.005710355	8.998664552	0.148405943	36.70661137	3.29371881	53.68023987	31.71414916	898.1997014	NA	36.70661137	3.29371881	4.086687105
MG1-4 285	216.2262174	522.1289345	3.276602435	6.565649891	22.31728842	0.096268934	23.02140646	0.005431498	4.789900041	0.208062876	34.91894345	1.668060669	93.3264317	20.53004943	2078.959403	401.8719852	34.91894345	1.668060669	1.679635658
MG1-4 286	287.3014444	387.7723139	3.134271169	9.812333487	14.87772034	0.051680613	54.0037903	0.005721881	4.098765476	0.075897737	36.7804885	1.503253452	51.16461191	26.95255382	791.55487	NA	36.7804885	1.503253452	4.646612622
MG1-4 287	1070.0247	1845.76201	2.061943955	14.81519244	9.278152333	0.048258496	10.3060524	0.005793618	2.002451541	0.194298599	37.24028668	0.743568869	47.8552184	4.817601867	619.2794713	218.6863111	37.24028668	0.743568869	6.013486383
MG1-4 288	634.3597882	936.0965604	1.970833257	11.32607898	20.42731204	0.05913075	21.91496609	0.005795829	2.311784567	0.10548885	37.25445561	0.858758945	58.33225788	12.42384983	1042.163278	444.8402417	37.25445561	0.858758945	3.574723499
MG1-4 289	200.5533705	375.9100944	5.270579284	8.302870515	20.79176336	0.073976997	31.68753905	0.006382665	6.833201243	0.215643166	41.01454801	2.793710031	72.46644405	22.16609143	1294.787752	616.6975475	41.01454801	2.793710031	3.167665738
MG1-4 290	899.4575857	2302.334686	3.310625214	15.02949952	8.983516948	0.050722739	9.595076578	0.006024767	1.643108385	0.171244947	38.72161769	0.634331126	50.23937696	4.703227964	642.3271327	203.6615986	38.72161769	0.634331126	6.028332873
MG1-4 291	347.3541367	736.9141802	2.692658715	9.268145581	21.53178087	0.073830458	28.77730056	0.005940541	4.303646433	0.149550039	38.1818896	1.63835681	72.32789123	20.09261631	1429.26934	554.5827806	38.1818896	1.63835681	2.671427179
MG1-4 292	163.3975253	185.904657	4.336160462	6.192788349	38.19794484	0.066523311	53.8430972	0.005540814	5.312569646	0.098667609	35.61979172	1.88710787	65.39484856	34.1135417	1362.999244	1120.540727	35.61979172	1.88710787	2.613339068
MG1-4 293	1512.517696	2403.382932	9.916832775	15.16841973	4.031763742	0.047820392	5.039862091	0.005712932	1.210003871	0.240086703	36.72312416	0.443087962	47.4307655	2.335477103	629.8552034	105.4546585	36.72312416	0.443087962	5.830407364
MG1-4 294	189.1794227	307.1469999	3.852142496	6.184220253	22.51564778	0.095745	37.90120507	0.005907697	6.449385943	0.170163084	37.97141231	2.441724721	92.84103903	33.63941124	1919.964928	696.260327	37.97141231	2.441724721	1.977713851
MG1-4 295	251.5383477	630.2673669	4.070801751	8.477453574	22.68909976	0.080002297	27.37579338	0.006053057	6.092204072	0.222539818	38.90289147	2.362906626	78.14709621	20.59367923	1545.782918	510.9136977	38.90289147	2.362906626	2.516711177
MG1-4 299	893.2488787	1430.522859	5.593061998	13.45376054	11.396651	0.054021885	13.5711097	0.006095711	1.955055885	0.144060134	39.17619367	0.763593874	53.42256519	7.062726337	751.6017058	284.795061	39.17619367	0.763593874	5.212360931
MG1-4 300	87.60917988	182.6638973	7.753276792	10.74461694	12.68249187	0.006594817	354.274161	0.00582898	8.987652289	0.025369201	37.46693	3.357630873	6.674281844	23.57194751	NA	NA	37.46693	3.357630873	
MG1-4 301	234.3903862	407.9162311	3.988864232	7.540751919	18.32496926	0.079433382	23.17584942	0.005817414	2.575287422	0.111119441	37.39279774	0.960184529	77.61208011	17.31868414	1606.747623	435.3155451	37.39279774	0.960184529	2.327235293
MG1-4 302	140.2259061	189.224033	4.673546714	9.458216489	17.25146189	0.020994358	235.7904965	0.005967359	6.914298716	0.029323908	38.35374346	2.64401928	21.09662687	49.26926867	NA	NA	38.35374346	2.64401928	
MG1-4 304	149.8965306	259.0487595	3.404127854	7.977466831	26.34873588	0.058425543	66.24954756	0.006053335	8.313834691	0.125492701	38.90467354	3.224729964	57.6559553	37.14915948	929.2681068	NA	38.90467354	3.224729964	4.186593003
MG1-4 305	177.4599431	248.9579652	5.4005738	7.436441175	17.53528465	0.059829975	34.36917326	0.005603633	5.102765821	0.148469263	36.02250776	1.833018049	59.00238015	19.70317083	1133.34813	696.7423632	36.02250776	1.833018049	3.17841507
MG1-4 307	3092.1732	7696.913909	0.834029821	18.07483593	2.301227559	0.04854798	2.885494303	0.00658559	0.781387785	0.270798589	42.31425863	0.329555664	48.13558544	1.356542018	349.6167801	62.78058482	42.31425863	0.329555664	12.10303997
MG1-4 308	477.4985815	1030.116301	3.552068882	12.58440071	19.32457741	0.056768584	20.24020561	0.006286398	2.896650373	0.143113683	40.39788171	1.166526438	56.06513326	11.04053489	791.1555249	424.318052	40.39788171	1.166526438	5.106187145
MG1-4 309	150.5384435	231.9696119	5.676052124	4.853615326	31.44207451	0.115553429	34.7704754	0.005558534	8.775633815	0.252387513	35.73338901	3.127156472	111.0327776	36.58650268	2355.430979	593.6133063	35.73338901	3.127156472	1.517063727
MG1-4 311	237.3899322	417.4486347	2.973706318	5.776840367	49.58593105	0.111445306	50.25187369	0.005690215	4.128537951	0.082156896	36.57751567	1.505840468	107.2866383	51.20634862	2253.048105	933.4806787	36.57751567	1.505840468	1.623468029
MG1-4 312	181.9200774	385.5471959	2.728362716	5.148433426	33.60836347	0.124665211	37.12203521	0.005596531	7.345178608	0.19786573	35.97697518	2.635212925	119.2926856	41.80507438	2472.737171	638.2951067	35.97697518	2.635212925	1.454945378
MG1-4 313	311.8407085	439.6239966	2.695225361	9.839231007	15.31656321	0.055328836	32.45695344	0.005816298	3.826829787	0.117904775	37.3856461	1.42654448	54.68082549	17.27998311	899.4019569	681.9723508	37.3856461	1.42654448	4.156722788
MG1-4 315	364.5637682	665.3240393	1.823430159	9.351498521	18.25846661	0.071025528	22.15428205	0.005999045	3.622501336	0.163512468	38.55679495	1.392551771	69.67216027	14.91878622	1336.035184	427.7015953	38.55679495	1.392551771	2.885911644
MG1-4 318	116.2791265	226.4266176	4.518998145	5.614291926	39.96096134	0.086745002	50.76782655	0.005295721	4.557972749	0.089780734	34.04833211	1.547822527	84.46666188	41.16927186	1939.023292	976.0315975	34.04833211	1.547822527	1.755952713
MG1-4 320	121.1832999	449.4733619	6.401845369	6.745154365	17.40326044	0.147149437	24.29449203	0.009017781	5.962588837	0.245429657	57.87180486	3.435215443	139.3919024	31.65315414	1932.179232	428.0090216	57.87180486	3.435215443	2.995157173
MG1-4 321	164.9832056	258.7157135	2.881490736	5.177934792	39.60565886	0.118208077	42.90459534	0.005997984	7.536064806	0.175647031	38.54999083	2.896483273	113.4461826	46.0846519	2263.80912	767.6268809	38.54999083	2.896483273	1.702881682
MG1-4 322	348.0084448	841.5968111	3.4334184	11.86752558	9.872489112	0.058273174	14.99605184	0.006293756	3.79886169	0.253324137	40.44501324	1.531640418	57.50977178	8.384701431	843.3831421	303.3638108	40.44501324	1.531640418	4.795568138
MG1-4 323	130.4377659	111.7647012	3.973247916	4.550063203	27.6879537	0.075859978	96.31930663	0.0057534	8.079932368	0.083886945	36.98251526	2.979607388	74.24513521	69.06679321	1541.28308	NA	36.98251526	2.979607388	2.399462873
MG1-4 325	107.3234383	202.6439931	4.375044647	5.852497988	43.86508739	0.089894541	48.0381315	0.006329814	8.76772848	0.182516018	40.67600469	3.555134006	87.40512829	40.25244649	1679.675685	929.5318124	40.67600469	3.555134006	2.421658244
MG1-4 327	95.19698119	186.2279134	3.544323279	4.054425057	9.982643009	0.142887932	17.70699606	0.005741039	9.339236571	0.527432013	36.90328393	3.4366392	135.6128673	22.48214097	2658.278831	250.9483728	36.90328393	3.4366392	1.38823977
MG1-4 328	79.87360042	189.9409222	4.406234192	3.439355269	42.7348625	0.206914333	50.6028767	0.00649846	9.098074461	0.179793622	41.75623345	3.786736238	190.9600083	88.310502	3059.182158	862.1981514	41.75623345	3.786736238	1.3649476
MG1-4 330	167.2196159	309.9411237	3.2056142	4.881468944	19.38058157	0.142060599	22.75153985	0.006279768	6.633645759	0.291569089	40.3554067	2.668673039	134.8775687	28.74360156	2498.76065	371.2628654	40.3554067	2.668673039	1.615016896
MG1-4 331	156.2101178	310.4649395	2.768639422	6.630322811	8.117608324	0.079734529	28.2127205	0.005419545	5.834568215	0.206806296	34.84230245	2.027414038	77.89531826	21.15763727	1744.647839	515.9778226	34.84230245	2.027414038	1.997096587
MG1-4 332	176.0585245	408.4528387	4.302130391	5.875933155	22.12493119	0.112788783	24.2023909	0.005926459	8.094387144	0.334445765	38.09164563	3.074193902	108.5132576	24.91314123	2203.359133	401.6812783	38.09164563	3.074193902	1.728798772
MG1-4 334	117.6703979	376.2668043	3.762379379	8.058072448	20.83537778	0.139369741	28.55523798	0.011603835	6.461420311	0.226277936	74.37245266	4.777903247	132.4823585	35.48103016	1363.738382	546.4241325	74.37245266	4.777903247	5.453571861
MG1-4 338	514.7872517	671.167954	1.436059226	12.44520109	10.22622402	0.048539035	19.12367242	0.005963799	2.403644243	0.12568947	38.33092978	0.918605433	48.12692257	8.98915945	569.1412857	416.3102002	38.33092978	0.918605433	6.734870715
MG1-4 341	158.4355536	297.6101622	3.496018075	5.489441539	16.35108557	0.102549892	31.65163833	0.005346285	8.749181914	0.276421139	34.37256342	2.999314973	99.12736028	29.90119708	2216.993004	541.1503263	34.37256342	2.999314973	1.550413707
MG1-4 342	169.2185585	263.4248889	4.133510923	7.256973126	38.94351714	0.057433344	53.69806257	0.004907793	9.132676808	0.170074606	31.56028696	2.875255134	56.70365888	29.62257567	1313.496489	1111.223012	31.56028696	2.875255134	2.402769039
MG1-4 345	176.6212078	357.461022	3.288430658	4.665519073	45.49653282	0.151732617	48.49724939	0.006078444	6.151978695	0.126852116	39.06555932	2.396037617	143.4405561	64.96303385	2663.169428	856.390229	39.06555932	2.396037617	1.466882239
MG1-4 346	150.5483324	225.0347945	1.949483014	8.442323809	13.63872625	0.041296203	102.562641	0.005586007	7.580435954	0.073910304	35.90951014	2.714529965	41.08878133	41.32326432	356.0046664	NA	35.90951014	2.714529965	10.08680883
MG1-4 349	223.9896772	474.3406322	3.023224016	6.636095388	17.90204918	0.109846365	19.84916435	0.006439799	3.805425986	0.191717189	41.38051184	1.569661444	105.8248424	19.95036503	2011.196702	349.1328631	41.38051184	1.569661444	2.057506946
MG1-4 350	170.368383	357.8185719	3.281748642	5.399361497	29.65380445	0.128823589	31.45898388	0.00620715	7.448792507	0.236777912	39.89018293	2.962162835	123.040076	36.46956772	2352.600349	536.2444321	39.89018293	2.962162835	1.695578382
MG1-4 353	203.0249774	296.3046585	3.90892325	6.576005834	36.63886704	0.082963962	46.20387513	0.005649696	5.431903532	0.117563809	36.31778381	1.967200436	80.92774715	35.95549435	1741.195011	892.7969256	36.31778381	1.967200436	2.085796454
MG1-4 354	241.1653842	696.5483803	3.504971043	7.642866332	21.84728558	0.091798019	26.85483314	0.005945463	6.066822373	0.225911751	38.21343404	2.311483423	89.1769262	22.93069392	1832.594086	482.7897632	38.21343404	2.311483423	2.085209939
MG1-4 361	178.7132946	286.3534486	4.34481609	6.240657034	9.729690327	0.086555201	23.73890215	0.005537672	9.657255801	0.406811391	35.59964954	3.428474136	84.28930877	19.20364604	1854.753247	396.8182366	35.59964954	3.428474136	1.91937389
MG1-4 362	316.7200225	423.3246037	2.86305315	8.235709673	17.77448074	0.069354791	21.53192858	0.005680801	5.604580173	0.260291601	36.51716909	2.040848207	68.08698513	14.18063641	1395.159563	403.071868	36.51716909	2.040848207	2.617418828
MG1-4 363	247.3756105	603.9997524	2.768406461	8.078969908	17.08780198	0.078695142	24.41064766	0.005630609	5.857875206	0.239972134	36.19543269	2.114341978	76.91740781	18.0844095	1650.065688	445.8037759	36.19543269	2.114341978	2.19357526
MG1-4 364	161.1779802	273.0808431	2.881737085	4.447398449	29.12435741	0.134385727	37.88173258	0.005399442	9.527882005	0.251516532	34.71340954	3.298563772	128.0309638	45.59780503	2658.275671	632.3195876	34.71340954	3.298563772	1.305861913
MG1-4 367	139.1455474	237.6898851	5.863418584	4.061502926	47.22628835	0.16265819	51.10362735	0.00600416	7.691243185	0.150502882	38.58956794	2.959151839	153.0272901	72.71887189	2797.891597	896.4520862	38.58956794	2.959151839	1.379237422
MG1-4 369	112.0236402	212.912534	6.104694325	5.426200554	29.89803601	0.094511384	34.19786325	0.00562342	7.302685741	0.213542165	36.14934694	2.632485401	91.69725255	29.99293787	1984.892277	613.1460902	36.14934694	2.632485401	1.821224626
MG1-4 370	145.7225592	256.288358	3.423815655	5.268758994	19.94530257	0.128796524	26.06751193	0.006701608	5.920966776	0.227139698	43.05722382	2.540908918	123.0157307	30.20967743	2220.353879	447.8271184	43.05722382	2.540908918	1.939205467
MG1-4 371	147.3676564	215.1846896	4.93007673	4.796818894	19.58505884	0.117256108	31.6519914	0.00569939	7.560885724	0.238875514	36.63632667	2.762174519	112.5813836	33.74220885	2337.655718	540.2429662	36.63632667	2.762174519	1.567225079
MG1-4 372	524.2844277	905.0142924	2.391485408	15.26369124	6.649986892	0.041226769	21.19853605	0.006049315	2.49695192	0.117788885	38.8789105	0.967866132	41.02107285	8.522754036	169.1701724	NA	38.8789105	0.967866132	22.98213092
MG1-4 374	179.211019	280.6820828	4.276718429	10.41255554	15.36380699	0.033888752	81.12506812	0.00568181	8.836444417	0.108923723	36.5236362	3.21826556	33.8398539	27.006552	NA	NA	36.5236362	3.21826556	
MG1-4 376	220.6462982	343.8815764	2.292811036	7.338284119	18.22020997	0.072011324	21.5389714	0.005425706	7.708199346	0.357872212	34.88180572	2.681497886	70.60631194	14.69219227	1553.640952	381.4919114	34.88180572	2.681497886	2.245165182
MG1-4 378	252.4870042	390.0714227	3.634964738	7.931972424	23.11940954	0.078394015	42.26702256	0.006252593	7.325722116	0.173320042	40.18131521	2.934416902	76.6339149	31.20856009	1446.010326	830.8862644	40.18131521	2.934416902	2.778770973
MG1-4 379	764.1843418	1322.382198	2.837067608	13.49683225	9.689432116	0.053071863	16.74578723	0.006033952	1.525657139	0.091106922	38.7804707	0.589880933	52.5069568	8.569433471	735.6580858	355.3466966	38.7804707	0.589880933	5.271534623



Sample MG1-104



MG1-104 48	238.3872685	1901.319188	3.944183221	17.04154814	5.609087888	0.106009628	11.47294757	0.015111097	1.597755278	0.139262841	96.68371836	1.533242667	102.3085838	11.16628817	236.4035207	NA	96.68371836	1.533242667	40.89774894
MG1-104 49	144.90477	8345.747939	2.491234762	18.3465871	2.436018445	0.436629301	3.615293699	0.060117822	0.767328553	0.21224515	376.3420104	2.805102218	367.8728806	11.15730051	315.8105773	80.36297028	376.3420104	2.805102218	119.1670063
MG1-104 50	266.770713	11713.83584	2.679979452	18.26451639	1.593395797	0.427569501	2.135276621	0.057982904	0.650763113	0.304767591	363.3468117	2.299124354	361.4493055	6.493807865	350.2717005	45.97284234	363.3468117	2.299124354	103.7328483
MG1-104 52	269.8516624	1089.916919	1.76409913	11.54461742	9.497358953	0.06468073	17.03789678	0.006369007	2.000895839	0.11743796	40.92706525	0.816313897	63.63910212	10.51034375	1032.889772	344.2705505	40.92706525	0.816313897	3.9623846
MG1-104 53	291.7965851	2800.948249	4.888502714	14.9851011	6.2093976	0.130139035	6.476561518	0.015269096	0.879275093	0.13576264	97.68700277	0.8524622	124.222638	7.572829249	668.6217483	137.4701688	97.68700277	0.8524622	14.6102042
MG1-104 54	287.3578352	10716.39462	1.781204906	17.97469115	1.966612174	0.440292338	2.218009452	0.058593583	0.762636388	0.343838205	367.0666765	2.721175487	370.4585527	6.884785854	392.6887451	46.70888512	367.0666765	2.721175487	93.47522208
MG1-104 55	196.3489977	824.7788955	2.119643932	11.58950716	15.88799835	0.059164458	23.68326873	0.006205479	3.102697497	0.131007993	39.87948268	1.233520326	58.36457356	13.43366099	904.0582299	490.379959	39.87948268	1.233520326	4.411163061
MG1-104 56	257.3603441	9946.82561	2.726321707	17.69173459	2.126338091	0.441505943	2.564259388	0.057916518	0.851581423	0.332096443	362.9423034	3.005352799	371.3137646	7.974820406	424.8484064	53.96630533	362.9423034	3.005352799	85.42866067
MG1-104 57	604.9873034	6638.177071	4.316526753	18.96299661	3.369453266	0.10722123	4.080090094	0.015312484	0.957407532	0.234653527	97.96248774	0.930809836	103.4202981	4.011883433	232.0571417	91.58972349	97.96248774	0.930809836	42.21481271
MG1-104 58	107.5405532	10428.46831	4.686845159	13.30540582	1.518103659	1.749743906	1.783735193	0.171510181	0.81955174	0.459458188	1020.426557	7.734613719	1027.06786	11.52553741	1042.101663	31.99055206	1042.101663	31.99055206	97.92005845
MG1-104 59	201.0544656	38027.8881	4.409466083	8.976689548	0.632988774	4.899795425	1.016640721	0.319167256	0.766319775	0.753776393	1785.661053	11.95218215	1802.22133	8.57331394	1822.205392	12.1207884	1822.205392	12.1207884	97.99449947
MG1-104 60	177.407919	40602.10145	3.241204039	9.099556884	0.652989672	4.87395433	1.006824116	0.321778824	0.724251558	0.71934268	1798.410465	11.36597676	1797.764185	8.482903249	1797.7904	12.72915361	1797.7904	12.72915361	100.0344904
MG1-104 62	240.6682519	3202.465539	5.331828101	17.05828511	6.174843689	0.113550977	6.844222043	0.015241505	1.486540902	0.217196475	97.5118171	1.438644793	109.2084959	7.086663696	373.3966963	150.5533743	97.5118171	1.438644793	26.11480446
MG1-104 63	822.5714329	32535.38782	4.086356294	18.52803329	0.835643379	0.427640319	1.141174327	0.057887649	0.524047717	0.459217934	362.7663878	1.848567937	361.499675	3.470910662	354.3669587	22.88203133	362.7663878	1.848567937	102.3702631
MG1-104 64	226.8063543	17444.92145	2.875534773	18.02805418	1.650572157	0.547777338	1.869004188	0.07264355	0.622784468	0.333217267	452.0625913	2.718927583	443.5395508	6.716485743	400.5143647	39.48274733	452.0625913	2.718927583	112.8705063
MG1-104 65	340.2142991	5193.04198	5.690355571	19.4975416	2.832245173	0.101240863	3.381857185	0.01513959	0.978996938	0.289485003	96.86465712	0.941212931	97.92110617	3.156849489	124.7252667	76.24627029	96.86465712	0.941212931	77.66241732
MG1-104 66	999.086539	6909.978238	3.457846152	19.19879114	3.884135211	0.064253444	4.588172437	0.009318721	0.684339892	0.149153045	59.79416527	0.407303421	63.23151925	2.812691491	196.3959675	105.4812623	59.79416527	0.407303421	30.44571945
MG1-104 67	94.37585142	33052.1692	16.86020112	7.774396969	0.634014057	6.71249332	0.828580412	0.379269769	0.525900786	0.634700964	2072.871596	9.322262721	2074.266663	7.32253013	2076.401544	11.2741653	2076.401544	11.2741653	99.82999682
MG1-104 68	701.6696264	29221.04243	6.961601989	18.47599814	0.954579964	0.433878603	1.299451328	0.058531917	0.609637436	0.469149881	366.6911449	2.173094628	365.9268749	3.992528415	362.0471875	25.87139112	366.6911449	2.173094628	101.282694
MG1-104 69	102.1251844	20541.85788	3.544942495	8.63322915	0.751344083	5.37984605	1.090950789	0.337338275	0.714100436	0.654567046	1873.851903	11.61187411	1881.650979	9.341292533	1891.036133	14.84021823	1891.036133	14.84021823	99.09127969
MG1-104 70	288.1442477	3048.547632	5.105669833	16.30963544	4.905762805	0.118365696	6.347075598	0.015122806	0.993909191	0.156593249	96.7580725	0.954506087	113.5892978	6.82106416	483.4558212	138.5497062	96.7580725	0.954506087	20.01383958
MG1-104 71	198.6896432	2162.040723	5.412703085	14.54880478	10.40447204	0.128260839	13.74759007	0.014932688	2.722716633	0.198050467	95.55063979	2.58238757	122.5337529	15.86998103	685.2092407	288.8772017	95.55063979	2.58238757	13.94473894
MG1-104 72	216.4797122	9389.096812	3.554406761	18.24806929	3.082211415	0.439767383	4.115974846	0.059650904	0.698513015	0.169707795	373.502128	2.534818944	370.0884005	12.76603967	349.7346479	91.72587009	373.502128	2.534818944	106.7958609
MG1-104 73	27.64901767	7736.301751	0.976264589	9.199972436	1.627984888	4.717903784	1.985791258	0.31820259	0.741680182	0.373493528	1780.945268	11.54135751	1770.424193	16.63851685	1758.816559	33.68709571	1758.816559	33.68709571	101.258159
MG1-104 74	107.9897945	5531.112007	1.545649585	16.80345869	3.739811728	0.560347248	5.727062035	0.07096109	0.826545303	0.144322743	441.9433391	3.530461646	451.752441	20.88616807	502.9567792	124.8223864	441.9433391	3.530461646	87.86904906
MG1-104 75	205.7804748	34982.11235	2.641459936	6.126866009	0.69469312	8.857871611	1.086331936	0.391804301	0.830917737	0.764883835	2131.190739	15.07884412	2323.470868	9.911798752	2497.714396	11.78075955	2497.714396	11.78075955	85.32563781
MG1-104 76	54.13836763	9462.962223	2.555522643	8.800558885	1.104531558	4.131163828	1.589128623	0.265235093	0.783946054	0.493318189	1516.57018	10.59411127	1660.488907	12.99179612	1848.410168	25.00233551	1848.410168	25.00233551	82.04727532
MG1-104 77	129.0895284	36109.31753	1.886728755	8.117314675	0.619931953	6.232165323	0.879374744	0.365501444	0.616143267	0.700660635	2008.19803	10.631566	2008.974446	7.694543024	2010.528607	11.13136846	2010.528607	11.13136846	99.88408138
MG1-104 78	63.41293776	24927.71896	2.037614783	6.098697129	0.600369686	10.95975816	0.941952767	0.48406718	0.708566975	0.752231958	2544.956731	14.89882306	2519.721305	8.76492889	2500.176756	10.4456993	2500.176756	10.4456993	101.7910724
MG1-104 79	127.9396652	882.0384265	4.292921142	9.857143178	7.574046164	0.110914117	17.84784949	0.009380573	2.619480244	0.146767276	60.18919368	1.56930648	106.8012441	18.09539716	1333.475831	344.1488685	60.18919368	1.56930648	4.513707133
MG1-104 80	155.4213599	899.8041464	5.498322494	13.01574784	8.471242456	0.078364388	12.78772165	0.009337985	2.085316574	0.163071783	59.9172023	1.243674648	76.60601852	9.436018734	635.4066993	272.5571046	59.9172023	1.243674648	9.429740411
MG1-104 81	93.88810491	34874.20379	3.474434711	8.763388054	0.77297186	5.310267589	1.052968756	0.33769845	0.632079962	0.600283682	1875.587831	10.28635338	1870.516406	8.997573283	1865.655685	15.19945678	1865.655685	15.19945678	100.5323676
MG1-104 82	437.2729046	11485.93801	2.782383867	19.77700709	1.753013485	0.213329924	2.631847429	0.031305631	0.724484964	0.275276202	198.7146005	1.417694523	196.3431822	4.698579608	168.9353809	59.09148309	198.7146005	1.417694523	117.6275802
MG1-104 83	204.29637	2519.673838	4.010035334	16.78887108	5.221523566	0.114604577	11.97528323	0.015426699	1.333470746	0.111351917	98.68761858	1.305948706	110.1687594	12.50313139	366.9977067	269.0383779	98.68761858	1.305948706	26.89052732
MG1-104 84	726.6376222	46247.34721	2.719536563	18.43627335	0.987089517	0.447204026	1.254582027	0.05990722	0.767915903	0.612089036	375.0612458	2.797970998	375.319528	3.936471313	377.8714418	22.30654518	375.0612458	2.797970998	99.25630899
MG1-104 85	135.8626075	3800.32627	3.512867695	16.72465077	2.605129844	0.445917123	3.103124798	0.057564002	0.688155584	0.221762136	360.7938869	2.414622155	374.4162133	9.717468917	460.5357671	67.12173005	360.7938869	2.414622155	78.34220763
MG1-104 86	174.6625568	67176.29406	1.876345377	5.523126803	0.721171196	12.66832004	1.068191697	0.505942871	0.783186083	0.733188701	2639.285701	16.96200368	2655.308676	10.0530348	2668.246769	12.03119771	2668.246769	12.03119771	98.91460308
MG1-104 87	53.81079085	12163.53384	1.698170507	8.029107136	0.890792679	6.299418346	1.183097793	0.368598498	0.757398925	0.640182856	2022.802397	13.14985591	2018.373018	10.3675907	2014.60127	16.1181736	2014.60127	16.1181736	100.4070844
MG1-104 88	136.220806	873.4196903	5.294291921	13.07154773	10.43488785	0.073854526	17.9127832	0.008922532	3.802892466	0.21230048	57.26325009	2.168016446	72.35064899	12.50969204	605.6743985	381.2800503	57.26325009	2.168016446	9.454461049
MG1-104 89	136.9154514	36050.02937	2.70588879	8.121532615	0.807495853	6.020663535	1.122075909	0.354773764	0.765066726	0.681831523	1957.353596	12.91525005	1978.837117	9.770836613	2002.119981	14.57701784	2002.119981	14.57701784	97.76405087
MG1-104 91	789.1980192	26469.19917	4.302434979	18.45335391	1.024637808	0.406642824	1.37424471	0.054840414	0.773040433	0.562520217	344.1707606	2.590803072	346.454678	4.033903895	362.7573763	25.61131618	344.1707606	2.590803072	94.8762956
MG1-104 92	266.9367317	3843.908857	5.412553726	16.31567194	3.943843909	0.132315932	4.704633258	0.016646069	1.631540957	0.346794504	106.4241186	1.72209891	126.176608	5.58218958	517.4191877	96.92487728	106.4241186	1.72209891	20.56825898
MG1-104 93	1025.6539	8695.34976	3.626406008	19.84796629	2.106783917	0.062835185	2.592774423	0.009335834	1.211056712	0.467089116	59.90346256	0.722104623	61.87748465	1.556438492	139.9529469	53.83574603	59.90346256	0.722104623	42.80257322
MG1-104 94	419.4371129	14806.06815	2.955245946	18.41069199	1.078148826	0.428395497	4.758031915	0.058241074	4.470047463	0.939474039	364.9196822	15.8590065	362.0366391	14.4904932	344.6127195	36.88729881	364.9196822	15.8590065	105.892691
MG1-104 95	380.0178138	4492.619891	2.039604152	17.7215033	4.323816563	0.111609151	7.288520082	0.015240962	4.493551015	0.616524475	97.50836582	4.348617354	107.4363114	7.430614146	334.5582072	130.166555	97.50836582	4.348617354	29.14541139
MG1-104 96	205.377733	2242.681739	2.720959722	17.26505593	5.783479601	0.107101825	8.680406744	0.015136641	4.78373358	0.551095556	96.84593434	4.598225693	103.3107908	8.52686721	256.098569	166.6789234	96.84593434	4.598225693	37.81588265
MG1-104 97	1089.984099	6940.672464	6.549100831	19.04163926	2.095906307	0.064917801	5.767342092	0.009352219	4.494958545	0.779381294	60.00811042	2.684824266	63.86517161	3.569892413	211.8938642	83.75473056	60.00811042	2.684824266	28.31989055
MG1-104 98	3499.528815	51815.54115	5.187801896	20.64314264	1.036825622	0.096671657	4.996387576	0.014574273	4.88499387	0.977705151	93.27374142	4.523612106	93.69937175	4.472098707	105.5546477	24.81066761	93.27374142	4.523612106	88.36535717
MG1-104 99	1383.729952	11629.01422	4.02806465	19.78513483	1.620861913	0.105892857	4.847646761	0.015618178	4.485531378	0.92530079	99.90310573	4.446641029	102.2013747	4.713218873	157.1428069	43.0432831	99.90310573	4.446641029	63.57472399
MG1-104 100	151.3130404	1199.487122	4.153681859	10.6189349	16.28828712	0.105409503	20.78604662	0.009304486	4.582272739	0.220449459	59.70324215	2.723135973	101.7574829	20.12867849	1250.300786	400.8638358	59.70324215	2.723135973	4.775110342
MG1-104 101	189.2223928	15065.44327	3.827706188	18.05201608	2.533041954	0.453001768	2.883367152	0.060540341	0.752703177	0.261050063	378.9107769	2.769871705	379.3791965	9.127993295	383.1966387	62.53767372	378.9107769	2.769871705	98.88815026
MG1-104 102	265.8673132	1702.735523	3.753118635	14.16771889	7.880945501	0.077741356	10.0297452	0.009102804	2.047652896	0.204158017	58.41497863	1.190732881	76.01920488	7.346237255	672.9722908	210.4776438	58.41497863	1.190732881	8.680146185
MG1-104 103	16.69177038	4295.453725	2.672286128	8.089938309	2.92830899	5.772619739	3.404062813	0.347797684	0.801966026	0.235590842	1924.073586	13.3406434	1942.314033	29.46901683	1962.585313	59.04165576	1962.585313	59.04165576	98.03770432
MG1-104 104	199.1898488	25616.46642	4.093457108	13.71055265	0.817366093	1.601981871	1.050007829	0.160690289	0.627007584	0.597145628	960.6117934	5.595828405	970.9838176	6.564200362	995.4337714	17.1097482	995.4337714	17.1097482	96.50182876
MG1-104 105	210.1126622	1154.097832	4.034706015	13.48225033	14.2538971	0.079044278	17.91975713	0.009315609	1.453655502	0.081120268	59.77428551	0.86489613	77.24599819	13.3296316	659.1171806	385.746438	59.77428551	0.86489613	9.068840454
MG1-104 106	187.6456021	26080.97356	4.908179569	12.52573701	0.810142197	2.196489027	1.086449546	0.201113016	0.673495822	0.619905291	1181.296635	7.269584708	1179.928952	7.580596184	1178.301841	16.86990481	1178.301841	16.86990481	100.2541619
MG1-104 107	150.5045383	31086.01189	1.594713443	11.47830557	0.619729865	2.789019982	0.978072875	0.233874468	0.597080318	0.610466084	1354.773201	7.29563304	1352.599285	7.310269019	1349.986435	14.94926668	1349.986435	14.94926668	100.3545789
MG1-104 108	53.16852912	8640.109379	2.478648333	12.93640666	2.287428825	1.919994957	2.589426018	0.184147084	0.60083879	0.232035511	1089.590684	6.023313814	1088.06609	17.28993564	1085.889689	50.51988544	1085.889689	50.51988544	100.3408261
MG1-104 109	123.6428901	1122.307331	5.39124623	14.14078798	6.528826211	0.119607677	21.70783992	0.015032846	1.821793771	0.08392331	96.18676748	1.739316168	114.7162872	23.55144622	519.529203	479.8507982	96.18676748	1.739316168	18.51421766
MG1-104 110	110.5476134	8677.629338	1.086610928	17.28298337	3.368763044	0.565763808	3.603271923	0.073073005	0.806305419	0.22377035	454.6430275	3.539529416	455.2711188	13.22088118	459.4169314	77.92051297	454.6430275	3.539529416	98.96087767
MG1-104 111	158.5446071	1150.51132	5.956572989	12.67074916	11.09919787	0.083810817	19.77715495	0.009160182	1.591606927	0.080477042	58.78150902	0.93131802	81.72144447	15.5300975	818.6255568	415.6121598	58.78150902	0.93131802	7.180512328
MG1-104 112	75.37675264	18088.90941	3.469445597	10.3865762	1.065526235	3.537410502	1.432884921	0.26877131	0.776208454	0.541710254	1534.562189	10.599772	1535.621136	11.34322844	1537.880868	22.65826224	1537.880868	22.65826224	99.7842044
MG1-104 113	430.7621666	3173.764541	5.398344211	17.48813754	3.697304341	0.066164763	4.35361965	0.009148918	0.882009655	0.202592263	58.70955701	0.51547311	65.05343555	2.743366874	306.1381398	97.15850029	58.70955701	0.51547311	19.17747232
MG1-104 114	652.5457835	6902.529413	4.054160556	18.08829442	3.217633087	0.111170105	3.711279071	0.015197696	0.74968542	0.202001899	97.23363712	0.723476457	107.0351915	3.770187808	332.0498764	82.44683699	97.23363712	0.723476457	29.28284093
MG1-104 115	520.2682255	6204.853102	5.979221149	17.38746338	4.472884832	0.119237832	4.784131999	0.015710821	0.858368119	0.179419824	100.4911091	0.855895177	114.3808155	5.175216388	414.9815943	105.2228227	100.4911091	0.855895177	24.21579909
MG1-104 116	58.20963	18818.61714	1.625014267	8.050760121	1.054578285	6.328652923	1.304318871	0.372395894	0.73646057	0.564632304	2040.664239	12.88231033	2022.431561	11.43718588	2004.628843	19.1134252	2004.628843	19.1134252	101.7976094
MG1-104 117	249.5705188	2285.09041	1.552610042	17.40167754	6.484242835	0.111317693	7.978280998	0.015851696	1.030972944	0.129222441	101.3851416	1.037076767	107.1700482	8.114737075	238.7297934	182.6740933	101.3851416	1.037076767	42.46857513
MG1-104 118	398.5370107	4835.921305	4.548843999	19.17695823	3.178652148	0.103462002	5.766477248	0.015315511	0.748935998	0.129877561	97.98170769	0.728271613	99.96701254	5.489947882	148.614419	134.1364267	97.98170769	0.728271613	65.93014889
MG1-104 119	83.36696103	26071.84867	1.472847617	6.082564804	0.589595948	10.90205913	0.925028546	0.483109214	0.696466912	0.752913967	2540.794225	14.62485694	2514.810805	8.603632851	2494.623829	10.25445121	2494.623829	10.25445121	101.8507959
MG1-104 120	59.15662027	14418.47771	3.076421122	6.758404029	0.667971107	8.892356047	1.052506626	0.439197478	0.702822101	0.667760263	2347.046905	13.82622849	2327.016645	9.606934118	2310.22415	13.44676075	2310.22415	13.44676075	101.593904
MG1-104 121	606.5258294	6672.468716	5.064496314	19.11356247	2.918420526	0.105813815	3.356053313	0.015338117	0.753152864	0.224416239	98.12523897	0.73343682	102.1287993	3.260773374	197.6011864	75.99954633	98.12523897	0.73343682	49.65822359
MG1-104 122	465.7227472	5884.548268	5.606131934	18.86559446	4.006226241	0.105636611	5.042791494	0.015193078	0.878377364	0.174184748	97.20431173	0.847415606	101.9660736	4.892223974	215.7540278	115.0577642	97.20431173	0.847415606	45.05330107
MG1-104 123	490.851248	4240.998829	1.339307855	17.10517702	4.370869749	0.114231424	7.329749864	0.015083369	0.653700812	0.0891846	96.50762986	0.626172333	109.8287669	7.630226439	410.2059239	163.4974256	96.50762986	0.626172333	23.52662998
MG1-104 124	168.1679361	1397.74905	3.793098699	12.6664937	15.72970212	0.085762256	17.4267106	0.009057856	1.598769276	0.091742459	58.12782733	0.925152495	83.54803267	13.97765174	889.7337977	361.0415416	58.12782733	0.925152495	6.533170649
MG1-104 125	45.3244934	6484.290201	2.910339747	12.91702941	2.445816855	2.051536704	3.665383484	0.197772424	0.656691702	0.179160436	1163.342585	6.989905924	1132.807332	25.02637528	1075.643062	72.44254752	1075.643062	72.44254752	108.1532179
MG1-104 126	370.3733145	13031.96708	1.091381187	18.25950807	2.13356618	0.3899892	2.866074439	0.05272261	0.683027016	0.238314472	331.2152819	2.205154683	334.3615548	8.165220028	357.2686735	62.84824384	331.2152819	2.205154683	92.70761934
MG1-104 127	324.2315376	3667.878849	4.329660491	17.21516644	5.207364152	0.113151004	6.498059414	0.015168782	0.715276144	0.110075347	97.05003209	0.688976485	108.8437186	6.706937125	376.2197362	145.4284748	97.05003209	0.688976485	25.79610338
MG1-104 128	103.6714332	11054.84159	6.389622888	13.23730155	1.590846354	1.859516154	1.882483178	0.18160346	0.654328766	0.347588108	1075.72848	6.482861297	1066.814676	12.43054332	1049.529985	35.59450108	1049.529985	35.59450108	102.4962121
MG1-104 129	303.0899018	2327.892426	4.089837246	16.48059238	6.903153329	0.092670113	8.1884555	0.012387571	1.077026521	0.131529874	79.36485056	0.849540218	89.98765891	7.051629972	382.6701796	182.6947916	79.36485056	0.849540218	20.73975313
MG1-104 130	90.46526178	41027.54947	2.262934189	5.976262589	0.630433157	11.26298887	0.879076591	0.490271618	0.605286411	0.68854798	2571.85107	12.83663005	2545.144633	8.198292031	2524.646105	10.70642828	2524.646105	10.70642828	101.8697656
MG1-104 131	72.86998046	20971.21773	3.635582652	7.727731357	0.695091409	6.811563756	1.041204857	0.384575575	0.624433364	0.599721909	2097.622233	11.18072004	2087.226652	9.21906493	2077.737565	14.66906419	2077.737565	14.66906419	100.9570346
MG1-104 132	223.4288454	2877.745075	4.24214829	15.39036189	9.51926582	0.126266308	10.31472537	0.015319159	1.140396475	0.110560042	98.00487215	1.109191234	120.7371779	11.74230424	596.5190427	222.6162168	98.00487215	1.109191234	16.42946245
MG1-104 133	504.185101	4482.687234	4.418292454	18.71507917	2.996998885	0.10953564	5.857624213	0.015822851	0.732742637	0.125092121	101.2020901	0.735760414	105.5405241	5.87178913	205.6332031	134.9171488	101.2020901	0.735760414	49.21485856
MG1-104 142	635.6426923	5964.669188	4.335674988	18.60425385	3.012470818	0.111211752	3.623808093	0.015652301	0.712315168	0.196565367	100.1196947	0.707658205	107.0732484	3.682568752	265.6581381	81.55745692	100.1196947	0.707658205	37.68741864
MG1-104 143	147.6233133	36052.98027	2.271127824	10.15048124	0.751340026	3.809982219	1.128061636	0.280249049	0.823519182	0.730030306	1592.616459	11.62096198	1594.855448	9.073059874	1598.611055	14.38889303	1598.611055	14.38889303	99.62501224
MG1-104 145	349.0048084	1870.148274	5.488954578	15.39910872	5.799450156	0.073163934	10.65998453	0.009144123	1.38010087	0.12946556	58.67892682	0.806153782	71.69744945	7.379468998	531.8741721	232.0876623	58.67892682	0.806153782	11.03248285
MG1-104 146	509.2099398	6781.87694	1.874143971	18.62537692	4.279928745	0.109458252	4.407622178	0.015170753	0.893320207	0.202676221	97.06254843	0.86058427	105.4697012	4.415445747	300.814594	98.45417279	97.06254843	0.86058427	32.26656896
MG1-104 147	140.8066256	27908.72144	2.642476901	5.775870426	0.635373368	11.10088224	1.083585567	0.459052963	0.871038543	0.803848417	2435.375148	17.666414	2531.632597	10.0936418	2610.420526	10.73480602	2610.420526	10.73480602	93.29436098
MG1-104 148	710.3257035	6862.826396	4.016193641	19.06185202	2.740666	0.107105714	3.494242201	0.015200817	0.772471936	0.221069946	97.25345361	0.745617143	103.3143577	3.432480812	246.4535289	78.50026096	97.25345361	0.745617143	39.46117309
MG1-104 149	488.0615048	24683.8325	1.925590916	18.37327776	1.249053781	0.447336273	1.60489783	0.059339427	0.773195023	0.481772115	371.6069766	2.792000538	375.4123101	5.036693588	399.9149312	31.51281486	371.6069766	2.792000538	92.92150595
MG1-104 150	179.4183914	3328.172342	3.222405061	16.29875388	4.967459726	0.233489348	7.416490887	0.029423007	1.494186255	0.20146809	186.9360715	2.753063044	213.0751096	14.25570113	513.7917335	159.8027744	186.9360715	2.753063044	36.38362772
MG1-104 151	279.859378	3726.799019	1.817718563	17.54526619	4.580086735	0.121567663	8.473573155	0.016449135	1.177393735	0.138948908	105.175266	1.228279875	116.4922634	9.326126342	355.3147107	189.8072303	105.175266	1.228279875	29.60059428
MG1-104 152	23.55173888	11697.7219	1.864849548	5.462297152	1.038273024	13.07525343	1.42565825	0.515699492	0.896056989	0.62852159	2680.91567	19.65344923	2685.097405	13.4482145	2688.950313	18.32734098	2688.950313	18.32734098	99.7011978
MG1-104 153	157.5527424	1340.582838	4.950238676	13.73370694	9.354544597	0.128429231	10.94592331	0.014914871	1.330729728	0.121573091	95.43747508	1.260659972	122.6852867	12.65011096	690.5255243	232.3440961	95.43747508	1.260659972	13.82099165
MG1-104 154	174.8332195	7542.238156	2.422006047	18.21180887	2.336601358	0.439814318	3.398853698	0.05978772	0.810907091	0.238582523	374.3344002	2.949052079	370.1215002	10.54243332	344.8124959	74.69617511	374.3344002	2.949052079	108.5617269
MG1-104 155	204.4045431	2196.686437	3.105155487	16.74678202	5.131995127	0.110634685	6.198952434	0.015019741	1.008582599	0.162702103	96.10354097	0.962094299	106.5458096	6.270090478	347.763793	138.432565	96.10354097	0.962094299	27.63471727
MG1-104 156	82.47337509	20259.38927	2.050780818	8.567102546	0.739151374	5.535826949	1.193311951	0.343454033	0.793486915	0.664945084	1903.264686	13.07688728	1906.217469	10.2631494	1910.114976	16.00266395	1910.114976	16.00266395	99.64136768
MG1-104 157	1243.810857	6241.437561	2.95844847	18.87262965	2.7490634	0.065563083	3.047469926	0.00931313	0.69340149	0.227533497	59.75845509	0.412451347	64.48025194	1.903925943	244.4230376	68.38862688	59.75845509	0.412451347	24.44878179
MG1-104 159	216.4656974	5208.48511	2.211323294	17.93391926	4.444933607	0.219393357	6.133005187	0.029890146	0.72537307	0.118273676	189.8607072	1.357115384	201.404769	11.20470738	339.8181304	138.0204681	189.8607072	1.357115384	55.87127061
MG1-104 160	165.3507547	67316.7393	2.507706394	5.201546581	0.600648731	14.18526138	0.894653766	0.532756861	0.662719506	0.740755285	2753.057108	14.84924967	2762.172221	8.486137951	2769.542556	9.860900147	2769.542556	9.860900147	99.40475921
MG1-104 161	296.6797612	5344.668511	2.447114828	18.35094034	3.432713063	0.214253297	3.744518255	0.029866544	0.754645085	0.20153329	189.7129741	1.410798484	197.1156194	6.708885987	287.6346296	83.83437107	189.7129741	1.410798484	65.95623567
MG1-104 162	171.2394488	883.9077171	2.333076342	9.591145872	16.56363785	0.080481938	20.0927591	0.00659928	2.810787189	0.139890553	42.40193664	1.187917112	78.59793965	15.19787382	1393.105729	385.4773908	42.40193664	1.187917112	3.043698389
MG1-104 163	1370.152486	8176.686225	5.090155058	19.11315451	2.12043208	0.063157844	2.341593215	0.009059186	0.628701207	0.268492923	58.13632842	0.363860613	62.18569089	1.412443848	222.0076807	52.17775363	58.13632842	0.363860613	26.18662933
MG1-104 164	324.6303922	4103.033655	4.31756674	17.25286472	4.114916576	0.113405828	6.486033644	0.015107973	0.957621998	0.147643699	96.66388082	0.918768915	109.076135	6.708065756	390.3016199	144.1119595	96.66388082	0.918768915	24.76645648
MG1-104 165	281.1401437	5535.138352	2.47751906	17.67442737	2.296450311	0.217676479	2.995401134	0.029245609	0.793411429	0.26487652	185.825077	1.453310147	199.974125	5.437116484	371.2608802	65.05381142	185.825077	1.453310147	50.0524259
MG1-104 166	422.9801854	7262.183537	2.29261744	18.22587526	3.106657344	0.113146824	3.517168425	0.015514693	0.822729152	0.233918042	99.24622652	0.81027432	108.8399053	3.630068685	325.1874505	77.65323086	99.24622652	0.81027432	30.5196976
MG1-104 167	78.31693911	21942.40359	3.201647147	8.766530445	0.740692604	5.200173434	1.10719135	0.332141145	0.642373444	0.58018286	1848.751209	10.32472735	1852.644834	9.429291658	1857.787527	16.291504	1857.787527	16.291504	99.51359789
MG1-104 168	91.05754123	338.0504492	3.186911467	8.84475719	19.17730119	0.058769632	34.18199496	0.006028308	6.070960774	0.177606976	38.74430397	2.345097277	57.9859973	19.26774698	949.81796	708.0402487	38.74430397	2.345097277	4.079129433
MG1-104 169	541.0785731	7200.17857	4.424987065	18.30472477	2.865548102	0.113166173	3.138632778	0.015597378	0.767648583	0.244580567	99.7710805	0.759994903	108.8575546	3.239876963	313.4925723	69.23188683	99.7710805	0.759994903	31.8256601
MG1-104 170	414.3915347	14948.25904	3.914767297	18.49229254	1.273493549	0.424650182	1.62139044	0.057972165	0.859874633	0.530331629	363.2813804	3.037376674	359.3707641	4.907315457	335.1814258	31.14505607	363.2813804	3.037376674	108.3835059
MG1-104 171	129.6881364	6218.573414	2.953265109	18.02725784	3.249918131	0.441932699	4.007463912	0.060306152	0.752503348	0.187775452	377.4871199	2.759033721	371.6143228	12.47189704	336.1609423	89.20827344	377.4871199	2.759033721	112.293569
MG1-104 172	239.4521526	3811.560197	5.552605351	14.84849363	10.39222196	0.131977984	10.76283198	0.01505351	1.138400114	0.105771429	96.31800405	1.088333457	125.8735145	12.74215189	728.83683	227.4456508	96.31800405	1.088333457	13.21530418
MG1-104 173	337.953772	4221.81982	5.507833317	18.22189337	3.984123959	0.107108947	5.229996971	0.01510066	0.897739304	0.171651974	96.61743899	0.860905086	103.3173232	5.137720157	261.7563875	118.3856474	96.61743899	0.860905086	36.91120584
MG1-104 174	72.30055617	9525.223558	2.188111527	13.87966393	1.918575204	1.607536203	2.164862685	0.165040171	0.717022937	0.331209431	984.7256614	6.547871818	973.1489994	13.55240804	947.9750505	41.83868827	947.9750505	41.83868827	103.8767487
MG1-104 175	379.4178355	2914.938575	5.925812528	15.05208743	3.883759999	0.076600866	5.889185705	0.009027463	1.159882618	0.196951272	57.93366034	0.668952034	74.94413524	4.2546776	659.1579535	123.8778566	57.93366034	0.668952034	8.789040629
MG1-104 176	127.7829718	14497.63189	4.058759441	13.99487589	1.670476253	1.432298843	1.85867387	0.147214759	0.752811023	0.405025881	885.3315475	6.227459869	902.5098606	11.11391716	945.6843719	34.80349081	945.6843719	34.80349081	93.61807954
MG1-104 178	475.9070977	2606.591914	2.963654876	16.42973378	6.756568157	0.068558248	7.158741426	0.008982439	1.147987281	0.160361607	57.64600502	0.658818728	67.33036317	4.663705852	427.5766196	157.7455884	57.64600502	0.658818728	13.48202927
MG1-104 179	319.4364052	3045.010762	5.827504887	16.76437028	5.417860065	0.114466073	8.24800112	0.015106481	0.968107418	0.117374792	96.65440544	0.928738549	110.0425769	8.601990188	411.3705718	183.4430665	96.65440544	0.928738549	23.49570243
MG1-104 180	31.54720907	1598.488767	3.179415207	15.25182495	5.867370575	0.580340657	9.543017056	0.07439757	1.642096918	0.172073141	462.5953582	7.33011713	464.6803363	35.59801451	475.9628668	208.2801646	462.5953582	7.33011713	97.19148076
MG1-104 181	275.1836853	2982.456983	6.304787184	16.23967671	7.3327556	0.119629437	8.203419473	0.015275979	1.062691509	0.129542505	97.73070531	1.030742898	114.7360217	8.900198722	484.6535635	179.8545966	97.73070531	1.030742898	20.16506484
MG1-104 182	234.2730688	1100.454415	2.114526578	13.45603312	10.93034386	0.054672968	21.06346556	0.006474403	1.718294342	0.081577001	41.60215491	0.712545784	54.04958709	11.08745406	648.783593	455.4440525	41.60215491	0.712545784	6.412331532
MG1-104 183	235.4427298	3273.299299	2.812627012	16.40363156	6.847776028	0.149208124	7.766783405	0.019125584	0.9150636	0.117817577	122.1272488	1.107022635	141.2124864	10.23952023	476.2293814	170.7836575	122.1272488	1.107022635	25.64462706
MG1-104 184	192.2973443	42174.58517	1.913600809	7.345765773	0.593025222	7.302743617	0.945130504	0.389187064	0.731926544	0.774418496	2119.057085	13.21855486	2149.145572	8.441043179	2178.769546	10.40876334	2178.769546	10.40876334	97.2593494
MG1-104 186	164.3854558	948.9299059	6.022133173	12.00501273	9.094079695	0.083455643	20.33213148	0.008865145	2.127548261	0.104639706	56.89656849	1.205175656	81.38864068	15.903507	877.8670994	422.5498058	56.89656849	1.205175656	6.481228028
MG1-104 187	215.7005571	2383.487147	2.180827449	15.49873503	7.799512604	0.133644512	9.760132136	0.016560604	1.380843191	0.14147792	105.8821755	1.450125103	127.3672888	11.68366278	550.5638487	211.374776	105.8821755	1.450125103	19.23158881
MG1-104 188	613.9348937	26170.70385	1.768383692	18.34516009	0.98032819	0.444999461	1.190913566	0.059739526	0.64034152	0.537689332	374.0412436	2.326979342	373.7715884	3.723950509	373.0586465	22.5917758	374.0412436	2.326979342	100.2633894
MG1-104 190	327.8974054	2856.30872	3.82043419	16.59360441	8.014918478	0.115015849	8.949629006	0.015108279	0.749298027	0.08372392	96.66581895	0.718911465	110.5433509	9.373978009	421.8085551	199.4105583	96.66581895	0.718911465	22.91698871
MG1-104 191	112.5842451	30127.38067	2.60499994	7.757347633	0.744001758	6.837074497	1.072638743	0.385508243	0.742108482	0.691853139	2101.963156	13.31100273	2090.537253	9.501942635	2080.054488	13.63192753	2080.054488	13.63192753	101.0532738
MG1-104 192	327.2842516	1939.504133	3.765135046	16.70815808	5.137158099	0.065614262	11.31488267	0.009091021	1.354376292	0.11969866	58.33970272	0.786574509	64.52901958	7.074328426	301.5292672	256.8536987	58.33970272	0.786574509	19.34794034
MG1-104 193	2068.043426	13913.77135	5.271325487	20.07925535	1.488221535	0.062002108	2.617049515	0.009214457	0.765390931	0.292463297	59.12820847	0.450492769	61.08128914	1.551398131	139.3578718	58.79107978	59.12820847	0.450492769	42.42904094
MG1-104 194	105.0022089	34219.10991	2.976372808	9.038668186	0.800466634	4.938787001	1.135622035	0.324469123	0.735567598	0.647722195	1811.517919	11.61643328	1808.909889	9.589571039	1806.682074	15.72794686	1806.682074	15.72794686	100.2676644
MG1-104 195	314.1151261	3560.153008	2.02048744	17.99782238	3.894470699	0.113144021	4.345210214	0.015937969	0.855513064	0.196886461	101.9325922	0.865188315	108.8373488	4.484600676	263.6785122	97.83312903	101.9325922	0.865188315	38.65790629
MG1-104 196	49.13602845	2158.498797	2.192710029	15.33214791	6.791341195	0.547214677	8.809158247	0.0677798	1.216192236	0.138059983	422.765764	4.976672915	443.1703628	31.6455075	551.5111242	190.7776998	422.765764	4.976672915	76.65589059
MG1-104 197	307.1173978	1740.946149	1.916019259	14.94907705	10.16092263	0.049950486	14.90641942	0.006183836	3.768433889	0.252806109	39.74082022	1.492999816	49.49282335	7.20081128	552.6370228	316.2623253	39.74082022	1.492999816	7.1911252
MG1-104 198	1040.179862	6923.576159	5.704951623	19.22295855	3.652956712	0.063542892	4.030700566	0.009227663	0.803888642	0.199441419	59.21255967	0.473823594	62.55336915	2.445249916	193.3720099	91.86569712	59.21255967	0.473823594	30.62106026
MG1-104 199	727.2809101	4650.975537	5.283825795	17.16383374	5.254128403	0.069804886	6.091719737	0.009187032	0.849005608	0.139370431	58.95302581	0.498232832	68.51427355	4.036020444	417.531224	134.8415483	58.95302581	0.498232832	14.11942926
MG1-104 200	369.2079796	3479.201169	5.507835692	17.28160878	6.38824847	0.112298249	7.797101407	0.015190552	0.891081677	0.11428371	97.18827033	0.859531304	108.0655624	7.993257326	355.9465601	175.1548754	97.18827033	0.859531304	27.30417462
MG1-104 201	589.0172019	3905.030095	4.907985894	16.45880441	5.748961465	0.071078199	6.735886399	0.009047163	0.943802234	0.140115521	58.05951678	0.545506782	69.72209357	4.538818261	491.7409153	147.2304686	58.05951678	0.545506782	11.80693226
MG1-104 202	152.7999852	5357.479204	3.468304371	17.99146261	2.717440617	0.403090401	3.349870816	0.055378191	0.850925443	0.25401739	347.4564214	2.878328724	343.8871229	9.77210626	320.8494824	73.62660318	347.4564214	2.878328724	108.2926545
MG1-104 203	242.5447452	11325.24207	2.904479162	18.2139588	1.502415228	0.530960276	2.144724404	0.071879107	0.865064918	0.403345491	447.4667716	3.739588549	432.4467383	7.552791962	354.202893	44.32090304	447.4667716	3.739588549	126.3306372
MG1-104 204	128.2734864	1757.756942	4.895469031	14.96709237	7.937530358	0.12366863	14.67568742	0.015334619	1.559986504	0.106297338	98.10302724	1.518807915	118.3925419	16.40164574	549.1543937	320.2219991	98.10302724	1.518807915	17.86437992
MG1-104 205	138.285051	610.3320535	2.296972072	10.72419518	14.51407426	0.059924882	26.87324396	0.006237714	4.378432671	0.162929071	40.08599723	1.749692712	59.09330298	15.42820941	919.7223046	554.5243508	40.08599723	1.749692712	4.358489191
MG1-104 206	120.8613201	34745.1556	2.660904073	9.075709698	0.736132982	4.888813046	0.988003596	0.323175758	0.612341959	0.619777055	1805.219819	9.641259873	1800.329448	8.328635165	1795.446026	14.11590619	1795.446026	14.11590619	100.5443657
MG1-104 207	370.9685893	3520.957094	4.737393513	17.96992909	5.50073367	0.10656311	6.084368867	0.015026548	0.906329916	0.148960383	96.14677316	0.864940745	102.8165862	5.94950887	261.2973504	138.2805093	96.14677316	0.864940745	36.79592349
MG1-104 208	257.1450158	3104.093958	5.461643701	15.64755658	4.846086941	0.123304357	7.648333742	0.015131457	1.068249582	0.13967089	96.81300993	1.026477411	118.06332	8.524873154	571.7518417	164.963383	96.81300993	1.026477411	16.93269752
MG1-104 209	208.6978264	3548.734888	3.429609492	15.07867048	6.678374357	0.13722358	9.001891023	0.016024035	1.450398071	0.161121487	102.4786779	1.474596903	130.56794	11.02969828	678.7789007	190.1971448	102.4786779	1.474596903	15.09750492
MG1-104 210	384.1647851	154375.4445	4.175272045	5.289361148	0.560893083	13.56136906	0.808199766	0.521527851	0.581276154	0.719223363	2705.656696	12.84395828	2719.573608	7.642899673	2730.633872	9.242723173	2730.633872	9.242723173	99.08529753
MG1-104 211	787.7867964	5355.192011	5.623198109	18.08821334	4.875682535	0.065549389	5.95498938	0.009066369	0.907138329	0.152332485	58.18221478	0.525418519	64.46720247	3.719699944	305.4891443	134.1961143	58.18221478	0.525418519	19.04559159
MG1-104 212	321.0312067	11962.07447	2.599268171	18.60032245	2.037814689	0.401813046	2.336941915	0.055514795	0.641033539	0.274304438	348.2907665	2.173418646	342.962311	6.801712343	307.9800009	51.18343967	348.2907665	2.173418646	113.0887608
MG1-104 213	491.992576	4943.419928	4.205049106	18.75574441	3.717641	0.064178467	4.325025133	0.009237296	0.834503619	0.192947692	59.27409028	0.492377282	63.1599824	2.648465994	214.0479241	98.33812136	59.27409028	0.492377282	27.69197157
MG1-104 214	187.1372888	86515.48196	1.405016737	8.647507754	0.780316709	5.423841079	1.121893094	0.340294017	0.80301776	0.715770303	1888.083837	13.14311149	1888.628967	9.618482141	1889.997498	14.09863879	1889.997498	14.09863879	99.89874798
MG1-104 215	748.5106151	4145.035817	4.709859189	18.95487276	4.124768596	0.062161653	4.869088967	0.009154056	0.99857419	0.2050844	58.7423819	0.583921758	61.23381933	2.893415032	160.7535526	111.5006307	58.7423819	0.583921758	36.54188723
MG1-104 216	221.1020738	3377.922425	6.213613448	15.69112557	5.661334138	0.123968374	6.255260259	0.015114854	1.683584682	0.269147024	96.70757327	1.616002177	118.6633636	7.005497746	585.8491824	130.8311868	96.70757327	1.616002177	16.50724729
MG1-104 217	153.5883992	1558.285572	6.553986198	15.67440431	9.667032956	0.112941682	11.99301233	0.015040329	2.593338726	0.216237477	96.2342954	2.477145528	108.652763	12.35837809	391.1679504	263.5607115	96.2342954	2.477145528	24.60178429
MG1-104 218	96.80799165	9388.715388	1.640617556	13.42608673	1.941447604	1.808930981	2.23961893	0.179814655	0.812007665	0.362565102	1065.961991	7.977923234	1048.691656	14.645867	1013.754806	42.3223082	1013.754806	42.3223082	105.1498829
MG1-104 219	193.3457286	32174.13685	4.55604455	8.473551546	0.831804466	5.148301166	1.166631251	0.317552162	0.790854245	0.677895645	1777.763687	12.28746905	1844.11414	9.919416908	1920.588453	15.37792151	1920.588453	15.37792151	92.56348933
MG1-104 220	123.0600518	748.142932	5.799164291	11.11544135	14.91074291	0.085120235	18.87995583	0.008719686	2.1067277	0.111585415	55.9670505	1.173969857	82.94744993	15.03895257	952.5339606	387.038382	55.9670505	1.173969857	5.875596337
MG1-104 221	64.66913654	24779.60915	2.162147448	8.423857909	0.916387734	5.687382341	1.283357889	0.349100525	0.840250336	0.654727994	1930.301968	14.01631263	1929.453742	11.08284381	1929.304762	17.37543207	1929.304762	17.37543207	100.0516873
MG1-104 222	486.3279127	2253.162933	3.781253494	15.87512211	8.90122361	0.045813995	11.64004565	0.005880525	0.749876704	0.064422145	37.79727725	0.282603672	45.48461633	5.177642611	473.2113486	257.7519019	37.79727725	0.282603672	7.987398731
MG1-104 223	313.6983492	4200.557232	3.052071291	17.06823614	4.338181124	0.116661441	5.201911864	0.015365463	0.963501346	0.185220621	98.29885416	0.939926292	112.0407954	5.51827059	415.8397374	114.2935718	98.29885416	0.939926292	23.63863895
MG1-104 224	123.2774768	25024.04565	1.90492467	8.748785652	0.702769028	5.276227837	1.00703155	0.336515695	0.69339719	0.688555577	1869.885578	11.2546498	1865.024255	8.596233493	1860.379208	13.18849802	1860.379208	13.18849802	100.510991
MG1-104 225	88.09304214	13639.76716	1.978810949	13.21298987	1.207077548	1.893244432	1.777751583	0.184038788	0.664808813	0.373960468	1089.001103	6.661293406	1078.721139	11.81250863	1058.90416	33.18958201	1058.90416	33.18958201	102.8422727
MG1-104 226	869.9598978	4671.869237	1.580535333	17.6698593	4.736966513	0.047668104	5.368016209	0.006470208	1.06287964	0.198002316	41.57528171	0.440473292	47.28318123	2.479983255	348.1844493	119.0645907	41.57528171	0.440473292	11.9405912
MG1-104 227	246.5291709	847.2148904	3.856980463	15.32907101	5.885067907	0.100076553	34.73592347	0.015184319	0.969485285	0.027910163	97.14869255	0.934780931	96.84700296	32.0968793	90.45230691	NA	97.14869255	0.934780931	107.4032226
MG1-104 228	126.3553262	48016.0914	3.434006782	8.078693036	0.634341646	6.200904628	0.919774824	0.36468076	0.643513805	0.699642769	2004.322488	11.08557653	2004.575987	8.042452481	2005.592904	11.66578716	2005.592904	11.66578716	99.93665633
MG1-104 229	235.6071508	3141.835156	4.273396065	17.74567724	6.221328484	0.107208882	6.654836782	0.015099131	1.508719423	0.226710207	96.60772683	1.446672374	103.4089736	6.542964067	264.1374617	148.9110419	96.60772683	1.446672374	36.57479186
MG1-104 230	22.88574645	9417.932019	2.74116251	6.176743102	1.215446435	10.02496695	1.551567838	0.454425474	0.783046385	0.504680727	2414.897401	15.77167275	2437.08425	14.32633658	2456.380114	22.64758467	2456.380114	22.64758467	98.3112258
MG1-104 231	68.85342002	15000.24443	2.455812566	8.133232666	0.880380616	5.915425828	1.190808037	0.352718656	0.75815901	0.636676094	1947.567361	12.74383158	1963.501593	10.34317266	1981.096617	16.35014341	1981.096617	16.35014341	98.30754057
MG1-104 232	77.15755069	12712.29493	5.184530226	11.12691942	1.202949078	2.944090574	1.462584888	0.241375193	0.801711526	0.548147005	1393.842333	10.04907891	1393.32731	11.0859403	1393.356086	23.46547239	1393.356086	23.46547239	100.0348975
MG1-104 233	197.0494917	3708.860633	2.072094188	18.32897958	4.13331725	0.20130519	5.23198338	0.028956865	1.003874792	0.191872703	184.0163527	1.821176927	186.2300089	8.902439139	215.4181751	118.9767981	184.0163527	1.821176927	85.42285375
MG1-104 234	62.35005991	1019.11719	2.974223625	13.62943328	18.09807924	0.24996172	29.32056845	0.030758411	1.565584039	0.053395419	195.293168	3.011630115	226.5450847	59.60429064	565.7981915	NA	195.293168	3.011630115	34.51640018
MG1-104 235	243.0145543	12326.85366	1.68856396	17.72160537	3.1926638	0.411355936	3.663984121	0.054163624	0.781298792	0.213237494	340.0333842	2.587825974	349.851144	10.843793	416.4999992	79.97967086	340.0333842	2.587825974	81.64066863
MG1-104 236	49.36892163	6482.196248	1.681458332	13.35812036	2.496850833	1.788750282	3.160018321	0.179066322	0.907211577	0.287090607	1061.871864	8.881835862	1041.370328	20.58349334	999.455297	61.51075726	999.455297	61.51075726	106.2450584
MG1-104 237	459.65813	4742.200551	4.515549457	18.52882898	5.601421733	0.10451151	7.011077306	0.014944519	0.835709437	0.119198434	95.62578223	0.793255588	100.9322893	6.736199108	229.1168864	160.9672741	95.62578223	0.793255588	41.73668023
MG1-104 238	50.5068774	10071.89173	1.375950336	9.832474624	1.879271526	3.957082795	2.208628551	0.286142998	0.804923748	0.364445052	1622.226046	11.54429127	1625.442881	17.90385545	1630.40073	38.22994506	1630.40073	38.22994506	99.49860893
MG1-104 239	34.58096692	7403.835289	0.915863559	9.640602115	2.391349836	3.868062966	6.076181073	0.27619005	5.471775942	0.900528782	1572.145789	76.34128867	1607.042808	49.06092699	1653.876894	48.96183404	1653.876894	48.96183404	95.05821109
MG1-104 240	102.3549516	23745.00751	1.191924104	10.78046516	1.029510673	3.174186259	5.568756822	0.250496641	5.457322351	0.979989345	1441.036486	70.47490364	1450.900575	43.02377829	1466.189303	21.05419838	1466.189303	21.05419838	98.28447679
MG1-104 241	77.79035821	3967.845958	4.60899134	14.36815108	9.061946393	0.486630157	10.87891449	0.05365652	5.515348035	0.506975952	336.9315992	18.1057163	402.6114832	36.17389189	800.1849807	196.8750371	336.9315992	18.1057163	42.10671374
MG1-104 242	242.6602112	1169.079714	2.067411611	11.64076749	9.121873213	0.063980386	15.44258855	0.006315808	5.766389844	0.373408242	40.58627924	2.333011223	62.97096677	9.429219148	1027.83858	291.130056	40.58627924	2.333011223	3.948701677
MG1-104 243	206.5665083	8717.536525	2.228993652	17.78510019	2.211744473	0.424475585	6.038461257	0.056600614	5.462781528	0.904664499	354.9188528	18.86442458	359.2463171	18.27261815	388.2459112	57.75984866	354.9188528	18.86442458	91.41599244
MG1-104 244	224.7448489	2214.94177	8.671693303	14.41742207	7.299626923	0.106805788	11.31765926	0.012364261	5.627283439	0.497212658	79.21642643	4.43045608	103.0392426	11.08988797	697.3222404	209.6401303	79.21642643	4.43045608	11.3600889
MG1-104 245	372.0280884	1984.516016	1.875746842	15.23424623	8.514194028	0.050371752	12.90077092	0.006281633	5.682002306	0.440438974	40.36735342	2.286507538	49.90013827	6.281959603	536.6839519	254.2023715	40.36735342	2.286507538	7.521624836
MG1-104 246	283.8902825	4768.315415	4.415727719	17.71290314	3.610376731	0.110352145	6.866309742	0.015028955	5.476342012	0.797566993	96.16205644	5.227080778	106.287468	6.929151978	340.6334009	93.80055841	96.16205644	5.227080778	28.23036619
MG1-104 247	394.8152147	11059.30643	2.502026175	18.16477212	1.622739074	0.423690111	1.983943282	0.057329885	0.711160573	0.358458117	359.3666657	2.485744363	358.6862673	5.99510879	355.2882625	41.82567403	359.3666657	2.485744363	101.1479139
MG1-104 248	335.5977423	2858.254787	5.907160326	14.71227898	9.512154914	0.077208911	11.50861966	0.008923634	1.392626288	0.121007239	57.27028819	0.794028773	75.51744341	8.375880787	700.7285108	243.9762916	57.27028819	0.794028773	8.172963896
MG1-104 249	90.41801514	25878.90291	1.912770606	8.723754559	0.879634977	5.268021289	1.147845498	0.335534264	0.711144438	0.619547177	1865.150103	11.5175028	1863.695711	9.795889508	1862.842697	16.26748729	1862.842697	16.26748729	100.1238648
MG1-104 250	871.8291291	11721.05858	2.929405904	20.04817856	1.877764902	0.101479518	2.373326204	0.01519001	0.712950421	0.300401361	97.184832	0.687682963	98.14113083	2.220189315	122.4482051	53.33064813	97.184832	0.687682963	79.36811481



Sample 071320HW-01

Analysis	U	206Pb	U/Th	206Pb	±	207Pb*	±	206Pb*	±	error	206Pb*	±	207Pb*	±	206Pb*	±	Best age	±	Conc
	(ppm)	204Pb		207Pb*	(%)	235U	(%)	238U	(%)	corr.	238U	(Ma)	235U	(Ma)	207Pb*	(Ma)	(Ma)	(Ma)	(%)
071320HW-01		464.540161	9502.436991	7.536472117	13.89727079	1.817805071	1.55300234	2.237691774	0.15899988	0.720682285	0.322065037	951.2165058	6.373464897		951.6881302	13.82222351	953.6712665	43.33324342	953.6712665	43.33324342	99.74259886
071320HW-02		96.09067201	1353.554994	7.433550544	43.63251949	1.672640381	1.74225914	1.384083132	0.19773726	0.795800032	0.534078789	2935.178839	7.143902821		2936.986295	11.12594524	3022.192835	376.8223925	3022.192835	376.8223925	97.13242242
071320HW-03		140.7396717	5870.518076	1.266440553	10.05840908	1.890270641	3.846759478	3.172451853	0.284727491	0.808213189	0.254759797	1615.127325	11.54683574		1602.589565	25.57174224	1586.942249	57.3541505	1586.942249	57.3541505	101.7760619
071320HW-04		399.9877406	598.4376213	1.673908751	7.91354538	19.42693047	0.140021026	20.52930506	0.009726402	4.139139117	0.201621005	62.39745686	2.570258328		1023.064845	25.60805638	1704.719473	374.1083025	62.39745686	2.570258328	3.660277122
071320HW-05		289.7746383	4883.512934	1.614585713	16.07139961	1.570856274	0.713507385	5.402131135	0.088515575	0.797118831	0.134796433	2144.896129	4.09166129		1597.779616	15.17886965	1334.896733	334.8967333	1334.896733	334.8967333	4.091661292
071320HW-06		110.8559927	3021.604774	3.374685219	12.34952577	7.093843102	1.815262837	7.896575422	0.170978459	0.935812297	0.118508625	1017.500013	8.808454532		1050.977943	51.74459509	1122.082705	156.5765731	1122.082705	156.5765731	90.67959149
071320HW-07		108.1439196	4223.090318	1.801979085	9.999783666	1.883110588	3.770964903	2.917193302	0.280685779	0.944155673	0.323652386	1594.815142	13.3395343		1588.307763	23.42683352	1580.478132	51.64228881	1580.478132	51.64228881	100.9072589
071320HW-10		268.3143995	1353.154093	2.440429581	8.435520775	1.192137994	3.835457634	2.880844515	0.280337921	0.894078874	0.301400784	1591.792066	34.52904368		1600.027988	72.24863332	1722.702292	222.3526707	1722.702292	222.3526707	92.38734449
071320HW-11		262.1416801	9963.984749	1.983751013	12.59664934	1.692745485	2.138176726	2.575314031	0.197004528	0.677929698	0.263241566	1159.208441	7.19255945		1161.234676	17.8184894	1165.861645	49.22817504	1165.861645	49.22817504	99.4293316
071320HW-12		551.4924153	7008.109577	1.255926421	17.06506366	2.952022791	0.554823187	3.331678662	0.070403117	0.849018699	0.254832109	2048.538368	3.599813741		1448.151356	12.07221816	498.4926177	71.00097789	438.5838691	3.599813741	87.98201891
071320HW-13		169.9322509	961.7518023	1.5916105	10.6106955	16.39202437	0.104457552	25.36570997	0.075357704	5.395378744	0.274122026	604.6010195	2.539832279		100.8826454	9.210044467	60.6010195	3.258630279	60.6010195	3.258630279	19.92006418
071320HW-15		559.6428064	1594.839573	2.336176639	10.894264	22.84945464	0.169432117	23.43597964	0.01470458	1.734259656	0.073999879	94.10163615	1.620113163		158.9259893	34.49059854	1283.35284	461.547091	94.10163615	1.620113163	7.332483573
071320HW-16		328.8240953	16751.33997	2.142237585	10.94216018	1.23121388	3.196748899	1.500571124	0.254126064	0.772018443	0.514483073	1459.719364	10.08449723		1456.374223	11.60649127	1452.307425	24.48641685	1452.307425	24.48641685	100.5103561
071320HW-17		115.8755304	1716.432885	2.591019743	13.12482447	5.708596911	0.770852674	7.987366168	0.147077355	0.796369277	0.125227413	2128.886552	5.902297734		2134.896733	23.68918324	2144.357284	52.62244616	2144.357284	52.62244616	99.25342492
071320HW-18		1350.908719	3783.696654	9.6318029	16.6838786	5.82076934	0.075292231	7.674244687	0.009686606	1.218561151	0.158779945	62.14337976	0.753588991		73.7091608	5.456239039	468.0740491	167.9930756	62.14337976	0.753588991	13.27639931
071320HW-20		125.1137119	4347.279976	1.58249574	13.02485866	5.756830661	0.597623559	6.879255346	0.156812212	1.171615489	0.170311383	939.0370953	10.23813124		969.281628	42.98616747	1039.360581	137.014478	1039.360581	137.014478	90.34757644
071320HW-21		196.8583007	2109.554093	2.440429581	8.435520775	1.192137994	3.835457634	2.880844515	0.280337921	0.894078874	0.301400784	1591.792066	34.52904368		1600.027988	72.24863332	1722.702292	222.3526707	1722.702292	222.3526707	92.38734449
071320HW-22		651.4746114	19798.49312	3.577753608	12.94428381	0.938097707	1.907439268	1.234636568	0.179797398	0.74353118	0.60221218	1065.867699	7.304374477		1083.69063	8.224672469	1120.584669	19.66967718	1120.584669	19.66967718	95.11710527
071320HW-23		1641.180011	4971.072009	2.420929726	18.05197317	4.189478925	0.121921545	4.567322464	0.016799996	1.222013289	0.267774675	1071.400076	1.302635854		1116.812592	5.039797902	1314.083213	101.146584	1071.400076	1.302635854	34.1947505
071320HW-24		796.9661775	1853.097881	3.495453359	13.75611277	4.423326287	0.081650677	5.12538413	0.108512652	1.861547755	0.195127403	1066.547229	1.134851041		1139.885101	13.24853333	1312.654392	271.5954456	1066.547229	1.134851041	81.29218913
071320HW-25		661.9257236	1610.075996	4.130243271	13.25865736	9.929749093	0.133652119	12.24295859	0.014590224	1.332366234	0.108827145	213.5750881	1.235131253		127.3741023	14.65691259	821.1154299	255.0238126	93.37508881	1.235131253	11.3717372
071320HW-26		189.9237678	8708.427151	0.882490645	10.57754347	1.806213926	3.344993773	2.363233729	0.261154043	0.688532379	0.291351791	1495.74349	9.191184524		1491.822405	18.47526456	1486.576763	42.82542244	1486.576763	42.82542244	100.6166332
071320HW-27		110.7290964	4071.12865	1.564666701	11.9722947	5.736434198	0.724566033	6.797134298	0.157246188	1.071925033	0.172560455	1029.468116	10.77389625		1131.152019	42.26829844	1216.924861	126.3246797	1029.468116	10.77389625	84.62660208
071320HW-28		310.2491376	352.5821232	2.220935738	6.696060537	32.23119661	0.085506741	36.91816796	0.005578282	8.388992051	0.227232079	35.85999139	2.999940303		83.30905244	29.56356992	1819.448376	676.112316	35.85999139	2.999940303	1.970926565
071320HW-29		94.67799601	4075.276079	2.319815158	12.34568828	4.633232192	2.060403626	6.146599089	0.193103184	1.287515509	0.209468239	1138.649923	13.43894897		1136.947251	42.06429843	1134.54608	119.7431185	1134.54608	119.7431185	100.3276167
071320HW-30		259.3163525	295.5220089	2.508959938	6.455905533	29.84729981	0.116797117	39.76595622	0.007133703	8.277183468	0.208128431	39.19023561	3.231535614		39.16923561	12.25630415	22.22515125	1.546856007	39.16023561	3.231535614	1.767308181
071320HW-31		208.6723483	11987.45844	1.593597794	9.979114188	1.396315996	3.75461132	1.649672868	0.275042171	0.789743414	0.478727286	1566.344904	10.98194785		1583.0989	13.22824643	1606.286471	27.00488414	1606.286471	27.00488414	97.51342194
071320HW-32		496.0156005	30161.82272	1.371004961	10.73089052	0.928950679	2.951839604	1.970296413	0.198129348	0.667796198	0.368316136	1322.099624	7.413197976		1322.260998	22.25598843	1486.676234	59.19985288	1486.676234	59.19985288	88.92395696
071320HW-33		149.2516282	11251.75987	1.553224223	10.08267405	0.914296513	3.733955653	1.714225042	0.171242541	0.460626436	0.2527.165516	1015.169077	10.44629744		1015.669	15.51869778	1014.883515	72.49515199	1014.883515	72.49515199	100.0541836
071320HW-34		599.8544494	26412.78847	2.070839279	10.40625488	0.793027398	3.460473839	1.144389656	0.261925331	0.780728366	0.682222495	1499.684737	10.44629744		1518.25659	9.015084865	1545.048833	15.72649924	1545.048833	15.72649924	97.06389111
071320HW-35		352.0707179	5366.763036	2.460624276	12.98650107	1.741111342	2.592958385	3.167476637	0.249422142	1.883617234	0.604353491	1889.361375	16.64797206		1939.668068	19.10560146	1960.425178	49.97749715	1960.425178	49.97749715	83.8680808
071320HW-36		84.15081945	3591.780759	1.865977429	10.07159917	3.456285154	3.737935563	4.104036023	0.282429493	1.012258509	0.246649518	1603.58627	14.37099737		1579.531406	32.88785652	1548.3533	74.74531606	1548.3533	74.74531606	103.5672072
071320HW-40		232.1894505	9853.298359	2.188364104	12.47028847	1.899380267	2.198833274	2.524563414	0.200961241	0.678403529	0.268721128	1180.482001	7.317956157		1180.673342	17.62221481	1181.901584	48.08897958	1181.901584	48.08897958	99.8798899
071320HW-41		669.5653385	2357.79035	3.901037003	13.61206716	0.983986529	1.719715085	1.251491911	0.083987229	0.513374979	0.579644246	1011.470404	6.263946588		1015.918402	43.03863653	1026.378883	47.42555587	1026.378883	47.42555587	98.54768628
071320HW-43		636.8192217	1211.1474	4.519742095	11.33639488	19.74819444	0.10569555	20.51542882	0.009949395	2.261294605	0.110224096	63.8209578	1.436059513		102.0201996	19.9153221	1123.285773	410.6836607	63.8209578	1.436059513	5.681631456
071320HW-44		573.8990333	36977.89274	1.580275321	10.17582984	0.781407302	3.854122073	1.096429282	0.28209277	0.712141425	0.649509685	1601.893437	10.10085388		1604.130838	8.839674477	1607.865419	15.53957879	1607.865419	15.53957879	99.628577
071320HW-45		1600.285357	2768.07	3.126894114	16.15635755	1.080973308	2.020510104	1.973579364	0.108946248	1.063597158	0.539219144	1.85662108	0.014253446		72.35202067	35.67517909	1597.507544	359.5067544	72.35202067	0.014253446	9.357103563
071320HW-47		168.3370104	12957.42125	1.251755389	9.144196579	1.963180175	4.737098105	2.186143016	0.31480832	0.85058351	0.389079536	1764.324841	13.12863346		1773.827005	18.33056112	1785.805267	36.70690461	1785.805267	36.70690461	98.79715747
071320HW-48		163.7863534	8099.268861	1.425311031	10.74372754	2.008191999	3.352649041	2.341742954	0.264135868	0.91387788	0.39025542	1510.967159	12.30950318		1493.409793	18.31684544	1469.382142	40.9382262	1469.382142	40.9382262	102.8301022
071320HW-49		599.9841456	8361.815696	3.647506995	13.08777538	5.819919906	0.081926467	5.786511998	0.107010223	2.864366011	0.253119438	1453.898977	11.81562708		1457.249619	21.71612252	1462.722703	69.9439867	1462.722703	69.9439867	101.7274748
071320HW-51		147.3094565	4130.136357	2.355129816	12.55067141	3.505517262	2.169203114	3.756526704	0.204326717	0.901774369	0.24005536	1198.521644	8.982732824		1171.22422	26.11333073	1121.998378	72.71907556	1121.998378	72.71907556	106.8202653
071320HW-52		567.0567141	31351.61866	2.446103344	10.5635782	0.803140297	3.499827902	1.058150043	0.267288089	0.6315078	0.596803642	1527.021782	8.586208563		1527.175866	8.35575664	1528.190934	15.99230786	1528.190934	15.99230786	99.92349436
071320HW-53		394.2305012	453.6342355	1.825159529	12.23403487	2.341672477	2.925350351	3.185144374	0.189711972	0.610152322	0.313911967	1754.225496	41.13079576		1752.226998	52.54515619	1749.972605	218.1330986	1749.972605	218.1330986	100.2926093
071320HW-54		102.7663535	8079.81942	1.216041187	7.354682539	1.849324835	7.253586951	2.053746451	0.396123776	0.749250133	0.364821146	2151.166255	13.70416806		2143.116097	18.32878939	2136.155314	33.44931835	2136.155314	33.44931835	100.7027083
071320HW-55		228.4873815	19006.91827	5.736832753	8.379370762	1.095172693	5.774980386	1.414653499	0.357148718	0.82471961	0.582983721	1968.644437	13.99094498		1912.26078	12.24456924	1915.849291	20.62120149	1915.849291	20.62120149	102.7557045
071320HW-56		184.7624107	6859.591678	4.425287021	12.23403487	2.341672477	2.925350351	3.185144374	0.189711972	0.610152322	0.313911967	1754.225496	41.13079576		1752.226998	52.54515619	1749.972605	218.1330986	1749.972605	218.1330986	100.2926093
071320HW-57		255.9693331	10268.01168	1.721443615	13.14740361	2.364831037	1.810988581	2.945663241	0.179751402	0.698303044	0.237061397	1065.616373	6.858736029		1049.435173	19.27177787	1016.772789	57.99767161	1016.772789	57.99767161	104.8037855
071320HW-58		338.3840315	14771.34085	1.23098212	11.08210438	1.207195746	2.958966064	1.590692029	0.244346399	0.694495018	0.436599295	1409.253256	8.791282924		1397.149714	12.07242968	1379.542957	27.50497394	1379.542957	27.50497394	102.1536335
071320HW-59		365.5651193	1488.497397	3.825159529	12.23403487	2.341672477	2.925350351	3.185144374	0.189711972	0.610152322	0.313911967	1754.225496	41.13079576		1752.226998	52.54515619	1749.972605	218.1330986	1749.972605	218.1330986	100.2926093
071320HW-60		59.54719504	3378.573292	0.729967027	10.05003533	7.162161212	3.3974788	7.702204977	0.262568608	1.118097313	0.145165873	1502.970013	14.98947444		1503.814161	60.49387389	1505.809685	144.1821551	1505.809685	144.1821551	99.81141896
071320HW-61		1099.006977	183061.5694	47.78563431	5.266772978	0.543793726	13.52777158	1.051773873	0.52553131	0.899741945	0.855451888	2722.59629	19.98089941		2717.228105	9.944740111	2713.944806	8.98305827	2713.944806	8.98305827	100.3187789
071320HW-62		872.4098659	1825.625237	3.714653335	13.92017805	10.20786159	0.08605142	12.1109198	0.010040229	1.879485011	0.155189387	64.4011053	1.204383091		83.81840844	9.743785113	680.5246657	256.4413737	64.4011053	1.204383091	9.463449091
071320HW-63		1066.453379	1972.705689	13.91933641	14.7856413	8.193170608	0.073485259	10.51943009	0.009890657	2.006695901	0.190760895	57.6985148	1.152667583		72.00142848	7.311959469	578.3166776	224.929222	57.6985148	1.152667583	9.976957798
071320HW-64		279.9137679	11760.61893	2.351659985	13.60534368	3.32514167	1.689461092	3.747129564	0.172327168	0.704226123	0.18793749	1024.920586	6.673219545		1004.559919	23.90516679	961.3090308	75.21015191	961.3090308	75.21015191	106.6171831
071320HW-65		144.0125632	7865.706048	0.747245926	9.680039664	2.02105104	3.932478588	2.697514255	0.285504676	0.654188585	0.24524277	1619.025349	9.386149515		1620.390535	21.59749121	1622.955569	48.11890241	1622.955569	48.11890241	99.78733566
071320HW-66		311.4574403	16036.72654	0.899828907	9.890858132	1.194041577	4.052312654	1.597660352	0.298061951	0.91022054	0.569720929	1681.691187	13.47338096		1644.764268	23.01220417	1598.686706	24.50529946	1598.686706	24.50529946	105.1920417
071320HW-67		165.2995033	4562.609659	1.756490721	12.58412769	3.406407879	1.892639517	4.938809808	0.18276358	0.774649894	0.15684969	1082.05458	7.716413262		1078.508822	32.82290654	1072.244318	98.05663388	1072.244318	98.05663388	100.9149279
071320HW-68		212.2899194	5765.372463	2.224835574	15.95698505	4.051050196	0.115607309	4.631368121	0.015108293	0.839272859	0.181214963	96.03083539	0.799987298		111.0818183	4.873223194	448.8129988	101.2696312	96.03083539	0.799987298	21.43453122
071320HW-69		159.0301375	6339.393769	1.085726604	9.959031091	1.558719948	3.874283614	1.981638193	0.285129928	0.94967116	0.479235394	1617.146331	13.58275491		1608.339486	15.99450514	1597.621712	32.46481316	1597.621712	32.46481316	101.2221052

071320HW-01 70	687.2934649	8690.800182	3.3958038	16.86667569	2.499975834	0.73010076	2.655130735	0.091615368	0.765356829	0.288255798	565.0835663	4.140768172	556.6123264	11.37746216	523.0490294	55.76935715	565.0835663	4.140768172	108.036443
071320HW-01 71	159.9081285	8512.35591	1.573694849	9.211407933	1.558112097	4.628230506	1.899828735	0.312838521	0.859331808	0.452320671	1754.65981	13.20044624	1754.373859	15.86436905	1754.812591	31.00051064	1754.812591	31.00051064	99.99912936
071320HW-01 72	210.4341414	13165.73009	2.442986051	8.474342841	1.540013615	5.487730249	1.791559905	0.339160172	0.820622599	0.45804921	1882.628073	13.39783501	1898.677706	15.38843536	1917.032796	28.56811646	1917.032796	28.56811646	98.20531383
071320HW-01 73	245.4553753	6159.430679	3.246778949	11.75331807	1.451053676	2.483811053	2.257882741	0.216585267	0.775940553	0.343658481	1263.806434	8.904987007	1267.326826	16.34680099	1274.137805	41.34437863	1274.137805	41.34437863	99.18914807
071320HW-01 74	241.89652	12100.85996	2.894782064	9.867465395	0.983328412	3.937170585	1.369194698	0.283871077	0.824954881	0.60251101	1610.828641	11.7584104	1621.355954	11.08711311	1635.838904	20.29646413	1635.838904	20.29646413	98.47110479
071320HW-01 75	188.1590753	11046.27151	4.214143128	8.240565194	1.199063244	5.874595854	1.56278752	0.353280901	0.804375863	0.51470584	1950.246194	13.5366151	1957.488813	13.56083675	1965.915049	23.89799678	1965.915049	23.89799678	99.20297398
071320HW-01 76	1743.99609	2704.130667	3.247881628	16.03734379	6.990939408	0.074303393	8.426846329	0.00942513	1.464834296	0.173829478	60.47374911	0.881698156	72.77498626	5.918090503	499.2968262	183.044217	60.47374911	0.881698156	12.1117832
071320HW-01 77	560.165546	936.6126372	2.844319569	12.93073374	8.036650006	0.088446356	10.35309793	0.010330881	2.152534656	0.207912131	66.25548655	1.418868361	86.0550517	8.542468627	678.216516	216.9100303	66.25548655	1.418868361	9.769075949
071320HW-01 78	215.6508904	16934.50201	16.76139666	5.293960191	0.724667114	13.38840421	1.0386871	0.511813005	0.679147374	0.653851747	2664.364842	14.82163919	2707.44034	9.813961679	2740.448156	12.92591875	2740.448156	12.92591875	97.22369082
071320HW-01 79	240.4884621	8687.997115	7.497699095	13.64839693	4.18959358	1.578415338	4.607684174	0.157778492	0.796739113	0.172915305	944.4195062	6.999335926	961.7454438	28.64812793	1002.43821	92.18225679	1002.43821	92.18225679	94.21224141
071320HW-01 80	405.0831006	19753.739	1.451911105	9.803067949	0.755626845	4.283331223	1.156370268	0.302698984	0.67430135	0.583118892	1704.678511	10.10042107	1690.162778	9.519483211	1672.988569	17.36511355	1672.988569	17.36511355	101.8942115
071320HW-01 81	117.0926697	8106.760015	0.835301362	8.525060435	1.498355847	5.459017422	2.026986466	0.337983962	0.940389573	0.463934806	1876.963578	15.31341359	1894.17394	17.39687636	1913.8535	32.22425608	1913.8535	32.22425608	98.07247931
071320HW-01 82	287.3685712	2720.219126	1.110216706	17.29190031	3.94953686	0.518307446	4.463666334	0.070746994	0.908238831	0.203473728	440.6545061	3.868471949	424.0200967	15.47330107	335.5358563	99.07893514	440.6545061	3.868471949	131.3285891
071320HW-01 83	112.9386676	4951.983559	4.428030633	8.885658861	1.981633765	4.944417935	2.606737106	0.322485698	1.297675352	0.497815966	1801.85702	20.39882655	1809.872181	22.01917547	1819.886552	41.03474165	1819.886552	41.03474165	99.00930459
071320HW-01 84	496.7402664	779.7895451	5.823164718	10.20069736	15.04240327	0.093914389	16.6960514	0.008410057	4.149554541	0.248535084	53.98800447	2.230906942	91.14326673	14.55533595	1222.040798	319.8271119	53.98800447	2.230906942	4.417856143
071320HW-01 86	717.4934709	1858.214244	4.109343138	14.6429903	6.970582079	0.130016618	9.546821419	0.015375832	1.504994656	0.157643533	98.36468809	1.4691461	124.1126452	11.15373215	651.7137977	202.7670863	98.36468809	1.4691461	15.09323394
071320HW-01 87	125.7493773	4232.032389	2.955765672	12.7585005	3.992164393	2.042571924	4.390265267	0.194722242	0.862526328	0.196463374	1146.905561	9.062321489	1129.819958	29.93525606	1097.982048	86.19839564	1097.982048	86.19839564	104.4557662
071320HW-01 88	157.3781022	1519.466698	2.759015497	14.84098021	7.020101651	0.553113423	8.28559984	0.068510521	2.064822133	0.249206113	427.1757781	8.534529336	447.0341432	29.97029274	551.5091784	175.4310314	427.1757781	8.534529336	77.45578766
071320HW-01 89	237.3633874	13750.05647	2.153379493	9.244497538	1.141766451	4.494898913	1.47315562	0.301192583	0.917774855	0.622999256	1697.219761	13.6948635	1730.030148	12.23657238	1770.725876	21.04153036	1770.725876	21.04153036	95.84881458
071320HW-01 90	134.7721151	6918.881067	1.465246305	7.846785371	1.44476024	6.227630314	1.921219741	0.356322661	0.78862347	0.41048062	1964.719497	13.35577058	2008.337539	16.81022476	2054.252546	30.92878133	2054.252546	30.92878133	95.64157535
071320HW-01 91	916.6839884	2284.313872	4.23571062	14.80927426	7.485593731	0.128043294	7.847297635	0.015032485	0.871546501	0.111063266	96.18447615	0.832069509	122.337954	9.044667243	667.3122669	167.180297	96.18447615	0.832069509	14.41371318
071320HW-01 92	241.1739887	250.3824757	1.929426485	7.985548399	28.19667649	0.061948798	44.05617311	0.006567341	8.849204984	0.200861862	42.19738926	3.721938934	61.03031836	26.10126962	882.0285585	936.2101483	42.19738926	3.721938934	4.784129589
071320HW-01 93	685.4103841	828.3521351	8.459206398	11.60744511	21.66444963	0.083017641	32.90235253	0.008665762	2.764622048	0.084025057	55.62242907	1.531134823	80.97807458	25.61437886	913.9121598	692.8279961	55.62242907	1.531134823	6.086189846
071320HW-01 94	363.7779335	15146.83754	3.655979406	12.00504683	1.632413837	2.351490663	1.898730635	0.204942522	0.73415092	0.386653539	1201.817028	8.049511487	1228.009566	13.52770759	1275.132649	34.15135592	1275.132649	34.15135592	94.25035336
071320HW-01 95	576.3518633	34048.44157	1.87126471	8.492733142	0.666813436	5.105461997	0.991825247	0.311186899	0.72836405	0.734367321	1746.544768	11.14355714	1837.01455	8.421540535	1941.883514	12.04177058	1941.883514	12.04177058	89.94075885
071320HW-01 96	673.3400557	1026.488689	4.361672258	13.31919357	11.31760897	0.083018055	14.32379143	0.009744534	2.122813924	0.148201957	62.51321065	1.320625517	80.9784632	11.14916164	667.720334	304.6609155	62.51321065	1.320625517	9.362184655
071320HW-01 97	225.6365121	471.454115	3.382319981	5.948569671	37.99640823	0.167334591	42.75351693	0.008521134	6.54428699	0.153070144	54.69804167	3.56445355	157.1031353	62.30698712	2257.641183	768.3604289	54.69804167	3.56445355	2.422796061
071320HW-01 98	83.34108248	2918.158564	0.859933631	12.55334346	7.207676749	1.771533764	7.760875329	0.16942292	1.575925846	0.203060322	1008.930841	14.71822033	1035.08237	50.41113768	1091.600545	152.4339692	1091.600545	152.4339692	92.42674395
071320HW-01 99	205.9548318	9404.219679	1.021761663	9.858907016	1.339065117	3.749376699	1.955306932	0.267571142	0.744315764	0.380664412	1528.46145	10.12844346	1581.980391	15.67479272	1654.876579	33.50352033	1654.876579	33.50352033	92.36105394
071320HW-01 100	239.002909	8397.301968	2.323646075	11.52396129	1.544610826	2.708008799	1.892202408	0.227704635	0.984619685	0.520356428	1322.457861	11.77240456	1330.654435	14.03248104	1344.694675	31.20788867	1344.694675	31.20788867	98.34632992
071320HW-01 101	364.1637259	467.9824574	2.558670993	5.347044211	15.1233578	0.137513611	16.97176102	0.006152515	6.225322892	0.36680477	39.54014582	2.453968264	130.8268644	20.83564037	2478.436542	268.1871724	39.54014582	2.453968264	1.59536648
071320HW-01 104	1914.569182	2649.614668	7.147859682	15.86607344	7.347015448	0.071845613	9.093474904	0.009001199	0.995204828	0.109441642	57.76586421	0.572320579	70.44934184	6.189180952	526.5510002	198.5068906	57.76586421	0.572320579	10.97061143
071320HW-01 105	331.2976869	4479.278647	2.0138603	16.51120467	3.667749977	0.568132878	4.054022662	0.071433122	0.854830083	0.21085972	444.7840034	3.673944681	456.8062771	14.91469504	518.6823384	87.01792466	444.7840034	3.673944681	85.75267952
071320HW-01 106	1303.21965	1831.289907	8.137566868	15.00239727	8.969577625	0.07283648	16.06636065	0.008941688	1.347867865	0.083893789	57.38564261	0.770050082	71.38757886	11.07592649	570.9284166	350.3374661	57.38564261	0.770050082	10.05128506
071320HW-01 107	1172.423766	1891.198376	3.561811599	14.13465161	6.457587385	0.089332277	11.03403403	0.010232032	1.233543236	0.111794402	65.62474755	0.805403165	86.88116818	9.188066172	719.9200478	233.4016443	65.62474755	0.805403165	9.115560506
071320HW-01 108	651.8078387	1391.388977	20.36811618	10.1205819	19.28849073	0.127847309	20.57439624	0.01042631	2.09932017	0.102035566	66.86433872	1.396441873	122.1615266	23.68519982	1403.518369	396.2286316	66.86433872	1.396441873	4.764051556
071320HW-01 109	398.8843966	11379.84285	2.316072878	13.2646218	2.037345681	1.859762441	2.304695923	0.181556536	0.694799584	0.30147126	1075.472472	6.882326957	1066.902126	15.21961203	1050.317155	44.31157706	1050.317155	44.31157706	102.3950211
071320HW-01 111	1482.92006	2952.179311	17.63708569	14.66222042	6.819717925	0.081306964	10.21609926	0.009296651	1.026228085	0.100452047	59.65320382	0.609354194	79.37296129	7.800138246	723.6083805	216.1393876	59.65320382	0.609354194	8.243851982
071320HW-01 112	766.5307948	32551.77654	2.1901259	9.685675475	0.669480157	4.146395777	0.939368592	0.291417841	0.624422191	0.66472543	1648.610581	9.083352665	1663.498625	7.684963512	1683.12952	12.95697407	1683.12952	12.95697407	97.94912164
071320HW-01 113	228.3158304	9148.951239	2.212356281	12.86510634	3.132647474	1.822625512	3.772684131	0.173165959	0.736808321	0.195300824	1029.531294	7.010935434	1053.629979	24.74061393	1104.779038	74.01033334	1104.779038	74.01033334	93.18888745
071320HW-01 114	942.6503505	2113.010497	9.822536419	11.73812868	16.11356671	0.107657429	18.19394907	0.009928921	1.774596088	0.097537708	63.69026742	1.124679965	103.8202374	17.95728598	1163.920633	361.7291975	63.69026742	1.124679965	5.472045567
071320HW-01 115	511.7663768	5156.33639	1.850994716	16.53127764	3.046462366	0.539444261	4.341694558	0.067698059	0.640317991	0.147481123	422.2722584	2.617228834	438.0580617	15.44917517	522.8267665	94.23430514	422.2722584	2.617228834	80.76714611
071320HW-01 116	1756.746933	3292.813905	5.194884797	17.07544624	6.123291875	0.074245523	10.15677114	0.009929864	1.376474489	0.135522842	63.69629211	0.872445849	72.7202887	7.127864428	381.4983065	226.6904319	63.69629211	0.872445849	16.6963499
071320HW-01 117	217.4212428	8977.907226	1.078905721	12.56068043	1.674963048	2.204705876	1.860271722	0.204477775	0.679063589	0.365034624	1199.330162	7.431494529	1182.535732	12.99548494	1152.789377	34.38032239	1152.789377	34.38032239	104.0372323
071320HW-01 118	202.4337037	8369.564383	0.969330131	11.45695452	2.894124967	2.659440754	3.496397253	0.22344883	0.797808853	0.228180265	1300.07272	9.39311501	1317.26693	25.80594534	1346.179699	65.74727206	1346.179699	65.74727206	96.57497593
071320HW-01 119	1666.245002	3079.178973	2.456519619	16.81991149	6.04569108	0.075918001	7.949428542	0.010045002	2.113983804	0.265929028	64.43117525	1.355280411	74.29989454	5.695553862	405.6074938	171.7667094	64.43117525	1.355280411	15.88510474
071320HW-01 120	412.3716707	892.2838893	8.355680505	9.17655664	21.61918363	0.145189086	23.27598728	0.011252789	2.80954663	0.120705798	72.13503362	2.015370498	137.6552412	29.97235763	1500.412738	442.8451652	72.13503362	2.015370498	4.807679366
071320HW-01 121	342.6025308	8238.077046	2.694418913	14.28325816	2.415844519	1.4719406	3.034762812	0.156041447	0.780857202	0.257304195	934.7405216	6.794485097	918.9252275	18.35076605	882.0616152	60.6450733	882.0616152	60.6450733	105.9722479
071320HW-01 122	185.0865911	2627.116705	2.458036533	15.87150735	5.639058181	0.594278084	8.062053256	0.074837091	0.866856982	0.107523103	465.2319529	3.890809446	473.5960014	30.52333635	515.2578539	176.2956531	465.2319529	3.890809446	90.29109393
071320HW-01 124	410.5920496	696.5350977	4.42670585	6.965190949	15.21921739	0.147433243	17.52586107	0.008594296	4.870659604	0.277912713	55.16567667	2.675468394	139.6430777	22.86918524	2021.288877	300.5897744	55.16567667	2.675468394	2.729232684
071320HW-01 125	163.9685831	2874.324204	2.152508211	14.93578807	5.332386925	0.873236409	9.246447436	0.102278307	1.218422752	0.131771987	627.7468266	7.288005013	637.3230795	43.79386141	672.3770591	196.4345043	627.7468266	7.288005013	93.36232075
071320HW-01 126	1189.777362	2996.795877	3.409193217	17.05680959	5.777637259	0.111236014	8.49400365	0.015013561	0.951613867	0.112033607	96.06429081	0.907383425	107.0954173	8.63360011	360.9361827	190.7322534	96.06429081	0.907383425	26.6153119
071320HW-01 127	351.5687202	9292.301312	3.826900625	14.3914558	2.64367171	1.488703177	2.950342529	0.158928031	0.640813101	0.217199561	950.8168659	5.664919381	925.7874421	17.92183436	867.5337796	59.71100403	867.5337796	59.71100403	109.5999819
071320HW-01 128	267.3649795	532.0170192	4.557804377	6.280944639	18.44114992	0.161242865	22.12905617	0.00866373	7.443433187	0.336364693	55.60944426	4.121450165	151.7904931	31.20951255	2164.518152	367.6762186	55.60944426	4.121450165	2.569137348
071320HW-01 129	98.15315764	4713.339999	1.366714672	11.53010767	3.780924638	2.689898876	4.359770678	0.231841236	0.976840291	0.224057723	1344.141755	11.85163326	1325.683153	32.28206734	1296.806521	82.62762003	1296.806521	82.62762003	103.6501385
071320HW-01 130	1150.991009	28746.39839	5.848359526	13.49225335	0.769980019	1.751867562	1.123342071	0.171768855	0.691544504	0.615613464	1021.849794	6.534930289	1027.851749	7.261445481	1041.508325	17.88451191	1041.508325	17.88451191	98.1124941
071320HW-01 131	297.6590884	4700.720772	0.901299651	16.74297328	3.342776338	0.723977934	4.056146079	0.092278588	1.049055021	0.258633442	568.9989485	5.713261543	553.0125123	17.29733247	488.6601875	86.47997819	568.9989485	5.713261543	116.4406193
071320HW-01 132	162.2491047	9894.733143	2.600645343	8.172292448	1.434417265	6.329491507	1.609494062	0.377534241	0.656341553	0.407793709	2064.754998	11.59584812	2022.54774	14.11374392	1980.501693	26.16515066	1980.501693	26.16515066	104.2541395
071320HW-01 133	166.0201323	4429.577556	1.759004597	13.1683559	3.670470562	1.70512241	5.108170909	0.169488173	1.097372557	0.214826907	1009.290533	10.25218019	1010.455566	32.70499753	1013.84454	101.1624923	1013.84454	101.1624923	99.55081806
071320HW-01 134	314.7886572	2957.209652	1.498648213	15.7530803	4.220519284	0.624097681	4.72620013	0.076913586	1.047796121	0.221699482	477.673871	4.824110843	492.4124366	18.44294187	562.4883464	100.4592069	477.673871	4.824110843	84.92155864
071320HW-01 135	880.8362088	1993.317932	6.530473809	16.88907268	6.394580768	0.115766009	9.863954176	0.016117937	3.541154433	0.358999481	103.0744405	3.620999512	111.2262506	10.39211768	290.4386213	210.7089437	103.0744405	3.620999512	35.4892335
071320HW-01 136	647.2729384	7890.965626	5.57648617	17.5116912	3.12082197	0.532374217	3.64069554	0.069545641	0.768437231	0.211068798	433.4177197	3.221048265	433.3840776	12.84368402	434.1539066	79.28167736	433.4177197	3.221048265	99.83043182
071320HW-01 137	241.8154371	7729.979754	3.822361038	12.03873667	2.043553864	2.379782856	2.634858	0.211444902	0.829756889	0.314915221	1236.511076	9.336044797	1236.545122	18.84019936	1237.475419	49.02306237	1237.475419	49.02306237	99.92207179
071320HW-01 138	160.723139	10013.01498	1.905988006	9.999353191	2.783849744	3.837214591	2.9484203	0.281339552	0.75062298	0.254584796	1598.105114	10.62446364	1600.587965	23.7530426	1604.653135	53.1819299	1604.653135	53.1819299	99.59193546
071320HW-01 140	2676.661701	4765.634927	4.01825012	18.25464754	2.829917768	0.073596103	3.355064792	0.010275967	0.825309377	0.245989102	65.90509571	0.541149992	72.10626753	2.335315067	283.9342288	74.37555762	65.90509571	0.541149992	23.21139512
071320HW-01 141	489.1720409	26663.03901	1.557677982	9.060362498	0.793954069	4.816207706	1.049036225	0.316447607	0.660526045	0.629650368	1772.357145	10.23544559	1787.732601	8.820569393	1806.499853	14.8150337	1806.499853	14.8150337	98.11000773
071320HW-01 142	297.6000778	15363.64611	1.085051836	8.140294288	0.989213013	6.078295744	1.380304232	0.35970087	0.873106666	0.63254654	1980.755693	14.88964675	1987.13831	12.03588953	1994.544511	19.00363649	1994.544511	19.00363649	99.30867337
071320HW-01 143	166.1081005	7534.820322	1.879832926	10.47624592	2.782562382	3.305530834	3.460072658	0.2548853	1.104824147	0.319306632	1463.620784	14.46614618	1482.358163	26.9793713	1510.0825	61.92928655	1510.0825	61.92928655	96.92323328
071320HW-01 144	166.8852702	2679.339485	3.058992586	14.26561747	8.590554961	0.652806962	10.10648077	0.073159728	1.744214941	0.172583808	455.1639872	7.665246521	510.2046318	40.55303256	766.013031	210.2250009	455.1639872	7.665246521	59.41987521
071320HW-01 145	147.0813835	7613.769744	1.294588173	9.684162526	2.65997742	3.994602007	3.063068721	0.284200312	0.839552621	0.274088732	1612.481545	11.97728563	1633.099183	24.87975978	1660.54533	54.54977056	1660.54533	54.54977056	97.10554214
071320HW-01 146	248.6916019	6861.344524	3.055447743	12.01963166	1.81600939	2.23060306	2.712520127	0.198433209	0.824140273	0.303828261	1166.897952	8.796707146	1190.708053	19.01920505	1235.072179	50.67849262	1235.072179	50.67849262	94.48014234
071320HW-01 147	916.3432886	1941.054367	2.592731196	14.64836062	7.844348683	0.071671954	13.12928916	0.008511153	1.91821138	0.146101693	54.63424372	1.043571836	70.28481754	8.915991878	642.8126928	280.2882669	54.63424372	1.043571836	8.499247811
071320HW-01 148	175.6885825	6965.01658	1.098517086	10.6912861	1.825997065	3.295714758	2.262601653	0.259888294	0.863207685	0.381511117	1489.270342	11.47859255	1480.040573	17.62770686	1467.64287	39.7208272	1467.64287	39.7208272	101.4736195
071320HW-01 149	53.99614209	1512.194328	2.614475248	5.306266289	1.429158488	12.5037788	1.829878316	0.499218026	0.942506352	0.515065042	2610.43453	20.23156043	2643.011177	17.20598951	2668.755796	25.9755576	2668.755796	25.9755576	97.81466458
071320HW-01 150	511.8952156	24631.56988	4.942809194	9.420637485	0.898157376	4.379079155	1.292681267	0.298283815	0.860432513	0.665618459	1682.792908	12.74370266	1708.39945	10.68592839	1740.72526	17.68106281	1740.72526	17.68106281	96.67194163
071320HW-01 151	746.2093262	4171.917347	2.322815388	18.25561175	3.423244	0.288899326	4.224270557	0.040536178	0.8055834	0.190703552	256.155593	2.023086002	257.6926626	9.61439915	272.6743372	95.07271368	256.155593	2.023086002	93.94195124
071320HW-01 152	1166.577292	18672.6579	3.050125486	9.025230588	0.564165359	4.736985217	0.958316272	0.31049014	0.696630926	0.726932169	1743.118259	10.63984756	1773.807025	8.034634697	1810.897628	11.95614093	1810.897628	11.95614093	96.2571397
071320HW-01 153	91.02052817	4262.576715	0.833229756	10.94982536	4.148314277	3.232325394	4.769741086	0.265883784	0.789694093	0.165563304	1519.874437	10.69240766	1464.945505	37.00436441	1387.013928	90.36139887	1387.013928	90.36139887	109.5788879
071320HW-01 154	291.3647399	23942.97737	1.956006604	6.724752391	0.700406597	8.857104761	1.047418503	0.432970885	0.728486629	0.69550674	2319.096412	14.18932768	2323.391878	9.55664349	2327.900162	12.89520411	2327.900162	12.89520411	99.62181585
071320HW-01 155	417.5321149	477.9254297	2.468804177	7.055486594	40.22248872	0.088618682	41.0976635	0.005660103	3.655034922	0.088935346	36.38449202	1.326119982	86.21579802	33.98276066	1857.811828	775.1636049	36.38449202	1.326119982	1.958459489
071320HW-01 156	192.2322417	11737.42988	1.461057836	9.087626411	1.610966935	4.882423999	1.998178331	0.324786263	0.83536784	0.418064708	1813.061306	13.20226361	1799.227214	16.84159217	1784.007372	33.09143171	1784.007372	33.09143171	101.628577
071320HW-01 157	824.9234384	28162.72821	5.755195779	10.65067298	0.70414849	3.243795488	1.070609454	0.251275204	0.747633857	0.698325476	1445.048797	9.678416074	1467.693589	8.309400625	1501.414061	14.48687324	1501.414061	14.48687324	96.24585481
071320HW-01 158	471.0020631	14090.33782	2.72126548	13.42001901	1.802326563	1.726567533	1.975703438	0.16886425	0.780869274	0.395236076	1005.850451	7.2722762	1018.473376	12.70403372	1046.605204	36.60027021	1046.605204	36.60027021	96.10600515
071320HW-01 159	150.5652763	5099.262369	2.379959748	13.05777006	2.870008131	1.956804721	4.080659794	0.190632657	0.747824278	0.183260628	1124.801356	7.71858132	1100.786109	27.42778621	1054.512653	80.84347739	1054.512653	80.84347739	106.6655154
071320HW-01 160	464.3969679	706.4184354	3.596263808	7.629348226	18.83581435	0.128921695	21.03671377	0.008285033	6.205655303	0.294991669	53.18872239	3.28712952	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 161	152.638511	4695.788642	2.136017621	13.60323303	4.382019177	1.66128545	5.486173782	0.169475949	1.112289498	0.202744124	1009.223153	10.39090078	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 162	1110.06758	2149.96128	3.204476528	16.00499969	7.67823581	0.078959677	9.65026026	0.010115895	1.775571716	0.183992107	64.88362011	1.146276862	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 163	321.6747954	11759.71062	2.375848186	13.56043212	1.399465055	1.714042334	1.796430772	0.169935844	0.781046213	0.434776683	1011.757698	7.313378795	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 164	424.0955911	23315.5445	4.169729438	8.670772776	0.793692225	5.174131879	1.06920116	0.324245188	0.662124573	0.619270347	1810.427898	10.45113429	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 165	52.8993637	1601.368815	4.485411809	8.810347433	3.924198508	4.537445842	5.703790748	0.310782451	1.174597923	0.205932857	1744.556001	17.95289231	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 166	588.5653555	6524.391293	1.889717283	17.61806263	2.571785822	0.609708915	2.995980351	0.080412771	0.661624404	0.220837364	498.5860638	3.17442502	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 167	4380.585254	6577.810078	3.856686429	19.33579425	1.738177797	0.070529401	3.129510863	0.010250684	0.776625272	0.248161871	65.74376698	0.507987949	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 168	453.6467217	382.2242683	2.222702888	7.969244647	21.06493991	0.071869757	31.84331524	0.00582071	7.492260921	0.235285204	37.41392557	2.795030307	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 169	2831.961351	3849.260501	5.226204346	18.70070452	2.776627593	0.070061436	3.922981795	0.0102024	0.748681754	0.190845075	65.43566236	0.487426817	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 170	636.194785	6835.454901	11.57565519	18.02748703	2.428414001	0.489292542	2.959224342	0.066327949	0.820401603	0.277235352	413.9946693	3.28965626	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 171	946.9033648	22147.19653	13.60902066	13.81729048	0.884718142	1.602281287	1.239937427	0.161498962	0.619345689	0.499497536	965.1015593	5.551397697	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 172	898.8399053	1373.010519	4.196798701	14.54915091	8.447185367	0.071545101	11.36360565	0.008899627	1.265371647	0.111353006	57.11689563	0.719548605	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
071320HW-01 174	68.34705087	2349.32448	2.752967077	10.00257973	6.536164137	3.222590676	7.469212884	0.247020768	0.996086352	0.133358945	1423.093126	12.7196611	1462.607345	57.94313267	1521.267828	139.7539268	1521.267828	139.7539268	93.54652087
071320HW-01 175	210.6292056	11820.81992	1.922099598	9.851611435	1.685861248	3.888999052	1.951381738	0.279480786	0.847176764	0.434141997	1588.746878	11.92918913	1611.400304	15.76249332	1641.921698	32.62544195	1641.921698	32.62544195	96.7614278
071320HW-01 176	132.4238885	4932.084102	2.13254646	12.44151332	4.246433539	2.173588155	4.77247749	0.202228428	0.850130209	0.178131843	1187.280308	9.21847671	1172.628175	33.20131099	1146.55773	93.33299744	1146.55773	93.33299744	103.551725
071320HW-01 177	500.6135857	12780.86812	1.389009599	13.95539642	1.928266986	1.557629185	2.123633236	0.159234617	0.727117655	0.342393236	952.5219957	6.438566507	953.5266588	13.13288489	956.7152294	40.77493142	956.7152294	40.77493142	99.56170514
071320HW-01 178	123.0973941	8128.684316	2.039142335	8.222831925	1.70579302	5.990826944	1.99795854	0.358673635	0.765929364	0.383355985	1975.883676	13.03442336	1974.512721	17.38669552	1973.835893	32.882457	1973.835893	32.882457	100.1037464
071320HW-01 179	264.956896	10562.09057	2.750705516	8.695537841	1.245838931	5.052962564	1.557676473	0.317321141	0.689437803	0.442606546	1776.633267	10.70584725	1828.245755	13.20412854	1888.316628	25.14331248	1888.316628	25.14331248	94.08555965
071320HW-01 180	1116.148497	35243.92333	2.90148515	10.60582236	0.713212924	3.458429575	1.015652356	0.263053228	0.698794737	0.688025517	1505.44391	9.381885321	1517.791126	7.999834499	1535.85653	13.86993509	1535.85653	13.86993509	98.01982672
071320HW-01 181	276.8257484	296.0155327	4.240538208	4.798692838	21.74831172	0.141842686	25.16032493	0.006103456	9.651285201	0.383591437	39.22581876	3.774301295	134.683808	31.74594816	2544.017519	395.386582	39.22581876	3.774301295	1.541884774
071320HW-01 182	457.5602572	5041.569411	1.830516183	16.66626813	4.07658669	0.578294791	5.307086265	0.072307839	0.839990375	0.158277129	450.0447061	3.651392049	463.3649976	19.74703805	530.9113422	114.8783475	450.0447061	3.651392049	84.76833518
071320HW-01 183	60.34971456	2360.643448	1.67157642	10.87834429	6.066829139	2.868114715	7.338577625	0.238004622	1.106092364	0.15072299	1376.315278	13.70797736	1373.576925	55.30547863	1370.142822	139.7748091	1370.142822	139.7748091	100.4504972
071320HW-01 184	421.0675224	503.0129864	2.624637314	8.495385522	21.82239436	0.122435739	30.95932521	0.00973356	2.862387008	0.092456376	62.44315166	1.77873594	117.2778501	34.30309417	1452.207474	601.2747739	62.44315166	1.77873594	4.299878135
071320HW-01 185	1179.631903	3073.324137	2.431697611	13.53579459	8.62412118	0.0987775	9.258221124	0.010204282	2.274865851	0.245713061	65.44766912	1.481314404	95.64725387	8.451149028	935.2968127	184.4431627	65.44766912	1.481314404	6.997529366
071320HW-01 187	223.115102	331.5099561	3.230552729	6.253054835	30.59709082	0.143362914	36.51754989	0.008582278	9.626623154	0.263616348	55.08886119	5.280602999	136.0347708	46.52517812	1974.028418	649.6608011	55.08886119	5.280602999	2.790682276
071320HW-01 188	318.0285458	585.4967236	8.951604985	7.870399335	21.34430114	0.154995317	25.27640807	0.010696207	4.175204045	0.165181858	68.5860289	2.848427181	146.3129304	34.45484222	1716.783486	465.8155068	68.5860289	2.848427181	3.995030791
071320HW-01 189	551.1433534	626.3867032	3.147202344	8.665055566	19.92090944	0.07517238	21.16851737	0.005752123	4.487842977	0.212005541	36.97432805	1.654600187	73.59598134	15.02907552	1524.559898	394.1475781	36.97432805	1.654600187	2.425246007
071320HW-01 190	298.3300804	12709.81286	1.001833142	9.557548115	1.005942132	4.3326359	1.255926275	0.298341959	0.65825709	0.524120805	1683.081605	9.750779289	1699.594513	10.36142274	1720.800124	19.65266336	1720.800124	19.65266336	97.8080825
071320HW-01 191	288.2477743	4902.149627	2.273398567	15.50966581	3.209423713	0.975583997	4.478716855	0.113061082	0.734825549	0.164070553	690.5008973	4.811679312	691.3378174	22.46071171	694.981848	94.20157236	690.5008973	4.811679312	99.35524206
071320HW-01 192	248.8305669	239.9520961	2.643964559	5.658597527	16.41962173	0.105123129	43.01081069	0.006201037	7.915890927	0.184044216	39.85102453	3.144833363	101.4943975	41.56594389	2000.242796	790.4194825	39.85102453	3.144833363	1.992309364
071320HW-01 193	1460.187289	2664.777071	10.51056547	17.93317258	4.915102178	0.064009851	10.68653581	0.009085006	0.999117939	0.093493154	58.30127605	0.579872378	62.99908554	6.527907732	246.3335388	245.6322359	58.30127605	0.579872378	23.66761601
071320HW-01 194	315.0012902	11623.10626	2.748419792	10.72699551	1.695570675	2.932501144	2.127223823	0.226795141	0.594779248	0.27960351	1317.680531	7.088198747	1390.339287	16.1082686	1504.463105	38.5963288	1504.463105	38.5963288	87.58476872
071320HW-01 195	1909.068971	3258.071359	11.05110552	16.94158166	3.556051572	0.078083473	8.096420643	0.010187267	1.129189321	0.139467719	65.33908828	0.734075532	76.34147586	5.954354462	436.9957512	178.7194325	65.33908828	0.734075532	14.95188182
071320HW-01 196	368.6519473	21107.27095	1.428630577	9.262337861	1.048226787	4.682153683	1.336396838	0.310409784	0.709069427	0.530582988	1742.722967	10.82768589	1764.055775	11.18189976	1790.186022	20.63461063	1790.186022	20.63461063	97.34870821
071320HW-01 197	310.4412948	5435.991531	2.69604916	16.32027772	5.17422276	0.636767093	5.418017326	0.07730749	0.652374485	0.120408342	480.0313511	3.017846159	500.302596	21.40564691	595.0738651	116.6413018	480.0313511	3.017846159	80.66752369
071320HW-01 198	542.1676948	19430.8906	1.551694405	8.971792936	0.618758422	4.999865255	1.073706856	0.321165961	0.665823129	0.620116306	1795.420795	10.43397032	1819.299397	9.085399533	1847.524487	15.23607367	1847.524487	15.23607367	97.17981044
071320HW-01 199	507.9133459	1217.443575	2.473102951	9.981437312	22.64845671	0.122222074	23.43155429	0.009805534	3.609363731	0.154038596	62.90263892	2.259344119	117.0845452	25.91768184	1434.844068	447.6673843	62.90263892	2.259344119	4.383935532
071320HW-01 200	2103.443251	4273.559217	4.906461058	16.46744308	5.161502414	0.072329308	7.754041467	0.008997191	1.119869362	0.144423958	57.74025906	0.643728246	70.90745413	5.310655462	542.192747	167.9725804	57.74025906	0.643728246	10.64939717
071320HW-01 201	346.6766511	18561.38154	3.718560516	9.022363444	0.940343599	4.764802243	1.344699963	0.308520125	0.71552977	0.5321111	1733.420293	10.87550472	1778.718434	11.2858339	1833.068906	20.63072115	1833.068906	20.63072115	94.56383706
071320HW-01 202	309.4094581	279.9841849	3.06638938	5.396937311	36.73180171	0.101628014	39.42196307	0.005233867	7.618685232	0.193259915	33.65168637	2.557135984	98.27801047	36.94351413	2238.153714	698.4534827	33.65168637	2.557135984	1.503546703
071320HW-01 203	62.80314144	1725.996322	1.951762399	12.91804153	9.073397312	1.496538549	10.58560905	0.155025382	1.826019111	0.172500146	929.0721642	15.79922106	928.9792273	64.51776473	929.6522296	214.6059133	929.6522296	214.6059133	99.93760405
071320HW-01 204	531.7397667	24301.40503	1.699096859	10.07618099	0.966480767	3.719036064	1.279953904	0.269869607	0.770181189	0.601725724	1540.14004	10.55130916	1575.472971	10.24273801	1623.911361	19.01668058	1623.911361	19.01668058	94.84138585
071320HW-01 205	656.1075817	6730.006916	2.643991309	9.727967849	0.910849639	3.759792748	1.874104392	0.267200817	0.777511355	0.414870889	1526.577834	10.56860512	1584.20483	15.03250234	1662.579373	31.56554582	1662.579373	31.56554582	91.81984685
071320HW-01 206	513.6078043	19840.29348	11.76524799	13.5680952	1.669147772	1.786351481	1.887619975	0.17525684	0.658375503	0.348786043	1041.010222	6.328986901	1040.49655	12.28843829	1040.277623	35.73057743	1040.277623	35.73057743	100.0704235
071320HW-01 207	855.1868924	11210.54601	3.53071584	17.64719978	2.234323991	0.582380013	2.626106719	0.075530447	0.632560555	0.240873895	469.3890668	2.863648354	465.9897965	9.814122589	450.2207031	56.61841776	469.3890668	2.863648354	104.2575482
071320HW-01 208	361.8629983	12160.389	2.630552618	13.33752488	1.551004214	1.870506764	1.726656306	0.182212867	0.691157467	0.400286649	1079.052333	6.867184782	1070.709841	11.42496414	1054.654321	31.8854444	1054.654321	31.8854444	102.3133658
071320HW-01 209	217.2652937	13050.66034	1.042561583	10.64497404	1.25716641	3.332443715	1.512826654	0.257969016	0.726335066	0.48011784	1479.442566	9.601810713	1488.685334	11.81594811	1502.682572	25.08224098	1502.682572	25.08224098	98.45343216
071320HW-01 211	276.9765494	4890.633694	1.274737779	14.98662725	2.85639485	1.083561265	5.197179148	0.12214661	0.810044281	0.155862297	742.9071218	5.684063167	745.3709464	27.45052035	753.6756423	108.435247	742.9071218	5.684063167	98.57119961
071320HW-01 212	203.0237432	231.4293767	2.859507032	5.283068157	29.21936605	0.106016538	50.40912421	0.005773986	8.525468213	0.169125498	37.11446182	3.155090653	102.3149267	49.10089316	2140.890701	935.5306211	37.11446182	3.155090653	1.733599095
071320HW-01 213	621.8781624	21349.81962	7.77075087	9.239815511	0.823916292	4.115639931	2.663397852	0.274757813	2.518784071	0.945703275	1564.907074	34.99739979	1657.412297	21.76054861	1777.499586	15.79343104	1777.499586	15.79343104	88.03979964
071320HW-01 214	193.9647821	9855.19201	2.102642855	9.30294489	1.237821573	4.619016229	1.409023649	0.312657122	0.595399344	0.42256164	1753.769027	9.142055948	1752.710159	11.76134034	1752.227077	23.3727444	1752.227077	23.3727444	100.0879994
071320HW-01 215	103.0125419	3406.123871	1.00266671	12.04257586	7.324049657	1.748866066	7.97724217	0.159229713	0.837548745	0.104992268	952.4947253	7.416228429	1026.743653	51.57734228	1189.418912	156.8716943	1189.418912	156.8716943	80.08067768
071320HW-01 216	141.0652542	5333.857679	3.63132773	9.770642934	1.95498909	3.936556063	2.239199464	0.283395336	0.715244615	0.319419786	1608.439464	10.18135087	1621.229563	18.13264765	1638.663964	39.39971865	1638.663964	39.39971865	98.15554012
071320HW-01 217	360.9237477	1000.625153	3.466469122	9.807253725	17.7804179	0.180797037	20.75342845	0.014762272	2.236129317	0.107747466	94.46813829	2.097026977	168.7461701	32.27617464	1401.21187	399.62896	94.46813829	2.097026977	6.741888243
071320HW-01 218	179.8077468	2830.799869	10.42315686	14.43162516	4.51935423	0.850794107	5.245547307	0.09564528	1.180015891	0.224955724	588.8379468	6.640484779	625.0848294	24.48901285	759.4508561	107.8430568	588.8379468	6.640484779	77.5347005
071320HW-01 219	281.227	13428.58454	2.525742644	10.83443714	1.22391675	3.092605831	1.687794122	0.245512625	0.734709897	0.435307771	1415.292136	9.335983931	1430.85941	12.95082939	1454.898358	28.90596471	1454.898358	28.90596471	97.27773268
071320HW-01 220	1283.380839	30873.90004	1.867386743	15.91865843	1.02754268	0.932196468	1.283050039	0.108318126	0.638902244	0.497955828	662.9728576	4.025217735	668.7895842	6.285433286	689.3551274	23.74310975	662.9728576	4.025217735	96.17290584
071320HW-01 221	371.5897192	19792.39669	2.583552296	9.036461854	0.732873811	4.829047621	1.031049752	0.318124967	0.619201076	0.600554022	1780.565656	9.633661888	1789.9717	8.673292249	1801.727605	14.99724726	1801.727605	14.99724726	98.82546342
071320HW-01 222	129.4607935	8951.597089	3.881387399	9.366965087	1.469804045	4.474282338	1.765613879	0.308038726	0.803475112	0.455068416	1731.048251	12.19764163	1726.213319	14.65385831	1721.13948	28.88613442	1721.13948	28.88613442	100.5757099
071320HW-01 223	8226.468669	6417.443947	1.67348559	19.34565188	2.036990068	0.039942217	3.228566935	0.005845893	0.705893503	0.218639885	37.57532169	0.264470224	39.76763086	1.259107724	175.126443	73.49754426	37.57532169	0.264470224	21.45610969
071320HW-01 224	400.298805	10384.81513	5.226707216	14.03962941	1.737124153	1.512822705	2.369878332	0.156758055	0.699005705	0.294954258	938.735294	6.106416042	935.5807535	14.48810615	929.0718692	46.47731174	929.0718692	46.47731174	101.040116
071320HW-01 225	129.0519934	5049.839116	2.087926931	13.56040029	3.727146993	1.704932196	4.378767312	0.174004655	1.012115736	0.231141704	1034.138189	9.670295752	1010.384166	28.03127268	960.1409154	87.08411809	960.1409154	87.08411809	107.706918
071320HW-01 226	1108.843782	1852.283105	1.978474809	14.42942999	7.574758526	0.083040201	8.627959789	0.009777489	1.340422584	0.155358001	62.72360068	0.836684245	80.99922537	6.717198334	661.082687	182.9493691	62.72360068	0.836684245	9.488011396
071320HW-01 227	420.1884475	767.4599322	1.694622374	8.956228658	14.31252382	0.12769838	15.7564109	0.00988175	3.782288534	0.240047594	63.38916842	2.385811997	122.0274395	18.11864567	1503.362562	290.7819287	63.38916842	2.385811997	4.216492416
071320HW-01 228	1018.315555	1499.895212	2.719760199	14.63234528	6.391501487	0.078359873	9.313903005	0.009692234	1.486173977	0.159565112	62.17931254	0.919650364	76.60176779	6.872239066	554.5732521	200.9830942	62.17931254	0.919650364	11.21210089
071320HW-01 229	123.4923963	5430.840984	2.180350158	10.23511426	2.574647736	3.710034175	3.791328615	0.283335154	1.673044901	0.441281954	1608.137167	23.81157638	1573.534207	30.33223063	1528.235892	64.10288396	1528.235892	64.10288396	105.2283338
071320HW-01 230	407.5369102	480.6208642	1.844068282	7.543351127	18.88111287	0.082612235	26.97327376	0.005770972	7.335402264	0.271950759	37.09514065	2.71326388	80.59791491	20.90240949	1694.347897	487.0450517	37.09514065	2.71326388	2.189346161
071320HW-01 231	334.6901953	18330.79829	2.219270699	11.13641721	1.53888635	2.975343429	1.907675378	0.242856427	0.876023258	0.459209815	1401.529739	11.03476033	1401.341465	14.49860933	1401.870928	32.47071957	1401.870928	32.47071957	99.97566183
071320HW-01 232	845.5540895	3272.555627	6.656092397	16.40411982	5.807217403	0.121830325	7.105594588	0.015669987	2.729496677	0.384133466	100.231948	2.714668674	116.73003	7.835508448	468.6127902	145.3799329	100.231948	2.714668674	21.38907645
071320HW-01 234	283.9331153	12491.52137	2.184620977	10.85568586	1.793190226	3.050383896	2.075559452	0.243087834	0.817234573	0.393741828	1402.729881	10.3021226	1420.32966	15.87299119	1447.626232	36.33160232	1447.626232	36.33160232	96.89862276
071320HW-01 235	326.8243189	18880.79201	2.880018576	8.647937221	0.944208521	5.334707377	1.275767879	0.336648038	0.817611032	0.640877581	1870.523873	13.27469601	1874.441409	10.90943675	1879.55568	17.64622118	1879.55568	17.64622118	99.51947117
071320HW-01 236	801.3620151	16159.34789	1.637967322	16.95931431	2.744563528	0.660387172	2.954914322	0.08247919	0.918871051	0.310963686	510.9038287	4.513336095	514.8508007	11.93394575	533.3563206	61.51193395	510.9038287	4.513336095	95.79033922
071320HW-01 237	1129.897207	41512.04723	2.341495738	12.66775728	0.927981666	2.142881433	1.28115944	0.197717241	0.828341971	0.646556505	1163.045584	8.814920175	1162.755783	8.869809304	1163.059765	19.38370482	1163.059765	19.38370482	99.99878069
071320HW-01 238	442.1132338	13142.46383	9.386948647	13.79038321	2.175888259	1.556069233	2.594379593	0.157354137	0.934615707	0.360246322	942.056302	8.191499573	952.907166	16.03820825	978.9161199	49.30830274	978.9161199	49.30830274	96.23462959
071320HW-01 239	444.0101197	21484.39068	1.690677141	9.284864127	0.939883138	4.519261349	1.25746988	0.306107341	0.764053905	0.607612093	1721.522762	11.54350099	1734.522047	10.45512785	1751.015553	18.28095315	1751.015553	18.28095315	98.31567509
071320HW-01 240	209.7695365	10240.60632	2.043123744	10.52244755	1.662987369	3.291332513	2.270533364	0.25479299	0.769337678	0.338835663	1463.146566	10.07049813	1479.004207	17.68403227	1502.634731	40.37999596	1502.634731	40.37999596	97.37207163
071320HW-01 241	958.1388964	1389.815314	2.970908574	13.20395271	6.848666616	0.088679223	7.717941174	0.009841173	1.461795068	0.189402204	63.13014695	0.918329412	86.27226462	6.383502643	786.6554101	159.328071	63.13014695	0.918329412	8.025133514
071320HW-01 242	1137.925812	51044.97883	10.84629875	11.71143141	0.79925762	2.419262247	1.325817215	0.206139822	1.053684257	0.794743231	1208.219374	11.60896247	1248.337118	9.525260049	1319.047794	15.59716692	1319.047794	15.59716692	91.59784655
071320HW-01 243	1084.888082	1115.625597	3.073736996	12.20404482	11.07165875	0.058992741	20.69959783	0.0061949	1.985832523	0.095935802	39.81170231	0.788157484	58.19994155	11.70891527	901.5835268	429.151621	39.81170231	0.788157484	4.415753076
071320HW-01 244	473.2403056	8937.161245	21.78185094	16.57017336	2.749582807	0.725304278	2.922991525	0.089295722	0.773929601	0.264773125	551.3705766	4.089823595	553.793398	12.47768068	564.6959078	61.39723725	551.3705766	4.089823595	97.64026426
071320HW-01 245	241.3395811	12308.52766	0.917155031	8.423246213	0.961320591	5.009525509	1.541191674	0.308380247	1.069957206	0.694240194	1732.731147	16.25691395	1820.932969	13.04568446	1924.143461	19.88169153	1924.143461	19.88169153	90.05027681
071320HW-01 246	1024.901235	2151.662512	2.510787159	16.18550625	5.485481077	0.113144521	6.04102685	0.014899081	1.152823057	0.190832302	95.33717887	1.090981743	108.837805	6.234880171	416.3148129	132.583994	95.33717887	1.090981743	22.90026103
071320HW-01 247	617.871413	11281.13072	2.367965832	17.16097068	2.654872358	0.54732809	2.855420696	0.069550996	0.820592553	0.287380614	433.4499968	3.439914729	443.2447893	10.25604956	495.3783409	60.30521942	433.4499968	3.439914729	87.4987784
071320HW-01 248	1225.745634	11350.06668	2.846818689	17.87256845	1.802869081	0.521745258	2.853143373	0.069108912	0.810527864	0.284082416	430.7849103	3.377522898	426.3165681	9.93307955	403.1821418	61.28136907	430.7849103	3.377522898	106.846228
071320HW-01 249	130.2052164	9530.12438	3.079686817	11.23013784	3.111107681	2.901931842	3.48605516	0.240899212	0.945771258	0.271301289	1391.370106	11.83596509	1382.415367	26.33110169	1369.436971	64.59328141	1369.436971	64.59328141	101.6016169
071320HW-01 250	128.3716379	10168.34115	1.634217965	8.693619693	1.276198845	5.108722055	1.860867558	0.327026244	0.828068412	0.444990515	1823.951859	13.15491727	1837.556577	15.80310222	1853.773749	30.12374399	1853.773749	30.12374399	98.39128749
071320HW-01 251	2097.659313	4756.493101	3.340003664	18.50266883	4.706214633	0.069051933	7.41091329	0.009863294	1.037795873	0.140036165	63.27135891	0.653415681	67.79937221	4.860511743	231.6248937	169.610172	63.27135891	0.653415681	27.31630349
071320HW-01 252	475.544225	17390.61099	2.926329003	10.60801519	0.994822777	3.220443731	1.32027467	0.250492385	0.789951379	0.598323513	1441.014545	10.20075708	1462.09095	10.22978477	1493.650477	20.01954808	1493.650477	20.01954808	96.47602087
071320HW-01 253	289.7048088	7754.190983	7.299732069	14.34485254	3.365741888	1.510626381	3.747718108	0.159141534	0.874515655	0.233346167	952.0043487	7.739859477	934.6928734	22.90052468	895.0028912	75.2238454	895.0028912	75.2238454	106.3688574
071320HW-01 254	328.5413758	6516.560455	3.629371698	16.04383594	5.154461759	0.669967814	5.652386734	0.079688474	0.895018526	0.158343469	494.2630136	4.258408709	520.6928499	23.029371	639.335	120.1308443	494.2630136	4.258408709	77.30892467
071320HW-01 255	105.3327108	7168.829459	1.937415883	7.859674435	1.554848105	6.416339399	1.905329092	0.365856573	0.71270601	0.374059271	2009.874345	12.30651029	2034.508395	16.73928804	2060.336552	31.17402978	2060.336552	31.17402978	97.55077845
071320HW-01 256	573.8502942	9442.349336	3.393474712	16.43018016	1.94682907	0.898331773	2.816292647	0.108251143	1.273569308	0.452214833	662.5832439	8.019278857	650.8356465	13.53312367	611.2263963	54.29925938	662.5832439	8.019278857	108.4022627
071320HW-01 258	881.1391146	1569.066036	3.54428703	12.9662941	5.824990719	0.097140454	8.677804728	0.010179082	2.268342569	0.261395899	65.28685809	1.473455723	94.13332757	7.801645813	905.9844317	172.8727295	65.28685809	1.473455723	7.206178805
071320HW-01 259	125.0071501	4344.958926	2.964938819	12.22138623	5.273040286	2.223362178	6.108887094	0.201502533	1.075361181	0.176032257	1183.386847	11.62596071	1188.429679	42.81050475	1198.469209	118.6760653	1198.469209	118.6760653	98.74153107
071320HW-01 260	177.1898039	6423.361756	0.515940805	12.92375993	2.537273687	1.941655597	3.974099185	0.183941059	0.847503784	0.213256827	1088.469001	8.488065116	1095.570443	26.64088366	1110.556782	77.59704335	1110.556782	77.59704335	98.01110753
071320HW-01 261	215.2690758	6571.023993	0.451621584	13.12562092	2.93251384	1.928410569	3.106726054	0.185507664	0.750662036	0.241624792	1096.993336	7.572169872	1090.98828	20.77595563	1079.878153	60.51580435	1079.878153	60.51580435	101.5849179
071320HW-01 262	552.1685021	869.3276751	4.270351414	11.68940556	13.27400466	0.087402173	21.65586795	0.009152251	2.926617744	0.13514202	58.73084863	1.711021407	85.08049395	17.67589478	907.4202209	446.9190482	58.73084863	1.711021407	6.472287842
071320HW-01 263	237.3882367	3030.116838	1.068603717	14.36740236	8.539827372	0.630807149	10.123491	0.07043466	1.048499414	0.103570934	438.7738321	4.447466943	496.5985434	39.78105881	773.7567819	212.3436852	438.7738321	4.447466943	56.70694492
071320HW-01 264	529.0499426	8288.854257	1.292314365	17.04190185	3.778731153	0.689122958	4.073746797	0.08765753	0.730974279	0.179435374	541.6685189	3.797671637	532.2733759	16.87716081	493.1675866	88.39658063	541.6685189	3.797671637	109.8345742
071320HW-01 265	309.3182219	15699.07159	1.798245809	9.705962691	1.389375444	4.133119268	1.612505679	0.292959048	0.764121498	0.473872128	1656.29929	11.16100247	1660.875787	13.1841505	1667.454362	26.26801077	1667.454362	26.26801077	99.33101182
071320HW-01 267	161.2586969	5499.554616	13.96196631	13.10468747	3.373848553	1.963876543	4.174044548	0.19288805	0.808430788	0.193680441	1137.001124	8.426882373	1103.211712	28.09000624	1038.032811	82.72494615	1038.032811	82.72494615	109.5342182
071320HW-01 268	280.4666499	9770.281262	3.392228171	10.79809507	1.267675265	3.266110717	1.645959342	0.259291763	0.782783706	0.475579005	1486.217374	10.39017151	1473.018808	12.79589842	1454.860875	27.54418237	1454.860875	27.54418237	102.1552919

071320HW-01 269	241.1913851	4263.883245	0.632292734	16.03238312	5.471017676	0.71790381	6.800799686	0.088029289	0.854886687	0.125703848	543.871511	4.458753228	549.4286772	28.86518053	573.4737098	146.8794015	543.871511	4.458753228	94.83808965
071320HW-01 270	198.2375336	7128.469462	2.172062944	10.3627737	1.512472119	3.499347692	1.940653188	0.267611471	0.805164738	0.414893678	1528.666549	10.95776382	1527.067502	15.32668965	1525.654363	33.27363846	1525.654363	33.27363846	100.1974357
071320HW-01 271	293.2758407	4171.69997	2.723691112	17.06601493	4.381825165	0.457157756	5.242811952	0.059996572	0.948558451	0.180925515	375.6046679	3.461021687	382.2793276	16.70293851	423.8496399	115.1399463	375.6046679	3.461021687	88.61743236
071320HW-01 272	2838.443222	7494.932243	3.198744425	18.97464463	2.144227649	0.104274052	2.956359134	0.014860634	0.766032346	0.259113427	95.09296936	0.72309649	100.7139694	2.834572785	236.9039607	65.89014178	95.09296936	0.72309649	40.13988162
071320HW-01 273	301.1483961	3267.389479	3.652177789	16.17388734	3.931951722	0.508906173	5.571159709	0.063920272	0.792610495	0.142270288	399.4227617	3.069782375	417.713357	19.08104346	520.9509081	121.1030571	399.4227617	3.069782375	76.67186206
071320HW-01 275	583.9248019	12169.48212	1.900739958	15.97169138	1.618649765	0.930042136	2.103244418	0.108817422	0.740532249	0.352090438	665.8763067	4.684903511	667.656836	10.29130291	674.5949492	42.07946722	665.8763067	4.684903511	98.70757371
071320HW-01 276	1433.254889	3533.101674	18.57675938	15.71026887	5.308596895	0.072759261	6.072528476	0.008782857	1.238167911	0.2038966	56.37074574	0.694921684	71.31449276	4.182037625	607.4827884	128.6555164	56.37074574	0.694921684	9.279398004
071320HW-01 277	667.0082208	17281.62166	6.297885293	12.81009909	1.222594172	1.985620032	1.470870678	0.184740058	0.777261682	0.528436452	1092.817989	7.813105336	1110.633539	9.932986928	1146.557785	24.81791416	1146.557785	24.81791416	95.31294485
071320HW-01 278	579.6812946	5568.979994	1.49853314	17.33978343	4.079063017	0.414478385	4.434217615	0.054197054	0.856602075	0.193179981	340.2378115	2.838907448	352.0950711	13.19401361	431.9953203	96.99950748	340.2378115	2.838907448	78.75960584
071320HW-01 279	44.72330059	2780.523929	2.165852732	9.04417144	5.360149773	4.209080603	6.770016784	0.287616514	1.65573045	0.244568146	1629.607386	23.84169356	1675.791615	55.60061434	1734.900323	120.5283508	1734.900323	120.5283508	93.93089413
071320HW-01 281	1582.360446	3015.185043	8.221504043	15.63564061	5.257135992	0.073509554	7.022672745	0.008975823	1.457191715	0.207498166	57.60373441	0.835657663	72.02440785	4.882852019	582.6413238	149.351049	57.60373441	0.835657663	9.886654458
071320HW-01 282	307.3440732	7327.229131	2.889354968	13.63135503	2.140144404	1.522593205	3.041763443	0.153938772	1.218593662	0.400620786	923.0047358	10.47955293	939.5211679	18.64407392	979.3151742	56.76959307	979.3151742	56.76959307	94.25001879
071320HW-01 283	1477.039394	60512.49883	3.414515437	10.98517016	1.083336618	3.017280664	1.529961304	0.239767691	1.073057591	0.701362569	1385.489227	13.37803129	1411.996976	11.6684457	1453.033565	20.75094183	1453.033565	20.75094183	95.351495
071320HW-01 284	2192.469979	5843.358304	2.544128854	19.14246371	3.585918059	0.102972088	4.137703889	0.014959259	1.134169541	0.274106019	95.71940413	1.077600179	99.51610304	3.922351173	192.4847842	92.56613123	95.71940413	1.077600179	49.72829646
071320HW-01 285	127.2601878	3874.871601	4.474394793	11.86296361	3.134339851	2.321995268	3.895110155	0.207942003	1.157847378	0.297256645	1217.844241	12.84890854	1219.033951	27.65153959	1221.976896	73.1087339	1221.976896	73.1087339	99.66180576
071320HW-01 286	388.5689693	26820.94805	0.953143185	9.515284414	1.109995556	4.214728827	1.566968459	0.291092668	1.0926526	0.697303506	1646.987199	15.88089739	1676.892002	12.86030579	1715.300117	20.65124306	1715.300117	20.65124306	96.01743645
071320HW-01 287	165.5748725	8657.453992	1.785951615	9.839641384	2.042677878	3.899443212	2.400892813	0.281544531	0.839616156	0.349709971	1599.136278	11.89084939	1613.56711	19.40490056	1633.239894	41.7952368	1633.239894	41.7952368	97.91190403
071320HW-01 288	224.7187109	2839.308206	1.610862366	14.74168303	5.653551142	0.772754652	7.17179308	0.088972482	1.030117742	0.143634616	549.4573724	5.42555259	581.3419681	31.75354366	708.8620599	151.098901	549.4573724	5.42555259	77.51259426
071320HW-01 289	412.5867151	406.7591988	2.941673004	7.504834408	28.52089347	0.074119864	36.33364987	0.00539002	9.250522042	0.254599306	34.65299764	3.196982984	72.60150751	25.46313228	1619.920505	675.9776537	34.65299764	3.196982984	2.139178901
071320HW-01 291	152.2967954	7652.386944	1.510413366	11.08771027	2.430546294	2.871713485	2.635405908	0.234703628	0.958064637	0.363535892	1359.103716	11.74006698	1374.521166	19.85046321	1399.372655	47.06246557	1399.372655	47.06246557	97.12235774
071320HW-01 292	1176.633907	1444.754282	4.102242425	14.08973522	8.885462496	0.054289883	9.671326413	0.006435728	1.852732928	0.191569682	41.3544382	0.763734957	53.68070616	5.05683063	646.5764648	204.3446014	41.3544382	0.763734957	6.395908366
071320HW-01 293	591.5973882	28280.99652	30.17677093	13.09769514	1.58098501	1.880461882	1.851324381	0.179054796	0.789998948	0.426720977	1061.808847	7.733870512	1074.225168	12.27258309	1100.361577	33.47626338	1100.361577	33.47626338	96.49635805
071320HW-01 294	486.1401824	23400.93341	3.419130957	9.679178324	0.914322465	3.937805754	1.41847492	0.276615065	1.052145078	0.741743871	1574.292311	14.69638261	1621.486575	11.48657059	1684.081053	17.56252749	1684.081053	17.56252749	93.48079231
071320HW-01 295	292.6220379	18987.81123	1.056105998	9.597285325	1.157747653	4.27069267	1.639617957	0.296698493	1.001607087	0.610878334	1674.916443	14.77381609	1687.730914	13.49052204	1704.473403	23.90128458	1704.473403	23.90128458	98.26591838
071320HW-01 298	1541.794521	60977.70682	11.01697909	10.56604358	0.635895128	3.452376187	0.929900643	0.262863717	0.667516863	0.717836758	1504.476606	8.956841427	1516.411563	7.32150303	1533.915811	12.18619508	1533.915811	12.18619508	98.08078089
071320HW-01 299	434.5944291	15451.65209	4.69223467	12.4347391	1.306485901	2.345215881	1.686805639	0.212860571	0.784603989	0.465141905	1244.039823	8.876736663	1226.106747	12.00808843	1195.539567	29.45708862	1195.539567	29.45708862	104.0567671
071320HW-01 300	408.5504819	13659.0947	8.4900438	14.09380305	1.964767447	1.53761133	2.313632152	0.158853348	0.734292926	0.317376695	950.401437	6.48866852	945.5482735	14.23554638	935.175748	45.00856813	935.175748	45.00856813	101.6281099
071320HW-01 301	351.9965808	6136.485913	1.663829126	16.24709218	2.862054628	0.856712179	3.244970847	0.104536953	0.816830085	0.251721856	640.9424661	4.983559	628.3264235	15.20419819	584.099192	68.19788272	640.9424661	4.983559	109.7317844
071320HW-01 302	217.6566733	9150.001529	0.899278547	11.8779659	2.458017512	2.627271772	3.123275982	0.229381471	0.873035795	0.279525665	1331.256557	10.50079813	1308.301556	22.97414077	1271.73459	58.51435568	1271.73459	58.51435568	104.6803765
071320HW-01 303	55.76617743	2910.6558	1.654569505	9.84851823	8.654344423	3.926188104	9.734826416	0.294087385	1.039821306	0.106814571	1661.922481	15.23317804	1619.094771	78.9390618	1564.657063	181.8717287	1564.657063	181.8717287	106.2164049
071320HW-01 304	1368.28376	2375.237299	4.95148525	16.29992702	10.64931831	0.066416372	10.89798387	0.008725525	1.181919956	0.108453084	56.00436723	0.6590598	65.29303174	6.891774913	421.5047737	242.4804953	56.00436723	0.6590598	13.28676939
071320HW-01 305	530.4975028	11597.04048	33.76621724	9.655395031	0.821989632	3.882286198	1.234143499	0.274942987	0.87688369	0.710520041	1565.843426	12.19024959	1610.005172	9.964920244	1669.046799	16.06090278	1669.046799	16.06090278	93.81662796
071320HW-01 306	236.8426277	9404.806372	1.670569131	11.0629691	1.317495081	3.179317184	2.06742266	0.259288663	0.91409697	0.442143248	1486.201505	12.13302863	1452.147921	15.9706841	1403.471424	35.52387437	1403.471424	35.52387437	105.8946751
071320HW-01 308	1786.286087	3858.609557	1.71611883	16.9054553	10.87774797	0.075786027	11.73036071	0.009932503	1.474096309	0.125665045	63.7131338	0.934566956	74.1753387	8.391013215	426.8834989	260.3078056	63.7131338	0.934566956	14.92518075
071320HW-01 309	102.4488741	9229.822389	1.408551679	5.392667398	1.220274865	13.30341402	1.622863032	0.524225869	0.975787292	0.601275199	2717.077546	21.63436308	2701.424838	15.32738832	2690.439452	21.43028734	2690.439452	21.43028734	100.990102
071320HW-01 310	4396.911441	8191.27958	13.52861585	19.18302989	2.038035476	0.064141975	3.839150889	0.009246629	0.892774541	0.232544791	59.33370197	0.527285858	63.12516332	2.349679462	210.3478277	86.58951352	59.33370197	0.527285858	28.20742321
071320HW-01 311	395.5193387	11964.36177	8.668078832	13.44859399	2.085551471	1.589560606	2.346203164	0.157635324	0.718243385	0.30613009	943.6223109	6.304806369	966.1250051	14.62434982	1018.544084	45.24278224	1018.544084	45.24278224	92.64422873
071320HW-01 312	149.4362415	9580.116788	1.503435394	9.906933225	1.85747094	3.708974156	2.049001768	0.270934339	0.752928088	0.367460926	1545.542818	10.34696583	1573.305664	16.38843389	1611.539862	35.50906107	1611.539862	35.50906107	95.90472163
071320HW-01 313	77.27553507	5112.086911	1.60675779	10.35747442	5.310409452	2.953102243	5.60554141	0.228870638	0.949365835	0.169362023	1328.577387	11.39819729	1395.644665	42.54435624	1500.476279	104.5265173	1500.476279	104.5265173	88.5437115
071320HW-01 314	167.5012938	3579.612911	3.035750787	13.55818124	7.485124251	0.863197857	8.815265304	0.08998799	0.989530763	0.112251955	555.4660944	5.266358765	631.8670758	41.49142069	916.6142524	180.5367697	555.4660944	5.266358765	60.59976625
071320HW-01 315	872.6689807	27527.94003	3.66438604	10.72988185	0.747626966	3.219650425	1.056544892	0.252602721	0.703084978	0.665456795	1451.884373	9.140100873	1461.900073	8.185769682	1477.290359	14.95703767	1477.290359	14.95703767	98.28023066
071320HW-01 316	98.35020893	12443.16883	1.537536486	5.844755806	1.468406654	11.44771135	1.727095431	0.489421496	0.85792797	0.496746129	2568.17268	18.17337573	2560.325714	16.12916681	2554.829873	25.09727377	2554.829873	25.09727377	100.5222581
071320HW-01 317	50.51400622	3658.231386	0.96460299	7.662471575	3.980655687	6.233850254	4.733349774	0.357283806	1.385887877	0.292792196	1969.286066	23.5174859	2009.210979	41.44063478	2051.258547	79.96895697	2051.258547	79.96895697	96.00379576
071320HW-01 318	229.8668911	8898.623161	3.27620468	13.57839824	4.217218008	1.590587272	4.637392931	0.1599494	0.764427659	0.164839959	956.4956224	6.795138759	966.5274873	28.91881451	990.3164397	93.09164358	990.3164397	93.09164358	96.58484743
071320HW-01 320	373.0536788	719.0095919	5.263709745	8.606259821	22.39882903	0.124121372	28.80631851	0.009311564	3.529240509	0.122516194	59.74844979	2.098924624	118.8015714	32.30706834	1561.761124	547.6968385	59.74844979	2.098924624	3.825709891
071320HW-01 321	277.3980296	2581.835257	2.001272071	14.4548951	8.229327963	0.459909439	10.64261653	0.052596277	1.480227008	0.139084877	330.4416256	4.768038844	384.1949593	34.05552149	723.1976568	224.1428489	330.4416256	4.768038844	45.69174451
071320HW-01 322	1888.014265	5103.799168	3.56757391	18.83392838	3.588902151	0.105244294	4.367254268	0.015242485	0.857667721	0.196386028	97.51803502	0.830086324	101.6057173	4.222611908	199.5890099	99.51222474	97.51803502	0.830086324	48.85942121
071320HW-01 323	260.0396349	11455.26988	2.538251001	10.30526618	1.220193311	3.52469447	1.498461682	0.266599934	0.749746729	0.500344279	1523.52034	10.17310957	1532.771543	11.85297852	1546.361735	24.38185858	1546.361735	24.38185858	98.52289445
071320HW-01 324	1737.592852	2787.526884	3.185800323	17.08673582	3.914022442	0.073551974	5.474272977	0.00997581	0.977439963	0.178551557	63.98955592	0.622365465	72.06453048	3.808286879	349.9666623	121.8351977	63.98955592	0.622365465	18.28447187
071320HW-01 325	293.8514378	4219.504678	1.362992003	15.29499553	7.325873806	0.599986619	8.843962085	0.069962715	0.991229429	0.112079792	435.9310351	4.178211909	477.2252283	33.68691932	681.8190931	188.036337	435.9310351	4.178211909	63.93646636
071320HW-01 326	263.5381147	6769.574359	1.971890529	12.65808491	1.966241188	1.995692437	2.426621632	0.187467169	0.710944849	0.292977215	1107.639708	7.235322777	1114.05331	16.4159568	1127.438681	46.24749173	1127.438681	46.24749173	98.24389802
071320HW-01 327	871.1819821	1635.664992	5.039584936	12.02895737	13.81772985	0.099654493	14.6792426	0.009675218	1.308128523	0.08911417	62.07066793	0.808067548	96.45736198	13.50827238	1061.402841	295.6997829	62.07066793	0.808067548	5.847983964
071320HW-01 328	658.8368008	19532.01426	12.46121	12.06423496	1.130505906	2.098443702	1.4289377	0.184832834	0.809171636	0.566274958	1093.322783	8.137315033	1148.296648	9.826762881	1254.477359	23.01838641	1254.477359	23.01838641	87.15364811
071320HW-01 329	2813.418271	4398.013981	20.73799408	17.37011557	3.492387637	0.069223235	5.806342674	0.009218505	0.851880379	0.146715485	59.15406283	0.501616849	67.96206184	3.81696454	391.1395001	128.9656719	59.15406283	0.501616849	15.12352059
071320HW-01 330	317.9485002	13911.4714	1.185324823	9.989877349	1.027225056	3.706687481	1.261698364	0.270144513	0.716108036	0.567574673	1541.53543	9.818386018	1572.812475	10.08951645	1615.829271	19.34348426	1615.829271	19.34348426	95.40212314
071320HW-01 331	1586.660872	2430.304462	3.213038066	13.9904201	6.625605003	0.091400374	7.244779142	0.010073427	1.137515385	0.157011741	64.61259022	0.731307079	88.8070448	6.160617753	801.1218388	150.0667256	64.61259022	0.731307079	8.06526387
071320HW-01 332	63.99503467	2512.060529	1.568821669	11.18278727	8.494003402	2.115176771	9.345799739	0.182255345	1.60588695	0.171829805	1079.283956	15.95890353	1153.765445	64.51999335	1297.348368	179.3630719	1297.348368	179.3630719	83.19152997
071320HW-01 333	104.6201646	2801.888941	2.483421707	12.33293997	7.540970401	1.781085016	7.987798461	0.169565471	1.088042696	0.136213088	1009.716602	10.16897985	1038.575565	51.9884257	1100.67988	158.5280164	1100.67988	158.5280164	91.73571905
071320HW-01 334	939.7138818	1257.005007	1.556924353	8.649637908	10.98747936	0.084117132	11.95416608	0.00581966	2.116492729	0.177050638	37.40719338	0.789427874	82.00837932	9.418243167	1712.117674	217.1739774	37.40719338	0.789427874	2.184849438
071320HW-01 335	479.2620055	5798.652609	1.329790881	16.65358792	3.040995457	0.539271863	4.606295466	0.067895225	0.846478944	0.183765664	423.4625765	3.469325088	437.9443453	16.3874673	515.7405636	99.48553906	423.4625765	3.469325088	82.10767319
071320HW-01 336	117.7226758	1283.831387	2.618253535	12.93527933	8.305615091	0.643628249	17.38063447	0.070531016	1.547526871	0.089037421	439.35408	6.572603567	504.5500789	69.21480146	813.1333573	364.5255881	439.35408	6.572603567	54.03222928
071320HW-01 337	498.4217435	7426.123745	1.384130149	16.51054667	3.208929259	0.642368962	3.396918594	0.079395066	0.926084691	0.272624929	492.5109455	4.391188342	503.7718321	13.49131945	556.2128969	71.29009599	492.5109455	4.391188342	88.54719988
071320HW-01 338	605.1945539	8139.899989	1.591304118	16.84804888	2.583141712	0.711496257	2.975848656	0.089431193	0.906314003	0.304556484	552.1722429	4.796077543	545.6343527	12.56202271	519.356753	62.23468024	552.1722429	4.796077543	106.3184872
071320HW-01 339	220.5464124	4155.684766	2.163640628	15.29284457	3.875778864	0.773707061	6.532533606	0.090244391	0.968548488	0.148265366	556.9823232	5.168160862	581.8873345	28.9416854	681.2351698	138.1476626	556.9823232	5.168160862	81.76065299
071320HW-01 340	154.306135	7108.335316	2.205035948	10.56592629	2.336704582	3.289279206	2.586188878	0.256265785	0.985221903	0.380955124	1470.708513	12.95573162	1478.518253	20.1401881	1490.551427	45.27362027	1490.551427	45.27362027	98.66875344
071320HW-01 341	108.1271867	4052.26503	2.741963457	13.48053404	4.503890584	1.560386726	5.070507825	0.159479243	1.764071791	0.347908307	953.8821951	15.64143158	954.6208175	31.38674948	957.1942141	97.24639506	957.1942141	97.24639506	99.65398674
071320HW-01 342	1086.433241	47720.95772	4.348159096	9.525361163	0.76452964	4.095895549	1.197396696	0.282519419	0.904211776	0.755148047	1604.038286	12.84024449	1653.48573	9.772591178	1717.680059	14.42944666	1717.680059	14.42944666	93.38399652
071320HW-01 343	468.4831282	9528.665694	2.575692155	16.11536923	2.723749413	0.860885474	3.352485844	0.102701153	0.837886916	0.249930038	630.2192662	5.030616304	630.6061186	15.749161	632.9504361	69.92352528	630.2192662	5.030616304	99.56850179
071320HW-01 344	157.5936739	7377.450203	2.523959602	10.02032178	2.531103201	3.692579727	2.817655985	0.273146974	1.082009632	0.384010553	1556.755957	14.96469825	1569.764411	22.51683167	1588.095031	48.62807277	1588.095031	48.62807277	98.02662476
071320HW-01 345	1023.62048	1016.190804	2.192964692	10.65281928	17.6995131	0.066127946	19.67785942	0.005984112	2.520741691	0.128100401	38.46110106	0.966618592	65.01837098	12.39381576	1201.448112	388.2739191	38.46110106	0.966618592	3.201228641
071320HW-01 346	1750.620018	4926.993373	5.195387428	17.82779743	4.616313757	0.10967973	5.297233764	0.014935726	1.101018597	0.20784784	95.56993712	1.044481292	105.6723786	5.316327626	340.8844547	117.3971866	95.56993712	1.044481292	28.03587427
071320HW-01 347	129.2948253	5713.235414	2.290949309	8.601018531	1.783546103	5.212830736	2.181195774	0.331024129	1.064017758	0.487813965	1843.343547	17.05853845	1854.715568	18.5847684	1868.259714	34.35758613	1868.259714	34.35758613	98.6663435
071320HW-01 348	352.648995	21917.51761	4.485824054	8.981050752	1.064913651	4.844909531	1.474472562	0.316495249	1.003917184	0.680865287	1772.590437	15.55839654	1792.730991	12.41069523	1817.0217	19.60692628	1817.0217	19.60692628	97.55472027
071320HW-01 349	494.1353091	17680.93785	4.253633948	13.66815797	1.82316468	1.517686339	2.360068909	0.151949459	1.254272843	0.531456026	911.8819619	10.66538053	937.5441541	14.44655511	999.2073954	40.60867867	999.2073954	40.60867867	91.2605297
071320HW-01 350	171.4350871	4833.344293	2.59709271	13.57104465	4.218766965	1.628380194	5.854054026	0.166805049	1.110988064	0.189780972	994.4837123	10.23855942	981.2334474	36.84213509	952.5872062	117.6873669	952.5872062	117.6873669	104.3981806
071320HW-01 351	623.1747451	663.8002047	2.10551744	9.152942644	16.41954569	0.069692821	26.25415422	0.005728739	4.021851822	0.15318916	36.82444656	1.476802647	68.40790376	17.36997794	1388.365518	506.6437152	36.82444656	1.476802647	2.652359633
071320HW-01 352	703.854294	9000.238805	1.452498891	17.33968088	3.063438613	0.62665028	3.272421022	0.080828076	0.813941842	0.248727727	501.0635563	3.923893907	494.0070645	12.80127241	462.415683	70.27627069	501.0635563	3.923893907	108.3578206
071320HW-01 353	520.2498649	26095.71444	2.368114158	10.65489947	0.929437	3.270503045	1.239881937	0.253162563	0.782307485	0.630953207	1454.76491	10.18798096	1474.063694	9.641815547	1502.76873	18.17999677	1502.76873	18.17999677	96.80564155
071320HW-01 354	224.3914418	192.2715617	2.958321215	5.748632551	23.33113176	0.084094675	28.65368358	0.005928047	8.626863135	0.301073444	38.10182435	3.277297672	81.9873459	22.57268327	1677.610538	514.8045723	38.10182435	3.277297672	2.271196054
071320HW-01 355	136.2576233	6622.332176	1.03082209	8.81017354	1.986417979	5.068478432	2.224014139	0.328480329	0.847314197	0.380984177	1831.011631	13.50571445	1830.845208	18.86319273	1831.428272	37.27096793	1831.428272	37.27096793	99.97725053
071320HW-01 356	1376.913802	1190.9093	2.925010332	11.69464215	11.9643115	0.060213234	15.02607303	0.005916852	2.242583615	0.149246154	38.03008216	0.850345658	59.3695003	8.665321568	1037.065371	301.639539	38.03008216	0.850345658	3.667086301
071320HW-01 357	192.5387341	6485.299254	1.102365717	9.676375944	1.167950176	4.074533836	1.582129229	0.290271577	0.768308651	0.485616875	1642.886193	11.14237429	1649.220354	12.89962259	1658.091175	25.61572682	1658.091175	25.61572682	99.08298278
071320HW-01 358	792.5530792	1032.110047	5.998403035	12.68493968	8.887056897	0.092858069	13.65574644	0.010311364	2.097938184	0.153630429	66.13095517	1.380294556	90.16230494	11.78204643	785.3427786	284.6099019	66.13095517	1.380294556	8.420648533
071320HW-01 359	1493.321108	57442.69427	12.50706509	11.29281884	0.647304593	2.807726044	0.978217149	0.228925943	0.70189831	0.717528118	1328.867501	8.428726269	1357.599809	7.324226245	1403.953887	13.05090608	1403.953887	13.05090608	94.65179122
071320HW-01 360	1889.015327	2907.31434	2.787062688	17.0681948	6.442583317	0.068031381	9.73185401	0.009147673	0.902710635	0.092758341	58.7016079	0.527500282	66.8295914	6.29442891	369.4335411	218.7325203	58.7016079	0.527500282	15.88962597
071320HW-01 361	857.6247497	1243.056693	4.271896892	13.21336945	10.60820185	0.080693034	17.66657914	0.009071185	2.026202425	0.114691271	58.21298382	1.174203226	78.79629716	13.39495497	759.504655	372.793869	58.21298382	1.174203226	7.664598688
071320HW-01 362	696.1274957	2230.495691	2.891835445	12.34424491	16.82182569	0.158211588	18.09240572	0.015254539	1.90495784	0.105290467	97.59457258	1.845133205	149.136499	25.09949928	1075.300409	364.0808515	97.59457258	1.845133205	9.076028589
071320HW-01 363	590.061524	36393.18161	11.1220409	8.689015432	0.755764988	5.366398713	1.052476479	0.336244906	0.728999778	0.692651848	1868.579345	11.82539727	1879.508513	9.008299292	1892.374399	13.65674206	1892.374399	13.65674206	98.74258215
071320HW-01 364	924.2439573	1632.499006	13.73026079	14.53158712	5.569908029	0.074954046	6.367601318	0.008992683	1.930623875	0.303194842	57.71145474	1.109218593	73.38976728	4.508310383	620.6806042	131.0089621	57.71145474	1.109218593	9.298092184
071320HW-01 365	816.4371367	1574.182365	4.228626998	14.86316138	12.50851181	0.081328716	13.41130222	0.010074738	2.016832931	0.15038308	64.62095579	1.296786172	79.39338722	10.24240085	551.2511075	290.5884828	64.62095579	1.296786172	11.72259882
071320HW-01 366	2042.450354	3126.281583	2.951185962	17.38983415	5.353348362	0.073314242	6.996876132	0.009978153	0.870946399	0.124476464	64.00451038	0.554686764	71.83965446	4.852872253	342.0927378	157.3358756	64.00451038	0.554686764	18.70969574
071320HW-01 367	293.367573	6224.042073	1.407929516	15.77799687	5.713472961	0.762665384	5.898962712	0.089786534	1.115808985	0.189153422	554.2745291	5.926222457	575.5466174	25.92173428	661.3727413	124.2322702	554.2745291	5.926222457	83.80667882
071320HW-01 368	2321.73864	2702.914617	0.837985984	18.57782469	1.463810012	0.362044769	10.09028567	0.053726699	0.657545608	0.065166203	337.3609518	2.161256325	313.7402415	27.24008371	142.7957074	NA	337.3609518	2.161256325	236.254267
071320HW-01 369	215.8111421	10433.7773	2.912210769	11.28245866	1.813114162	2.707186228	2.196134416	0.222356649	0.682645244	0.310839463	1294.315389	8.005080032	1330.429162	16.28545118	1389.863718	40.06341178	1389.863718	40.06341178	93.1253455
071320HW-01 370	402.7417595	5644.384281	0.562989229	16.16410714	3.709641693	0.72153657	3.885510659	0.087243564	0.71251618	0.183377744	539.2145258	3.685696232	551.5735863	16.53706779	603.8591353	82.69155798	539.2145258	3.685696232	89.29475342
071320HW-01 371	997.8625688	45659.8322	3.172906637	9.225379622	0.575016363	4.553157686	0.92998081	0.301998047	0.682509329	0.733896143	1701.208983	10.20518687	1740.738913	7.742567502	1789.339893	11.5072272	1789.339893	11.5072272	95.07466911
071320HW-01 372	786.7855141	28421.8683	10.47779531	12.25637499	0.65356734	2.317270762	1.054026668	0.20487939	0.635353568	0.602786995	1201.479265	6.96447759	1217.588856	7.476274168	1247.109247	16.45830857	1247.109247	16.45830857	96.34113993
071320HW-01 373	1959.776386	70823.778	7.362341848	12.58031231	0.608997782	2.16493936	0.906255211	0.196302385	0.628250211	0.693237626	1155.425973	6.645621618	1169.857233	6.294573857	1197.540688	12.86614983	1197.540688	12.86614983	96.48323309
071320HW-01 374	154.9049498	2596.688923	1.976097647	14.71079624	7.15697609	0.849378402	8.370775104	0.097566513	1.24700336	0.148971074	600.1319491	7.145883708	624.3078476	39.05576243	713.8376094	176.1423823	600.1319491	7.145883708	84.07121468
071320HW-01 375	553.2201063	29503.24178	1.360141826	9.076432208	0.734308157	4.81692766	0.993399464	0.314784188	0.610916518	0.614975687	1764.20652	9.428852008	1787.858282	8.352954002	1816.347474	14.22277384	1816.347474	14.22277384	97.12935134
071320HW-01 376	199.0464753	2958.058879	2.35355231	15.11566438	5.782158423	0.763496339	6.440535822	0.089346749	1.071433314	0.166357791	551.6725449	5.664949921	576.025176	28.32023821	674.2222487	135.9588704	551.6725449	5.664949921	81.82354497
071320HW-01 377	171.1355821	7142.382738	1.67365323	9.565140719	1.193641711	4.330350453	2.039804823	0.30252177	0.634492041	0.311055271	1703.801506	9.4998411	1699.15925	16.82773115	1694.224816	35.74138313	1694.224816	35.74138313	100.565255
071320HW-01 378	159.3262453	10935.99044	1.441412875	5.219566906	0.867591197	13.97443881	1.415922757	0.524815145	1.113673977	0.786535827	2719.56929	24.70970533	2747.976512	13.41771526	2769.617078	14.34302341	2769.617078	14.34302341	98.19297084
071320HW-01 379	146.2201005	6684.570811	3.936745088	11.15770766	2.15939681	3.177694708	2.73479495	0.259663564	0.810237509	0.29626993	1488.12037	10.76681869	1451.753657	21.12480964	1399.725048	50.06900919	1399.725048	50.06900919	106.3151919
071320HW-01 380	361.1324366	16305.20482	1.412186741	10.31586884	1.142762413	3.670346998	1.503415353	0.273219117	0.673603942	0.448049131	1557.121231	9.31817925	1564.942248	11.9973983	1576.30556	25.15814442	1576.30556	25.15814442	98.78295624
071320HW-01 381	1256.640744	2549.814724	9.475121164	14.7478767	10.21104149	0.084884348	11.52414237	0.00977391	1.506063807	0.130687713	62.70075292	0.939735796	82.72669928	9.155761482	708.7316763	243.6826569	62.70075292	0.939735796	8.846895802
071320HW-01 382	243.8766358	12489.2482	2.078042135	11.44934722	1.336395093	2.910580571	1.602927524	0.241464408	0.694643933	0.433359539	1394.305607	8.709627256	1384.663499	12.11442459	1370.654	27.79985056	1370.654	27.79985056	101.725571
071320HW-01 383	650.7081118	14783.45457	11.37633966	14.28520371	1.491958157	1.494164693	1.657935873	0.155240041	0.641676133	0.387033143	930.2701053	5.558603729	928.013282	10.08521737	923.5697222	31.41543207	923.5697222	31.41543207	100.7254875
071320HW-01 384	145.8073595	1563.662629	3.877733897	13.84875628	8.59851924	0.601466381	16.55608659	0.06848662	1.495773811	0.090345856	427.031576	6.180461522	478.1638807	63.21815029	732.4558275	351.4846414	427.031576	6.180461522	58.30134187
071320HW-01 385	354.1094813	20243.34614	4.862760946	8.845684742	0.859734096	5.109542138	1.117651748	0.326033135	0.694153759	0.621082337	1819.125738	11.0022541	1837.692881	9.491227463	1859.555825	15.82127774	1859.555825	15.82127774	97.82582025
071320HW-01 386	101.2802185	6183.813689	2.104203513	9.352204535	2.664288218	4.495860015	2.859659131	0.307863498	0.915239759	0.320052047	1730.184612	13.88831429	1730.207731	23.75748908	1731.018659	49.72224805	1731.018659	49.72224805	99.95181758
071320HW-01 387	97.24611671	4710.661613	1.076587612	8.772724107	2.007156149	5.101064444	2.760283087	0.329188842	0.756377995	0.274021892	1834.448754	12.07580296	1836.282942	23.43774665	1839.13506	48.07575507	1839.13506	48.07575507	99.74518967
071320HW-01 388	500.7378897	29133.15617	1.550980994	9.729930145	0.7717368	4.169675128	1.03759467	0.292941112	0.640769306	0.617552619	1656.209865	9.358835026	1668.08128	8.497804769	1683.840602	15.06611689	1683.840602	15.06611689	98.35906455
071320HW-01 389	838.6412072	41999.92249	0.558872616	8.688692598	0.654116188	5.244206853	0.934753503	0.328610452	0.661453522	0.707623475	1831.643019	10.54633676	1859.830563	7.97147093	1892.255151	11.88216174	1892.255151	11.88216174	96.79683094
071320HW-01 390	636.9702641	22689.39725	0.64559973	9.822127155	0.713164345	3.920256064	0.985781108	0.278575998	0.666754242	0.676371495	1584.18667	9.364863382	1617.871325	7.975282261	1662.769531	13.43866307	1662.769531	13.43866307	95.27397756
071320HW-01 391	216.1993174	279.9411283	2.628663643	6.951553812	21.06453226	0.083277632	27.26820046	0.006357315	4.992545147	0.183090379	40.85216762	2.033114058	81.22179995	21.28818357	1529.004385	514.374345	40.85216762	2.033114058	2.671814942
071320HW-01 392	543.2281003	5194.738532	3.074131622	16.71427221	3.894178111	0.596214822	4.541688182	0.075185352	0.659099433	0.145122124	467.3203393	2.971112355	474.8287458	17.22662973	512.2109736	98.79264613	467.3203393	2.971112355	91.2359093
071320HW-01 393	576.2799148	5664.486692	4.948009584	17.16450153	2.625493842	0.560679106	4.073368149	0.072407643	0.718671484	0.176431753	450.644667	3.128046208	451.9683714	14.85988106	459.6667739	88.94874306	450.644667	3.128046208	98.03725058
071320HW-01 394	370.5250274	526.9832306	4.728958386	7.788102636	36.30392503	0.127457001	39.12063816	0.009011297	5.668286152	0.144892477	57.83038164	3.263332333	121.8100778	44.93481214	1672.16136	745.5353134	57.83038164	3.263332333	3.458421121
071320HW-01 396	883.0485995	23139.06482	3.898106528	13.40221844	1.081114902	1.748096559	1.376169501	0.171276776	0.65310965	0.47458518	1019.142083	6.156634702	1026.459371	8.888866077	1042.948624	24.46072857	1042.948624	24.46072857	97.71738115
071320HW-01 397	253.2771278	12706.97024	1.762610607	8.338255776	0.9210833	5.732308319	1.175898815	0.349620467	0.635652727	0.540567538	1932.785931	10.61509061	1936.252297	10.16669794	1940.725889	17.69622205	1940.725889	17.69622205	99.59087689
071320HW-01 398	260.5100955	3276.237536	2.755375718	17.13282151	4.512263464	0.52560462	6.781935521	0.070686936	1.327835805	0.195790096	440.2929198	5.651182698	428.8884636	23.72901969	369.0263761	149.9516594	440.2929198	5.651182698	119.312046
071320HW-01 399	375.6100873	1025.58745	5.957365678	13.29851998	10.95420402	0.126412045	19.03301324	0.014979099	2.317597691	0.121767251	95.84541623	2.204879527	120.8685586	21.69175515	647.4737399	409.1628816	95.84541623	2.204879527	14.80298124
071320HW-01 400	246.4245028	12650.54387	2.482982474	11.45057161	2.174141079	2.872541463	2.338415572	0.240735521	0.662968848	0.283511988	1390.519684	8.292252686	1374.738285	17.61430031	1351.129594	43.27374224	1351.129594	43.27374224	102.9153451
071320HW-01 401	117.9484947	3072.576625	1.496327408	10.34619197	3.590224868	3.146323886	4.224376957	0.246773147	0.837325282	0.198212728	1421.812932	10.68373894	1444.10025	32.55979035	1477.879134	78.55220253	1477.879134	78.55220253	96.20630667
071320HW-01 402	5049.280968	8990.731542	3.901363402	19.52467882	2.697441201	0.061056377	3.699736041	0.008908812	0.778472859	0.210413081	57.17558521	0.443128376	60.17667043	2.161692308	182.2654208	84.27947405	57.17558521	0.443128376	31.36940894
071320HW-01 403	523.1846911	26270.93545	4.092837335	10.67899645	1.019111428	3.349640867	1.332837178	0.259953654	0.73152722	0.548849651	1489.604756	9.729496853	1492.707806	10.42238489	1497.924397	21.0709087	1497.924397	21.0709087	99.44458873
071320HW-01 404	333.4149852	568.3418842	5.533529483	6.392694478	32.28682329	0.169000599	33.37869956	0.009164176	3.500474681	0.104871512	58.80702431	2.049164167	158.5512459	49.03546131	2148.524287	597.993781	58.80702431	2.049164167	2.737089111
071320HW-01 405	808.6021449	653.1187416	4.471575534	10.21104151	17.57936562	0.060086774	19.50545279	0.005702976	3.896156917	0.199747063	36.65931268	1.424250834	59.24837984	11.22641554	1106.839733	385.3717584	36.65931268	1.424250834	3.312070536
071320HW-01 406	294.9613495	8499.66903	4.342080126	12.93256751	1.910084058	2.028372101	2.175754888	0.193740332	0.76308248	0.350720793	1141.60525	7.983624151	1125.070026	14.79820425	1094.17635	40.78257814	1094.17635	40.78257814	104.3346669
071320HW-01 407	624.8821102	852.3747336	2.401320679	15.48596781	4.024105385	0.426339232	15.48098959	0.065102959	0.905702619	0.058504181	406.5848137	3.568724381	360.5738787	47.01878065	75.22942817	NA	406.5848137	3.568724381	540.4597956
071320HW-01 408	1838.106828	3571.71305	3.259353656	14.97104086	8.465943954	0.077984702	9.627353702	0.008977866	1.108104651	0.115099609	57.61679186	0.635609644	76.24844569	7.071974443	709.1095599	203.7928539	57.61679186	0.635609644	8.125231292
071320HW-01 409	350.1501031	10579.64384	2.211621648	13.70369702	2.761771712	1.567057486	3.156385758	0.158027641	0.761854098	0.241369134	945.8065964	6.701998102	957.2628277	19.56694725	984.568384	62.36638114	984.568384	62.36638114	96.06306802
071320HW-01 410	318.6122806	592.4664848	4.210418331	7.299770338	26.26021569	0.12638775	28.53224799	0.007996239	5.905060495	0.206960927	51.3420677	3.019739153	120.8466577	32.51856765	1874.926765	513.9163843	51.3420677	3.019739153	2.738350567
071320HW-01 411	934.5756606	952.7807444	5.2862904	12.70913072	9.61582595	0.051186795	17.61466277	0.005822904	2.369333654	0.134509169	37.42798381	0.884224428	50.6877257	8.709494195	734.4674493	372.2581357	37.42798381	0.884224428	5.095935
071320HW-01 412	129.061119	7991.630305	1.642173014	9.531054827	1.817397767	4.246796439	2.144125691	0.296915122	0.942130939	0.439400984	1675.993303	13.90435692	1683.116909	17.62345231	1692.792862	35.51609687	1692.792862	35.51609687	99.00758335
071320HW-01 413	81.03290332	2817.624332	2.332839412	12.22704772	7.160230553	1.822855166	7.817776986	0.171277762	1.233905999	0.157833359	1019.147508	11.63166362	1053.712589	51.30339486	1126.900338	154.031001	1126.900338	154.031001	90.43812247
071320HW-01 414	294.7795002	9103.127081	2.790598052	12.6095359	1.950320976	2.075980506	2.201389817	0.192567601	0.821681962	0.373256002	1135.269172	8.55307788	1140.908477	15.08684797	1152.494161	40.56139633	1152.494161	40.56139633	98.50541636
071320HW-01 416	1132.762055	9210.889295	1.416170531	17.63200448	1.382247768	0.538447429	2.507037781	0.070436752	0.714580849	0.285029948	438.7864269	3.031153424	437.4003605	8.909689783	431.058771	53.57980586	438.7864269	3.031153424	101.7927152
071320HW-01 417	818.0809684	9425.521322	1.411809565	16.4329044	1.793926553	0.82791389	2.322236608	0.100664301	0.775189236	0.333811479	618.3007748	4.57032005	612.4540446	10.68026011	591.8161071	47.46427689	618.3007748	4.57032005	104.4751516
071320HW-01 418	259.8882597	7416.910013	2.436415518	12.34001617	2.223945256	2.217931705	2.640082095	0.201992756	0.762309266	0.288744531	1186.016501	8.258165589	1186.717597	18.47849639	1188.873213	49.91139885	1188.873213	49.91139885	99.7597127
071320HW-01 419	1274.720254	5919.263902	2.540012399	19.0949892	2.263756836	0.207037436	3.616522964	0.029889775	0.793719007	0.219470197	189.8583823	1.484967289	191.0635702	6.298756923	206.9811524	81.85223251	189.8583823	1.484967289	91.72737714
071320HW-01 420	626.8758775	23749.80743	2.118156038	8.740145896	0.77872149	4.708542652	1.179927938	0.297868613	0.869255781	0.736702431	1680.730962	12.86057488	1768.760485	9.882353073	1875.10336	14.3859351	1875.10336	14.3859351	89.63404353
071320HW-01 421	513.0911924	25596.2478	2.956945613	12.44716221	1.051030857	2.178061609	1.34857689	0.196601556	0.782305076	0.580096754	1157.037888	8.285752963	1174.058439	9.384817648	1206.450346	21.61666263	1206.450346	21.61666263	95.90431073
071320HW-01 422	1191.529325	1228.65109	2.193743049	13.79931949	10.30587858	0.052508021	17.52822181	0.006235696	1.986609507	0.113337766	40.07306594	0.793626064	51.96314936	8.879307144	642.7133844	376.9999612	40.07306594	0.793626064	6.234982329
071320HW-01 423	641.5243426	2400.527037	3.207829244	15.69384478	3.713141037	0.117776125	9.492290806	0.014723463	2.130002519	0.224392885	94.22159409	1.992326874	113.0538753	10.15588702	531.3312702	203.0035916	94.22159409	1.992326874	17.73311668
071320HW-01 424	380.8147704	17351.7194	3.690454625	10.89781552	1.101005929	3.301323939	1.619186645	0.261522127	1.039111304	0.641748934	1497.624683	13.88655484	1481.365556	12.61929733	1458.96616	23.60954429	1458.96616	23.60954429	102.6497203
071320HW-01 425	121.058274	7340.819895	0.871949963	10.32542574	2.938785611	3.55886039	3.317068965	0.270036668	0.800514946	0.241332018	1540.988056	10.97222109	1540.409888	26.29881427	1540.417431	60.55172395	1540.417431	60.55172395	100.0370435
071320HW-01 426	149.587339	7930.788741	1.950690002	9.371378207	1.729963008	4.376482472	2.005612641	0.300372665	0.754841039	0.376364321	1693.156412	11.24001071	1707.909169	16.5783963	1726.835138	34.11686292	1726.835138	34.11686292	98.04968494
071320HW-01 427	175.0219338	9879.420772	2.669110141	9.176950505	1.550694833	4.685819256	1.82054907	0.313815086	0.74506153	0.409251001	1759.45324	11.47229686	1764.710591	15.23552322	1771.718373	30.32812063	1771.718373	30.32812063	99.30772675
071320HW-01 428	356.8510747	11619.26555	1.599231032	13.17994614	2.032928813	1.846346645	2.561885702	0.179064129	0.818720906	0.319577452	1061.859873	8.015405107	1062.127525	16.87543965	1063.57249	48.83497399	1063.57249	48.83497399	99.83897508
071320HW-01 429	286.7773031	16742.84017	3.377870727	8.667625992	1.155763244	5.23661419	1.455260711	0.331448329	0.770029706	0.529135227	1845.397706	12.35713338	1858.595154	12.40777847	1874.160825	22.26351006	1874.160825	22.26351006	98.46528011
071320HW-01 430	660.5613406	34617.20121	3.208234169	9.383068997	0.770990394	4.25765024	1.077980186	0.290770945	0.720405482	0.668291951	1645.380639	10.46158342	1685.215215	8.864005385	1735.937331	14.70551611	1735.937331	14.70551611	94.78341233
071320HW-01 431	2262.402586	3624.016756	7.151719382	16.46187288	7.996389723	0.07766428	8.560063919	0.009929298	0.855648849	0.099958231	63.69267503	0.542302169	75.94658644	6.263978544	481.9783307	188.4654107	63.69267503	0.542302169	13.21484203
071320HW-01 432	310.4391419	346.2119155	2.915800833	6.270868482	9.62634984	0.094466849	27.45803809	0.005672718	9.454309209	0.344318453	36.46536149	3.437815861	91.65593627	24.06897324	1968.503602	467.9399791	36.46536149	3.437815861	1.852440679
071320HW-01 433	909.8123332	901.4735353	4.791218175	10.96456959	10.87900311	0.060646914	20.22157065	0.005856414	2.960754531	0.146415656	37.6427532	1.111261861	59.78475692	11.74091713	1072.238187	405.754477	37.6427532	1.111261861	3.510670825
071320HW-01 434	735.5252904	810.3509576	1.814019292	8.453710057	19.59836903	0.087458084	23.87016483	0.006302562	3.155677077	0.13220173	40.50142507	1.274087604	85.13270045	19.49512943	1636.778791	445.8257065	40.50142507	1.274087604	2.474459303
071320HW-01 435	1168.348049	18891.16392	1.569624564	16.15067468	1.675452102	0.853165313	2.060820818	0.101852437	0.663910431	0.322158251	625.25574	3.956177227	626.3848883	9.633901528	631.4218591	42.0224846	625.25574	3.956177227	99.02345493
071320HW-01 436	492.8610252	486.2258402	2.383489491	6.800441342	19.59311326	0.095291851	22.01244223	0.005824621	3.721403737	0.169059103	37.43899376	1.389218132	92.42103716	19.44809871	1936.833849	393.1639232	37.43899376	1.389218132	1.932999766
071320HW-01 437	364.7121471	354.749816	2.869293232	11.26766084	13.33283515	0.038837322	72.53154822	0.006020983	7.249516683	0.099949841	38.69736666	2.796968826	38.68825551	27.540072	39.18796586	NA	38.69736666	2.796968826	98.74808709
071320HW-01 438	243.9258777	6429.506533	2.150473429	13.6106211	2.940929593	1.545155302	3.123140396	0.157556951	0.689616074	0.220808541	943.1858678	6.050913021	948.5623909	19.2544589	961.967672	62.23608497	961.967672	62.23608497	98.04756389
071320HW-01 439	340.1503935	6832.343578	5.123733177	15.78396478	3.814957955	0.714551204	4.318745509	0.0851827	0.935448761	0.216601964	526.9837842	4.733548438	547.445152	18.27752233	634.4982021	90.77843647	526.9837842	4.733548438	83.05520527
071320HW-01 440	2121.213966	2611.157019	2.709524483	14.95628503	7.342890458	0.051107085	8.019175455	0.006086164	1.574020309	0.196282064	39.11502484	0.613814327	50.61072749	3.959095439	636.7556028	169.4419418	39.11502484	0.613814327	6.142863081
071320HW-01 441	393.2031365	20334.96543	2.261203386	10.94530198	1.013519665	3.139776814	1.281200013	0.252776724	0.733191514	0.572269362	1452.779801	9.536727142	1442.495686	9.866937223	1428.17983	20.05902271	1428.17983	20.05902271	101.7224701
071320HW-01 442	606.7337379	11859.16249	3.047286463	13.50134812	1.425117818	1.629452072	1.786184349	0.163253787	0.793893486	0.444463354	974.8336333	7.182397113	981.6474457	11.23958457	997.783843	32.48816373	997.783843	32.48816373	97.6998816
071320HW-01 443	1189.606494	1277.728668	4.405369175	11.4845794	8.904450298	0.058766035	14.09109571	0.005650271	2.502974086	0.177628067	36.3214722	0.906560696	57.98254797	7.941634982	1080.909793	279.4729286	36.3214722	0.906560696	3.360268585
071320HW-01 444	183.9513568	10065.03695	1.76209549	10.22919845	2.08173828	3.459051409	2.560049401	0.263953621	0.731306299	0.285661011	1510.037729	9.844968775	1517.932736	20.16739932	1529.762252	46.20857508	1529.762252	46.20857508	98.71061512
071320HW-01 445	403.6116165	5131.968477	1.20413696	16.61594338	4.126619624	0.536910054	4.832178827	0.068767786	0.962052043	0.199092806	428.727692	3.99041915	436.3851775	17.14222738	477.9359026	104.7280867	428.727692	3.99041915	89.70401463
071320HW-01 446	1396.801017	1154.759084	4.612545559	13.17497386	10.83023206	0.048628165	14.26784252	0.005637047	2.520873351	0.176682168	36.23670277	0.910918754	48.21323112	6.718323641	694.4232288	300.69026	36.23670277	0.910918754	5.218244619
071320HW-01 447	107.2804004	3326.14641	3.998590267	11.33310152	4.278818448	2.433431715	5.33785004	0.212752873	0.988100152	0.18511201	1243.467378	11.17436178	1252.536184	38.43212087	1269.010496	102.4593809	1269.010496	102.4593809	97.9871626
071320HW-01 448	2637.049151	5778.587592	3.202024395	18.25158178	5.07138829	0.069600632	5.690698923	0.00978478	0.967923477	0.170088681	62.77014638	0.604618556	68.32039174	3.760010329	268.230972	128.696825	62.77014638	0.604618556	23.40152813
071320HW-01 449	1645.509608	4015.918935	12.84204875	14.8572939	7.46932537	0.086294088	7.810210491	0.009952267	1.056662068	0.135292393	63.83928773	0.671236404	84.04526974	6.299873779	705.3016661	164.8709055	63.83928773	0.671236404	9.051345092
071320HW-01 450	183.2386223	4376.102702	1.222346521	15.68761494	6.041890559	0.864085587	6.671013499	0.104323699	0.977918545	0.1465922	639.6977329	5.955354211	632.3507448	31.40878449	607.0920366	142.8336938	639.6977329	5.955354211	105.3707995
071320HW-01 451	1028.755338	9989.288068	1.974792152	17.87255166	2.305526293	0.521156801	2.676729655	0.069787912	0.594394182	0.222059849	434.8777784	2.499627497	425.9238448	9.3119583	378.7079358	58.68334699	434.8777784	2.499627497	114.8319687
071320HW-01 452	122.1692343	3984.887508	1.131412039	12.96730324	5.886574141	1.775401617	6.307468066	0.175286908	0.943100428	0.149521237	1041.175148	9.06738415	1036.498414	40.99129014	1027.508934	126.2426362	1027.508934	126.2426362	101.3300335
071320HW-01 453	1510.698472	2039.756553	3.12328632	17.54771081	3.62293284	0.104288251	10.7997095	0.015204197	0.881443267	0.081617313	97.2749158	0.850986458	100.7270248	10.35642763	184.2011067	NA	97.2749158	0.850986458	52.80908327
071320HW-01 454	1117.167155	25212.01486	69.25145031	15.28230341	0.993162337	1.006894148	1.594261487	0.112639676	0.91810138	0.575878792	688.0598128	5.991641496	707.3039822	8.121908225	769.7939308	27.44321314	688.0598128	5.991641496	89.38233795
071320HW-01 455	67.62216252	2616.071979	3.364379806	12.21234833	9.38195764	1.706510499	9.760169474	0.16194244	1.294116493	0.132591601	967.5624315	11.6270118	1010.97646	62.56560763	1107.166885	193.739671	1107.166885	193.739671	87.39083913
071320HW-01 456	1317.49799	44801.98852	2.099642417	12.0638057	0.647659151	2.408817028	0.899262969	0.211665663	0.606185092	0.67409102	1237.685696	6.826392086	1245.230562	6.452419402	1259.171998	12.97158248	1259.171998	12.97158248	98.29361661
071320HW-01 457	1876.147152	2380.178795	6.893433194	14.01003894	4.80551774	0.056167242	6.899944312	0.006210259	1.349691932	0.195609105	39.91010211	0.536999418	55.48717668	3.725871325	794.3782178	142.0380235	39.91010211	0.536999418	5.024068034
071320HW-01 458	1709.765173	2595.848447	9.847353623	17.13842783	7.375533949	0.067587909	10.60296025	0.009269898	1.160457785	0.109446584	59.48232994	0.687092487	66.40789268	6.815989793	324.6261748	239.889728	59.48232994	0.687092487	18.32333144
071320HW-01 459	653.4655621	986.9690019	12.60869728	12.44805099	10.96228646	0.09970931	23.80739525	0.010965832	2.307618223	0.096928631	70.30551833	1.61356809	96.50797699	21.9213385	805.5741597	502.6922494	70.30551833	1.61356809	8.727380029
071320HW-01 460	388.0168644	10876.55302	3.266991827	13.24388329	1.607110362	1.799632585	1.865680771	0.17529652	0.832276521	0.446098032	1041.227871	8.002246349	1045.324861	12.1778572	1054.794753	33.64299378	1054.794753	33.64299378	98.71378947
071320HW-01 462	444.8835778	25889.50989	2.373038142	8.709346184	0.792635789	5.255155933	1.038399486	0.333016418	0.638863303	0.615238463	1852.985386	10.28860902	1861.609456	8.858350492	1872.023187	14.7651254	1872.023187	14.7651254	98.98303606
071320HW-01 463	174.1027849	8840.635175	1.815395328	10.39289324	2.222550946	3.586122546	2.54034616	0.273824969	0.766147989	0.301591964	1560.187982	10.61682243	1546.463833	20.17248558	1528.559585	45.6258285	1528.559585	45.6258285	102.0691635
071320HW-01 464	669.3188914	672.0493832	3.300273522	8.731402521	19.39413616	0.079882119	28.04734873	0.006152588	4.184001507	0.149176364	39.54061461	1.649316539	78.03410232	21.06964781	1512.235823	534.0619241	39.54061461	1.649316539	2.614712203
071320HW-01 465	109.4202921	3671.167314	3.198319259	12.31418145	2.858054025	2.172816237	5.43260234	0.203021529	0.953762761	0.175562778	1191.531559	10.37594444	1172.381171	37.79343769	1138.07579	106.4818941	1138.07579	106.4818941	104.6970307

071320HW-01 466	957.2320236	946.5570704	3.594747889	6.775282304	45.71306434	0.109827545	46.04931971	0.005937396	3.930285261	0.085349475	38.16173496	1.495434339	105.8076239	46.30307132	2153.829585	852.3046283	38.16173496	1.495434339	1.771808468
071320HW-01 467	145.6298848	4613.977541	1.933901081	12.89555259	4.466638608	1.865048113	4.670518717	0.18101671	0.810228534	0.173477205	1072.526581	8.005502305	1068.777117	30.88069159	1062.028482	92.57229804	1062.028482	92.57229804	100.9884951
071320HW-01 468	892.0581905	25374.97404	2.775410855	14.03397982	1.092774524	1.514026445	1.547048048	0.155019781	0.967088798	0.625118787	929.0409035	8.367245258	936.0670451	9.460408695	953.5303795	24.69905195	953.5303795	24.69905195	97.43170469
071320HW-01 469	2007.538649	3511.936714	4.428361396	16.09501443	6.096890702	0.072646674	6.466956376	0.009055571	1.174008199	0.181539527	58.11323324	0.679188148	71.20792148	4.447251236	537.644914	139.2727084	58.11323324	0.679188148	10.80885018
071320HW-01 470	2046.022373	2858.700798	11.79678915	17.44465562	5.04472082	0.067126345	5.902331544	0.009296197	1.650374461	0.279613988	59.6503045	0.979912716	65.96880416	3.769924618	302.6191444	129.2720116	59.6503045	0.979912716	19.7113453
071320HW-01 471	179.0152059	4998.123396	3.720458609	13.46271008	3.655983052	1.711727348	4.297635478	0.173208941	1.052257335	0.244845646	1029.767474	10.01464271	1012.931746	27.55209492	977.6082911	84.95017102	977.6082911	84.95017102	105.3353867
071320HW-01 472	3431.641526	6527.865635	4.38399997	18.86592167	3.789355285	0.073411484	4.467380562	0.010454289	0.778807155	0.174331948	67.04283999	0.51942872	71.93164394	3.102287043	238.6148437	101.4796392	67.04283999	0.51942872	28.0966762
071320HW-01 473	838.1319811	1258.202268	6.13572577	13.87090816	10.763948	0.085005287	15.87700926	0.010161403	1.568770212	0.098807665	65.17404161	1.017279881	82.83988371	12.6309231	628.5569142	342.4016753	65.17404161	1.017279881	10.36883696
071320HW-01 474	518.2493087	7255.940888	2.693789549	16.59183992	4.254812907	0.567547048	4.74014666	0.070635285	0.868602466	0.183243796	439.9819308	3.694191998	456.4268749	17.42792246	541.0377733	101.9697075	439.9819308	3.694191998	81.32185081
071320HW-01 475	1379.16651	3197.867111	4.043473068	16.83122739	4.273211865	0.069557509	5.386342546	0.009198597	1.293885014	0.24021588	59.02690065	0.760254261	68.27945327	3.556849859	406.7803906	117.0622126	59.02690065	0.760254261	14.51075372
071320HW-01 476	398.5654766	451.0390364	2.887233265	7.347012291	17.83628786	0.088915911	25.55205936	0.006096111	5.376933105	0.210430519	39.17875949	2.100227123	86.49299295	21.18868426	1728.78735	466.1024125	39.17875949	2.100227123	2.266256719
071320HW-01 477	536.4079504	695.439166	2.277430355	9.766817851	25.23499861	0.077658908	28.81507547	0.006861607	3.080489781	0.106905491	44.081696	1.353299838	75.94152504	21.0873527	1248.404838	572.6262245	44.081696	1.353299838	3.531041748
071320HW-01 478	1324.323996	3065.721792	8.426135166	16.56620369	5.850926545	0.076254855	7.142308684	0.009853141	1.204202356	0.168601276	63.20654625	0.757415457	74.61774702	5.138360993	458.4623294	156.3128783	63.20654625	0.757415457	13.78663899
071320HW-01 479	607.7106527	32072.32489	1.369001598	10.68033153	0.829662385	3.335669277	1.177019337	0.256375316	0.825537555	0.701379773	1471.270537	10.85956089	1489.441019	9.19501025	1516.211963	15.82749399	1516.211963	15.82749399	97.03594047
071320HW-01 480	772.7852606	50058.95965	10.37262734	9.292794721	0.765536175	4.78797223	1.06595597	0.319516381	0.712198797	0.668131534	1787.366907	11.11727156	1782.791299	8.95376347	1778.218678	14.46799022	1778.218678	14.46799022	100.5144603
071320HW-01 481	1418.041035	17841.05032	20.76330532	18.29808811	1.969551639	0.439409009	2.233402334	0.058469312	0.737848554	0.330369742	366.3098714	2.62745429	369.8356286	6.922904586	392.946391	47.28381722	366.3098714	2.62745429	93.22133496
071320HW-01 483	503.366653	13796.96847	3.351032113	12.79583332	1.434001386	2.081137689	1.666146867	0.19362239	0.734608763	0.440902767	1140.968306	7.68180247	1142.609442	11.42750013	1146.593596	29.71276425	1146.593596	29.71276425	99.50939111
071320HW-01 484	242.2517723	313.2544347	4.09581394	5.220262082	66.25974232	0.125987009	68.03170799	0.005986302	9.399273468	0.138160187	38.47513444	3.605612808	120.485345	77.44165167	2376.433207	1346.183662	38.47513444	3.605612808	1.619028649
071320HW-01 485	1115.10234	20692.59688	1.757917998	16.86469071	1.541732081	0.773129211	1.825264457	0.094391454	0.731522849	0.400776362	581.4566279	4.067299409	581.5564822	8.081213399	582.8759554	36.31220765	581.4566279	4.067299409	99.75649579
071320HW-01 486	159.3376939	5259.030912	2.232974589	12.08887582	2.226701083	2.360796467	3.499856717	0.211006821	1.162293341	0.332097407	1234.179514	13.05522779	1230.824988	24.96801581	1225.790236	64.85437752	1225.790236	64.85437752	100.6843974
071320HW-01 487	461.7731326	10615.30642	9.46016853	16.92902142	3.172878531	0.741437032	3.435138653	0.091921954	0.773710687	0.225234194	566.8938188	4.198793443	563.2437963	14.85154546	549.4581295	73.10159666	566.8938188	4.198793443	103.1732517
071320HW-01 489	541.137984	19323.69864	4.556659738	12.66822801	1.34819722	2.253749321	1.705255384	0.209150598	0.815282607	0.478100005	1224.290912	9.09086871	1197.957017	11.99391748	1151.609627	29.74254814	1151.609627	29.74254814	106.311278
071320HW-01 490	704.8862948	19402.16939	5.34523139	12.6209581	0.833279674	2.258512287	1.231397186	0.208794717	0.761474862	0.618382818	1222.393306	8.478928625	1199.442288	8.666459424	1159.176169	19.21023851	1159.176169	19.21023851	105.4536264
071320HW-01 491	4205.975303	9520.718015	6.821294176	19.60923295	2.806289384	0.073021135	3.023338945	0.010717223	0.869943233	0.287742542	68.72006923	0.594650416	71.56232944	2.089092464	168.5961339	67.63065167	68.72006923	0.594650416	40.76016907
071320HW-01 493	491.1706733	727.5334848	1.964917311	9.494179294	12.59441965	0.06876318	16.72268489	0.005802046	5.070357726	0.303202372	37.29430529	1.885495426	67.52507834	10.92514339	1338.004429	309.9693956	37.29430529	1.885495426	2.78730806
071320HW-01 494	964.5053044	13070.90343	4.037963035	17.70981276	2.375174013	0.630522678	2.918419533	0.082602524	0.785103602	0.269016703	511.6382685	3.861619756	496.421409	11.45961272	427.7919362	62.68578202	511.6382685	3.861619756	119.5997926
071320HW-01 496	476.2078482	26220.22505	3.644594483	4.01425739	0.700877002	21.55474223	1.058784758	0.629303568	0.781140805	0.737771108	3146.83426	19.44943697	3163.878095	10.27442152	3175.384046	11.32615391	3175.384046	11.32615391	99.10090289
071320HW-01 497	379.508383	3108.495472	3.617690982	15.9431115	5.128107869	0.48398904	5.792364424	0.060539061	1.032171109	0.178195126	378.9029926	3.798209927	400.8059698	19.18413816	530.0831976	124.9609814	378.9029926	3.798209927	71.47991
071320HW-01 498	1471.10523	1462.8197	1.383560252	12.6703782	9.977992322	0.05590838	13.70976952	0.005874648	1.733060494	0.126410622	37.75961009	0.652484072	55.23828007	7.37086343	900.3050979	281.6861252	37.75961009	0.652484072	4.194090445
071320HW-01 499	308.5087893	20720.46022	2.404175595	8.510105379	0.868218926	5.485478962	1.120734269	0.340146945	0.698207174	0.622990831	1887.376428	11.42397176	1898.3253	9.625384124	1911.082704	15.7386117	1911.082704	15.7386117	98.75953685
071320HW-01 500	644.6629297	7670.958536	3.08809879	17.31949785	2.161552499	0.684977571	2.59469633	0.088099458	0.863123886	0.332649288	544.2872362	4.505013042	529.7783951	10.71062421	468.7352738	54.18227933	544.2872362	4.505013042	116.1182584
071320HW-01 501	434.7556402	589.0283541	2.423426782	6.717119844	29.68350641	0.100995041	32.07293258	0.005743241	6.469724231	0.201719135	36.91739698	2.381627811	97.69442399	29.88192839	2065.074402	569.1975594	36.91739698	2.381627811	1.787702998
071320HW-01 503	232.991037	4737.988765	3.90412946	13.46338738	3.102239746	1.68212938	4.065758885	0.171278479	0.781678813	0.192259019	1019.151455	7.368674454	1001.788114	25.89675542	964.8942534	81.51339249	964.8942534	81.51339249	105.6231241
071320HW-01 504	282.3100999	3681.344088	2.064678138	13.66839294	3.270267021	1.593040597	5.539319394	0.166861126	0.829620046	0.14976931	994.7935235	7.64774933	967.4886153	34.56778738	906.839578	112.9140643	906.839578	112.9140643	109.6989531
071320HW-01 506	320.5994221	9540.478095	18.37871081	14.16926345	2.095414434	1.541335479	2.495071181	0.161915734	0.911666126	0.365386821	967.4142637	8.189712904	947.0373375	15.3667201	900.8433452	47.8950435	900.8433452	47.8950435	107.3898441
071320HW-01 507	1279.199647	1703.16085	5.379288127	15.10615796	6.529521817	0.083302197	12.50829661	0.010518843	2.021339679	0.161599916	67.45466679	1.356379078	81.24482518	9.766710329	509.2998477	272.315047	67.45466679	1.356379078	13.24458805
071320HW-01 508	332.4326714	19927.15465	1.645197526	9.713215019	1.144578532	4.017486405	1.525557628	0.285463907	0.841228597	0.551423677	1618.821403	12.04270523	1637.740866	12.40361682	1662.907925	23.55629304	1662.907925	23.55629304	97.34882963
071320HW-01 509	300.2088856	423.3118683	4.648243117	6.404804298	16.78119345	0.150114737	27.68328664	0.00875098	3.269237524	0.11809427	56.16703831	1.828257652	142.013209	36.70445919	2021.213622	497.2588733	56.16703831	1.828257652	2.778876894
071320HW-01 510	1750.988156	4432.76895	5.07071754	17.81317796	4.854337021	0.108586716	5.3900479	0.014935276	1.24028607	0.230106688	95.56708036	1.176562473	104.6717521	5.360849297	318.1869	119.3022574	95.56708036	1.176562473	30.03488842
071320HW-01 511	132.5269227	8476.356192	3.303510038	9.15862298	2.015874198	4.688392008	2.338826223	0.316665254	0.901964103	0.385648192	1773.422837	13.98405679	1765.169933	19.57564437	1756.197495	39.47746029	1756.197495	39.47746029	100.9808317
071320HW-01 512	400.9733236	420.1560151	1.680823106	5.17265243	26.36030273	0.135346699	28.00088169	0.00601609	4.748923136	0.169599057	38.66601399	1.830723445	128.8907614	33.90643792	2489.464635	475.1317492	38.66601399	1.830723445	1.553185912
071320HW-01 513	307.2709567	5704.038543	2.667714539	17.21092606	3.859096315	0.525771593	4.436021058	0.068380854	1.097012827	0.247296578	426.3934392	4.526248655	428.9995883	15.52261669	443.9694574	95.61142055	426.3934392	4.526248655	96.04116501
071320HW-01 514	1196.010789	2672.308716	2.446757499	15.4632993	8.058296022	0.121169363	10.71696142	0.014780152	1.020541001	0.095226712	94.58172499	0.95819876	116.1316089	11.7609554	584.8853856	232.16254	94.58172499	0.95819876	16.17098449
071320HW-01 515	155.3366841	4181.50802	0.945660974	14.04830433	9.603718513	0.693153353	10.04941316	0.073912285	1.041900843	0.10367778	459.6829761	4.622665716	534.6932832	41.7973599	869.9258007	207.6131244	459.6829761	4.622665716	52.84163036
071320HW-01 516	677.6922354	1144.391134	4.438800806	10.71317386	14.47727903	0.104848671	15.90721229	0.00935332	1.972693204	0.124012502	60.01514036	1.178420638	101.2421956	15.32911608	1229.602403	311.7263462	60.01514036	1.178420638	4.880857441
071320HW-01 517	1488.050154	2489.107821	2.214193957	14.33126416	6.436229652	0.09082316	6.789333255	0.010257421	0.820977195	0.120921623	65.78675692	0.537347747	88.2698929	5.739894658	749.7202281	142.5089614	65.78675692	0.537347747	8.774840861
071320HW-01 518	96.26898055	4368.766353	1.357082199	11.70146104	5.052851393	2.635794014	5.535949254	0.231772059	1.092343547	0.197318201	1343.77973	13.24978387	1310.684391	40.7725187	1257.808852	106.1787984	1257.808852	106.1787984	106.8349716
071320HW-01 519	380.8850481	3964.821833	1.617767162	15.94009095	5.378614803	0.553854627	5.990074309	0.067659002	0.80131351	0.133773551	422.0364402	3.273510418	447.5186066	21.68270842	581.6667511	129.0112749	422.0364402	3.273510418	72.55639754
071320HW-01 520	100.3702781	9723.849408	2.343920714	6.364993545	0.953317374	9.409842573	1.272013346	0.435850037	0.77405189	0.608524975	2332.035676	15.14666721	2378.790435	11.67559213	2419.816739	17.12894342	2419.816739	17.12894342	96.37240863
071320HW-01 521	207.4397726	219.6071015	2.394571256	6.000885309	21.79107677	0.073252132	47.61197266	0.005073093	9.822885584	0.20631125	32.62058655	3.196189548	71.78089564	33.00787318	1710.256146	911.7393714	32.62058655	3.196189548	1.907350932
071320HW-01 522	329.9273572	12223.53639	2.058452686	12.87952652	1.587679733	2.030164244	1.882100359	0.191561178	0.835071793	0.443691426	1129.826665	8.654329662	1125.670736	12.80444367	1118.548939	33.63394224	1118.548939	33.63394224	101.0082461
071320HW-01 523	146.9434183	7014.933551	1.111064838	9.800808969	1.750844116	4.009999648	2.21957371	0.289773596	0.877538226	0.395363408	1640.397719	12.70954902	1636.224648	18.04063491	1631.656824	37.88920588	1631.656824	37.88920588	100.5357068
071320HW-01 524	46.85375326	2144.563766	1.197072731	9.559433705	8.57982766	3.942881332	9.036817736	0.291417517	1.5098321	0.167075639	1648.608962	21.96329631	1622.529753	73.32176379	1589.663754	166.8098768	1589.663754	166.8098768	103.70803
071320HW-01 526	812.9127215	51541.76597	1.950183773	9.280756048	0.789225479	4.600678357	1.185265032	0.310637248	0.855001611	0.721359011	1743.841855	13.06341599	1749.390999	9.886449357	1756.807577	15.01417472	1756.807577	15.01417472	99.26197257
071320HW-01 527	2078.554127	2848.475746	5.035028413	16.06920915	7.356642562	0.045127837	11.00306267	0.005734972	1.596715741	0.145115573	36.86439543	0.586939773	44.81820562	4.824161807	495.241103	240.5587534	36.86439543	0.586939773	7.443726945
071320HW-01 528	1259.280599	1922.35874	15.60462037	14.43200795	8.885260266	0.075974505	10.51181273	0.008915955	1.721432554	0.163761722	57.221228	0.980666002	74.35321841	7.53670297	668.1567287	222.5316239	57.221228	0.980666002	8.564042767
071320HW-01 529	185.8148844	9874.775717	1.314061829	9.654826037	2.507259631	3.99121315	2.810319608	0.282630144	0.758944816	0.270056407	1604.594809	10.78067234	1632.410008	22.8222025	1669.22371	50.05036832	1669.22371	50.05036832	96.12820617
071320HW-01 530	307.0738116	5089.147751	2.634484891	15.15526438	3.880067414	0.902544017	5.331865702	0.10341999	0.879592308	0.164968954	634.4202293	5.314511722	653.086203	25.68830407	719.0286279	111.7077064	634.4202293	5.314511722	88.23295828
071320HW-01 531	438.4340846	25889.14537	4.113484084	11.83006005	1.323016645	2.542505053	1.659971475	0.219055439	0.842776788	0.507705584	1276.882055	9.762514407	1284.291129	12.09768944	1297.533512	27.78509138	1297.533512	27.78509138	98.40840664
071320HW-01 532	785.7922568	17615.52681	38.06158849	14.21394501	1.012794162	1.480232968	1.629357834	0.154150548	1.03927082	0.637840748	924.1877003	8.948079389	922.3257294	9.874103383	918.789663	25.78987401	918.789663	25.78987401	100.5875161
071320HW-01 533	255.5586962	10062.2653	1.237436488	8.884390246	1.22727879	3.959011822	1.63568466	0.257193532	0.888717754	0.543330738	1475.467404	11.72034631	1625.837936	13.26007052	1827.080496	24.9018852	1827.080496	24.9018852	80.75546794
071320HW-01 534	324.4046089	14852.58925	0.913143582	9.800445755	0.910178485	4.000992762	1.228767664	0.285692061	0.749802656	0.610207021	1619.965462	10.74055669	1634.397568	9.982175827	1653.808991	18.03891226	1653.808991	18.03891226	97.95360112
071320HW-01 536	312.3416776	326.6854424	2.284562532	5.116577884	17.91781534	0.130974379	20.14313859	0.005998184	7.155502042	0.355232726	38.55127573	2.750305513	124.9728829	23.69023816	2439.024579	322.045002	38.55127573	2.750305513	1.580602182
071320HW-01 537	1539.83947	1703.448353	6.515723875	10.48644066	16.6274378	0.072760643	17.16237979	0.005998018	1.90215761	0.110832975	38.55020919	0.731097544	71.31580014	11.82008857	1382.881998	330.0392953	38.55020919	0.731097544	2.787671634
071320HW-01 538	2166.262561	3866.556556	4.914407666	17.72786075	4.921410667	0.069622898	6.548013962	0.009521251	1.483258	0.226520287	61.08757233	0.901806707	68.3415285	4.32776371	331.2433426	144.7754495	61.08757233	0.901806707	18.44190191
071320HW-01 539	493.8759144	20021.24807	1.35713085	8.663869976	0.805594934	5.320590553	1.232843534	0.333888856	0.748027438	0.606749695	1857.203079	12.07031269	1872.176114	10.53793817	1889.604931	17.63657995	1889.604931	17.63657995	98.28525783
071320HW-01 540	381.9669549	22141.76609	2.358538549	8.945704647	0.889383652	5.148886333	1.172709559	0.333502518	0.734182834	0.626056835	1855.335717	11.8366334	1844.210775	9.971286063	1832.454686	16.57113206	1832.454686	16.57113206	101.2486546
071320HW-01 541	476.6453242	21639.44885	1.538632252	10.66011359	1.272705409	3.321694637	1.590392741	0.256739512	0.703992723	0.44265338	1473.13894	9.271160862	1486.162971	12.41256559	1505.605391	26.94390586	1505.605391	26.94390586	97.84362818
071320HW-01 542	1105.537251	30953.74304	1.546890174	13.63799925	0.988289095	1.67187006	1.311451739	0.165226778	0.759388619	0.579044274	985.7581151	6.941485741	997.89676	8.332573628	1025.528085	21.65014776	1025.528085	21.65014776	96.12200086
071320HW-01 543	377.0327859	18918.97394	2.622100876	8.762868706	0.951670359	5.24057308	1.301773216	0.33276582	0.761853704	0.585243032	1851.773388	12.2623915	1859.239496	11.10035457	1868.368151	19.04544391	1868.368151	19.04544391	99.11180444
071320HW-01 544	1594.838719	47202.72957	7.863835532	12.56931367	0.709234949	2.182743424	1.041092491	0.198070603	0.718395898	0.690040418	1164.947184	7.656316265	1175.553167	7.24982734	1195.971734	14.84808155	1195.971734	14.84808155	97.40591279

Sample 071420HW-01

Analysis	U (ppm)	206Pb 204Pb	U/Th	206Pb* 207Pb*	± (%)	207Pb* 235U	± (%)	206Pb* 238U	± (%)	error corr.	206Pb* 238U	± (Ma)	207Pb* 235U	± (Ma)	206Pb* 207Pb*	± (Ma)	Best age (Ma)	± (Ma)	Conc (%)
071420HW-01 1	406.6451427	1075.930618	2.601556851	14.03575915	11.14677658	0.118207356	13.2317399	0.014663658	1.782114588	0.134684826	93.8416527	1.6602522	113.4455274	14.20356453	548.2275449	287.4729515	93.8416527	1.6602522	17.11728161
071420HW-01 2	93.53743277	4540.958035	2.310699241	6.542067213	1.254566188	8.992038359	1.649043553	0.42897929	0.897042788	0.54397762	2301.114623	17.35972356	2337.197149	15.06947004	2369.579777	23.60456285	2369.579777	23.60456285	97.11066265
071420HW-01 3	129.67541	13754.06504	2.230596132	8.186620846	1.217492414	5.979252131	1.574801632	0.355434746	0.671897673	0.426655433	1960.497977	11.35803122	1972.830143	13.69998522	1986.545104	25.3403493	1986.545104	25.3403493	98.68882281
071420HW-01 4	61.41519279	367.1239373	1.939392552	7.359774736	17.33100689	0.436869163	32.70315912	0.032024651	5.24209944	0.160293366	203.2074339	10.48620093	368.0423964	101.2957415	1605.003927	618.8128766	203.2074339	10.48620093	12.66086833
071420HW-01 5	248.8082297	848.9061323	5.888211068	10.229109	11.24461709	0.165037633	13.01953828	0.014657525	2.321218178	0.178287289	93.80268461	2.161600034	155.1032029	18.72913737	1238.297819	252.1722907	93.80268461	2.161600034	7.575131217
071420HW-01 6	544.6251318	7343.05868	3.132011744	17.15884288	1.73762551	0.626887912	2.707951744	0.08021407	0.856306343	0.316219203	497.4003808	4.099096534	494.1553878	10.59543662	480.0876305	56.77351302	497.4003808	4.099096534	103.6061646
071420HW-01 7	273.7291684	1026.800884	2.608949063	14.74137247	6.737532101	0.171708108	10.67052492	0.023085274	1.520124429	0.142460136	147.1254804	2.21116198	160.9002444	15.878975	369.7294444	238.4927544	147.1254804	2.21116198	39.79274105
071420HW-01 8	236.3784364	13592.33108	2.168430187	9.109980944	0.938519145	4.848915168	1.243900467	0.319588917	0.750678725	0.603487775	1787.72127	11.71995226	1793.426616	10.47129032	1800.844344	18.04350254	1800.844344	18.04350254	99.27128213
071420HW-01 9	199.3878822	14031.25065	3.340871261	8.779977991	1.22480945	4.839027059	1.427257033	0.307186778	0.677919193	0.474980453	1726.848224	10.26978556	1791.708568	12.01074427	1868.847863	22.65914007	1868.847863	22.65914007	92.40175498
071420HW-01 10	521.7720089	638.7096813	3.646921731	11.84618888	7.8960309	0.126155217	30.66992653	0.014653451	0.904079074	0.029477706	93.7768026	0.841679601	120.6370191	34.89961047	690.1683988	668.6914539	93.7768026	0.841679601	13.58752484
071420HW-01 11	183.5618494	533.5496227	2.292662822	6.535719639	25.44489223	0.161406641	26.43400734	0.009039261	4.539866928	0.171743424	58.00903175	2.621719333	151.9336876	37.31861339	2092.011533	466.3067413	58.00903175	2.621719333	2.772882981
071420HW-01 12	351.5073721	1200.537604	2.754372974	15.2757284	11.42278414	0.11015843	16.22294893	0.015066477	2.053354266	0.126570963	96.40035117	1.964713903	106.1103057	16.3466967	331.0012281	NA	96.40035117	1.964713903	29.12386511
071420HW-01 13	798.3992777	1541.344017	1.709484305	10.47533588	13.10372847	0.068690515	13.82911385	0.005739048	2.309176607	0.166979362	36.89052602	0.849434579	67.4560406	9.025692238	1357.03876	264.0818828	36.89052602	0.849434579	2.7184578
071420HW-01 14	331.8141968	3611.919215	2.682930579	16.59904898	3.389993928	0.418546684	4.585384817	0.053718212	0.84503275	0.184288295	337.3090314	2.777082855	355.0113072	13.73828345	473.4166571	99.74579409	337.3090314	2.777082855	71.24992887
071420HW-01 15	21.39210498	233.374276	1.466326445	4.248947716	44.74724152	0.970610806	51.55388477	0.038295509	8.536017553	0.165574672	242.259047	20.29559589	688.7785435	263.5975155	2688.355994	911.8401225	242.259047	20.29559589	9.011419897
071420HW-01 16	558.6119391	44974.8235	10.14598042	8.534122033	0.614296704	5.573103292	0.913349219	0.344007401	0.665418261	0.728547468	1905.919412	10.97942172	1911.952139	7.863250107	1919.268869	11.21889	1919.268869	11.21889	99.30445089
071420HW-01 17	163.138041	8861.109583	2.636746431	7.555025723	1.065517698	7.196908312	1.433360011	0.39670574	0.731952497	0.510655028	2153.852834	13.4018667	2136.119255	12.7792103	2119.849647	21.59625426	2119.849647	21.59625426	101.6040377
071420HW-01 18	343.1813628	1099.845478	4.261264487	12.16594374	11.23869775	0.140555635	11.7656494	0.014667758	1.995002822	0.169561641	93.86769783	1.859095072	133.5386531	14.72339747	914.5237859	239.3404479	93.86769783	1.859095072	10.26410677
071420HW-01 19	130.5111461	861.637539	3.274326256	11.19012729	10.29399481	0.325960994	16.46093695	0.032220399	2.133007019	0.129579928	204.4300335	4.292092053	286.4776105	41.1108604	1025.121366	332.3215194	204.4300335	4.292092053	19.94203225
071420HW-01 20	127.777306	366.4128766	1.29993896	7.739338701	11.96386172	0.185302016	19.95469508	0.014629514	5.90018934	0.295679253	93.62472152	5.484116395	172.6126906	31.68597463	1465.400944	365.4355091	93.62472152	5.484116395	6.389017415
071420HW-01 21	272.1569665	2831.245273	2.11458778	17.64570211	3.031325519	0.426102482	4.723482838	0.059539646	0.794825012	0.168270964	372.8252548	2.879246162	360.4053269	14.33126141	282.2313304	106.5794718	372.8252548	2.879246162	132.0991735
071420HW-01 22	815.7311891	2614.927424	3.542828361	15.71471637	5.950628764	0.122801317	8.084402851	0.015218253	2.709984494	0.335211461	97.36417299	2.61872822	117.6085072	8.978200216	550.3987355	166.5100957	97.36417299	2.61872822	17.6897523
071420HW-01 23	325.6948433	1685.59422	2.241693505	16.05377323	6.202907642	0.238926782	10.11800958	0.03217405	1.133981657	0.112075567	204.1405687	2.278646975	217.5412561	19.81523905	366.1162538	227.1049653	204.1405687	2.278646975	55.75840093
071420HW-01 24	40.10536084	2359.309474	1.530231207	9.132628803	4.051401115	4.687210256	5.439897219	0.325130866	1.117415639	0.205411168	1814.73793	17.67394381	1764.958967	45.55405034	1707.327296	98.05432115	1707.327296	98.05432115	106.2911566
071420HW-01 25	760.05439	2679.825831	4.144884471	15.09708427	7.879294753	0.128030599	8.982128426	0.015144291	0.978238803	0.108909465	96.8945133	0.940771764	122.3265267	10.35182962	651.2013224	191.9983281	96.8945133	0.940771764	14.87934836
071420HW-01 26	323.9899388	770.9913474	2.394838263	13.51485118	20.72267859	0.118760636	26.56764273	0.01552613	2.283879262	0.085964693	99.31882539	2.250937713	113.9478069	28.64398609	432.4215146	NA	99.31882539	2.250937713	22.96805826
071420HW-01 27	119.856111	8612.656605	1.699224956	8.777703697	1.72142685	5.239464168	2.023160282	0.335490563	0.66135472	0.326891905	1864.93916	10.71007586	1859.059053	17.25208422	1853.261362	34.56540171	1853.261362	34.56540171	100.6301215
071420HW-01 28	220.1437856	1619.591443	2.751221423	15.02136291	9.49987571	0.253427121	12.99938442	0.031537379	1.434417399	0.110345025	200.1630303	2.827055931	229.3562439	26.69357455	541.280224	283.5851107	200.1630303	2.827055931	36.97955725
071420HW-01 29	357.7053849	1144.458607	1.648778126	11.63233819	10.81989001	0.156466856	17.16085758	0.015168211	1.529170791	0.089108064	97.04640494	1.4728908	147.6057712	23.57958315	1064.420379	346.1949108	97.04640494	1.4728908	9.117300537
071420HW-01 30	295.338513	433.1684019	2.005187401	6.956889447	22.79773337	0.143299784	27.00249224	0.009079119	3.531495061	0.130784041	58.26366961	2.04830828	135.9787058	34.37835393	1872.363134	492.1486035	58.26366961	2.04830828	3.111771885
071420HW-01 31	242.3975208	828.3752121	2.300433087	15.76392045	6.142462535	0.188862471	16.8211582	0.029511147	1.479714126	0.087967434	187.4879911	2.734330971	175.6581644	27.13958857	20.28988017	NA	187.4879911	2.734330971	924.0468134
071420HW-01 32	1249.284459	3890.525857	5.588496921	18.54143195	3.456102956	0.122261018	4.393233741	0.017368062	0.898511844	0.204521748	111.0005553	0.988815525	117.1197813	4.859724702	244.2815809	99.103188	111.0005553	0.988815525	45.43959267
071420HW-01 33	1383.218972	3692.104604	3.923909323	18.21524061	3.835704696	0.103922836	4.758857867	0.014578379	0.898974593	0.188905535	93.29983207	0.832701354	100.3909738	4.548915013	273.1911765	107.1433467	93.29983207	0.832701354	34.15184681
071420HW-01 34	285.9143875	730.0648255	4.081481341	11.24282114	11.60827479	0.142485789	22.29238697	0.014736262	2.431447408	0.109070752	94.30290907	2.27623591	135.2555267	28.23703968	932.9599474	460.0570662	94.30290907	2.27623591	10.10792686
071420HW-01 35	263.6392844	2486.129549	3.543341768	14.85506174	6.629150491	0.325026443	9.784538596	0.037873675	2.254451277	0.230409565	239.6394983	5.303372246	285.7617061	24.37517966	683.3661866	203.7167912	239.6394983	5.303372246	35.0675089
071420HW-01 36	382.9894148	927.2075395	1.903996722	13.75967048	8.568908902	0.118382994	23.27889502	0.014895774	1.685186731	0.072391182	95.31617309	1.594438862	113.6050027	25.02528087	517.0448696	516.1397223	95.31617309	1.594438862	18.43479719
071420HW-01 37	94.43175577	754.0173332	5.129220684	10.85400606	11.43641015	0.333701906	17.89688121	0.032661116	2.713853055	0.151638323	207.1818102	5.533218719	292.3881439	45.49856654	1045.126262	359.5017046	207.1818102	5.533218719	19.82361537
071420HW-01 38	581.4205885	1852.943223	1.933863936	16.25287153	4.43140928	0.113634904	10.54987834	0.015234284	1.088179186	0.103146136	97.46596106	1.052626713	109.2850214	10.93107952	376.1265959	236.6598686	97.46596106	1.052626713	25.91307345
071420HW-01 39	369.19111	1367.036621	4.384786586	14.85913212	7.780880654	0.118208173	16.9483388	0.015082636	1.748339949	0.10315701	96.50297497	1.674634171	113.4462693	18.19400733	486.3456835	374.4853669	96.50297497	1.674634171	19.84246561
071420HW-01 40	1203.743356	2746.687253	3.378955879	17.65386789	4.328048957	0.105182558	5.142961343	0.014814925	0.95441885	0.185577683	94.80261418	0.898193307	101.5489992	4.969999488	263.9103657	116.0656311	94.80261418	0.898193307	35.9222776
071420HW-01 41	1406.197513	3485.839578	2.87497539	17.35810427	4.419144976	0.072405456	7.427287962	0.009795593	1.099288214	0.148006678	62.83917857	0.687427745	70.97955519	5.091855741	355.6461764	166.0472566	62.83917857	0.687427745	17.66901565
071420HW-01 42	342.3889654	2205.573996	2.831038329	15.88875975	6.71277801	0.227456594	9.791924766	0.029176438	1.117229466	0.114097023	185.3918273	2.041752189	208.096887	18.42629577	474.6424853	215.6235922	185.3918273	2.041752189	39.05925681
071420HW-01 43	329.9445947	923.0006714	2.711145444	10.76086159	10.91305262	0.15992672	16.40292884	0.014901142	2.474646857	0.150866158	95.35027043	2.342217754	150.6390114	22.96761226	1143.627704	324.3581196	95.35027043	2.342217754	8.337527162
071420HW-01 44	284.5711443	1160.565924	5.769349845	12.49905327	14.31624875	0.143842984	15.32002889	0.015378933	1.736556171	0.113352017	98.38437273	1.695528551	136.4610166	19.56435377	864.4744389	317.4251852	98.38437273	1.695528551	11.38083075
071420HW-01 45	345.104965	593.2079368	3.608511419	8.798630367	18.30974976	0.120197634	20.7396409	0.009636153	2.451093156	0.118183973	61.82125137	1.508053797	115.2511837	22.59977507	1436.222253	396.9630574	61.82125137	1.508053797	4.304434864
071420HW-01 46	514.2518397	2469.473167	2.041620065	14.15796306	9.271528638	0.13510055	12.88143384	0.015063425	1.184165687	0.091928096	96.38097454	1.132820881	128.6705969	15.56864919	776.7751029	270.8144519	96.38097454	1.132820881	12.40783519
071420HW-01 47	338.393817	4061.413244	1.088674244	17.37601734	3.426512937	0.428569644	6.652775499	0.057376221	0.90008113	0.135294078	359.6491624	3.148489848	362.160425	20.26797883	379.2335528	148.3711945	359.6491624	3.148489848	94.83579702
071420HW-01 48	1040.756656	3221.618494	5.892288847	17.07394333	4.191428462	0.113024741	9.111305167	0.015111919	0.975230715	0.107035238	96.68893776	0.935903929	108.7285381	9.394887788	382.1548601	203.9947098	96.68893776	0.935903929	25.30098341
071420HW-01 49	179.4383961	661.8698464	0.903927804	13.70778505	12.83792501	0.117256287	37.81525222	0.016649277	1.974730942	0.052220488	106.4444629	2.084732693	112.5815462	40.31887567	245.3724812	NA	106.4444629	2.084732693	43.38076643
071420HW-01 50	2181.09656	1885.24114	3.579187518	19.51446457	2.401288309	0.055052943	6.428305137	0.009169187	0.896184503	0.139412253	58.83903508	0.524907151	54.41534091	3.405918952	NA	NA	58.83903508	0.524907151	
071420HW-01 51	147.5826816	9944.101408	1.187549793	9.342727713	1.82732433	4.069064194	2.243012936	0.278172976	0.720490732	0.321215594	1582.154366	10.10816369	1648.125322	18.28417532	1734.081685	38.96704355	1734.081685	38.96704355	91.23874493
071420HW-01 52	987.5429226	2740.413796	3.817582229	17.38920664	3.327321804	0.106466378	5.520050778	0.01477225	0.88404998	0.160152509	94.53152862	0.829608326	102.7278205	5.3932596	298.2733308	124.386441	94.53152862	0.829608326	31.69292017
071420HW-01 53	169.5711468	6580.441657	1.224663285	8.768854847	1.083811396	4.654114852	1.763808958	0.301262361	0.873070091	0.494991301	1697.565449	13.030105	1759.032921	14.7429517	1833.614834	27.76875688	1833.614834	27.76875688	92.58026373
071420HW-01 54	699.6362062	1651.853464	5.859014894	16.18222548	6.676752035	0.108951316	14.67551206	0.014923117	0.976891594	0.066566099	95.489849	0.925957344	105.0056443	14.64108538	327.6772957	333.8954001	95.489849	0.925957344	29.14142977
071420HW-01 55	382.5267157	835.3081785	2.540036742	13.50628662	8.629457389	0.08930486	16.82859992	0.011443931	1.758781774	0.104511473	73.35338865	1.282813673	86.85561207	14.00977326	476.8311565	372.3812641	73.35338865	1.282813673	15.3835142
071420HW-01 56	288.7087182	1493.773859	3.049149416	10.18985776	15.74860522	0.213569097	17.62057765	0.017439286	1.963841914	0.111451619	111.4518409	2.169926108	196.5433162	31.49656678	1401.086543	338.11854	111.4518409	2.169926108	7.954672141
071420HW-01 57	1108.582579	3932.571403	1.527000055	16.90598291	4.268583651	0.112365751	4.96159635	0.01472937	1.070874541	0.215832661	94.25912107	1.002053101	108.1271817	5.089104025	426.4694757	108.1036039	94.25912107	1.002053101	22.10219639
071420HW-01 58	427.9725423	1755.743292	2.663863916	13.42375424	12.2896896	0.137735328	13.42819444	0.015102727	1.218341409	0.090730099	96.6305669	1.168510465	131.024757	16.50782651	811.8575194	280.8375659	96.6305669	1.168510465	11.90240462
071420HW-01 59	253.9366019	3009.780985	1.782713726	16.07706594	6.648371769	0.414708825	10.04541041	0.052543009	1.132247466	0.112712913	330.1153897	3.64363363	352.2604787	29.90882751	501.8808309	220.2266264	330.1153897	3.64363363	65.77565219
071420HW-01 60	389.9488223	1166.14726	2.952775769	14.28899773	6.630491843	0.115925446	15.34421971	0.014657412	1.670362834	0.108859418	93.80197003	1.555488847	111.3713331	16.18658012	506.4235484	337.2829122	93.80197003	1.555488847	18.5224345
071420HW-01 61	120.6211975	9015.909462	0.947131214	7.766885543	0.875626854	6.40383152	1.271234525	0.365679206	0.747597604	0.58808787	2009.037173	12.90441302	2032.794476	11.16494177	2057.749042	18.14389328	2057.749042	18.14389328	97.63275948
071420HW-01 62	387.338167	1077.193679	4.36209012	15.23607535	7.215018841	0.107022988	25.57329307	0.014965973	2.070582895	0.080966612	95.76205002	1.968177768	103.2384825	25.10877408	280.461728	NA	95.76205002	1.968177768	34.14442701
071420HW-01 63	204.5789356	397.7065204	2.088964757	7.158422435	26.8649647	0.133539448	39.88664573	0.009225886	4.758958855	0.119312085	59.2012075	2.804464054	127.2731806	47.74746421	1714.720591	760.3428774	59.2012075	2.804464054	3.45252794
071420HW-01 64	260.0248752	2708.565267	2.153575568	15.42427585	6.801146833	0.467155769	10.95639428	0.057126364	1.073358018	0.097966356	358.1257015	3.739146992	389.2223948	35.43719449	579.4399955	237.5378211	358.1257015	3.739146992	61.80548535
071420HW-01 65	1211.962795	4007.500676	2.180511064	17.24679156	5.858388776	0.122456353	6.273648331	0.016393323	0.797193943	0.127070231	104.8212955	0.828871865	117.2964983	6.949742648	379.3621315	140.047661	104.8212955	0.828871865	27.63093276
071420HW-01 67	501.1069826	538.0697554	3.068233387	10.65267257	7.422997408	0.051595819	15.517793	0.005592637	2.983658924	0.192273407	35.95201237	1.069699775	51.08274191	7.730968784	835.88729	318.985535	35.95201237	1.069699775	4.301059819
071420HW-01 68	124.2794142	6883.488117	2.614751607	8.68742478	1.07273107	5.21484981	1.468138747	0.335066193	0.755590547	0.514658815	1862.890401	12.22455488	1855.045498	12.50921767	1847.034648	22.77147731	1847.034648	22.77147731	100.8584437
071420HW-01 69	228.5217473	2349.379512	2.893517484	15.66581843	4.425140941	0.433201722	8.812669715	0.05465883	1.132485285	0.128506494	343.0609547	3.783547232	365.4474365	27.05347179	511.0001296	192.4080576	343.0609547	3.783547232	67.13519916
071420HW-01 70	126.9538364	230.4656318	2.910200599	4.54284288	47.62677565	0.206892242	54.98613833	0.009085943	9.991789871	0.181714704	58.30726562	5.79967272	190.9414233	95.99531937	2509.775123	997.8702426	58.30726562	5.79967272	2.323206772
071420HW-01 71	569.4556837	1727.518956	1.67185624	13.6631445	3.390135997	0.134204644	5.709132038	0.015055946	1.088800764	0.190712136	96.33347305	1.041081406	127.8688641	6.85934626	763.8144351	118.1968665	96.33347305	1.041081406	12.61215665
071420HW-01 72	126.8316086	11479.76204	1.343936151	8.801713292	1.340822436	5.219459442	1.826119771	0.337627665	0.776148929	0.4250263	1875.24671	12.62893148	1855.798341	15.56202322	1834.846768	29.94638956	1834.846768	29.94638956	102.2018156
071420HW-01 74	372.182945	920.8236828	4.123297797	12.24967117	10.67809088	0.134982806	12.43329605	0.014871222	1.794811902	0.144355278	95.1602212	1.695402691	128.565266	15.01540366	801.8987087	258.6227424	95.1602212	1.695402691	11.866863
071420HW-01 75	120.157203	374.3620777	2.843414914	11.12396429	12.82470032	0.128716765	34.13059379	0.018477173	4.29231386	0.125761476	118.0244561	5.019887475	122.9439826	39.54060824	220.1846843	NA	118.0244561	5.019887475	53.60248217
071420HW-01 76	299.8566665	883.2487136	3.753574252	11.99360297	11.45746348	0.140196092	25.46643993	0.015192184	1.962956767	0.07708014	97.19863294	1.893655115	133.2185189	31.80508137	836.4522476	537.1337844	97.19863294	1.893655115	11.62034452
071420HW-01 77	207.79649	1011.006249	1.594431348	13.526375	9.481092783	0.274349045	16.44974218	0.033477425	1.409823652	0.085704909	212.2756244	2.943974704	246.1648931	35.9737503	584.0299992	357.9899563	212.2756244	2.943974704	36.34669876
071420HW-01 78	388.5742357	731.4662219	3.121104711	9.78738671	20.28519213	0.063611132	23.49414537	0.005575849	6.762289026	0.287828687	35.84439403	2.417175225	62.61851734	14.26817401	1263.980889	445.0723794	35.84439403	2.417175225	2.835833544
071420HW-01 79	437.4652783	5503.321175	4.084292531	15.95521818	1.802933988	0.759547299	3.186590033	0.091862977	0.862235417	0.270582475	566.5456274	4.676452361	573.7488544	13.96810131	603.3090983	66.40616395	566.5456274	4.676452361	93.90636227
071420HW-01 80	449.4414284	1331.922583	8.797490492	16.97737781	7.428833364	0.111988516	17.4876248	0.017004477	1.594007342	0.091150591	108.6963363	1.718102011	107.7827771	17.88458357	88.69592669	NA	108.6963363	1.718102011	122.5494116
071420HW-01 81	602.6713669	2532.634519	1.26708761	17.89474157	2.712421822	0.392563341	11.55512257	0.056915953	0.970180565	0.08396108	356.8424729	3.367940193	336.2402184	33.0866597	197.0954635	NA	356.8424729	3.367940193	181.0505765
071420HW-01 82	465.133829	1160.297489	2.735036291	13.55526578	14.29542283	0.125363398	15.52256668	0.014858261	1.371689801	0.088367461	95.07789456	1.294603307	119.9228347	17.55960349	646.9790848	333.9725251	95.07789456	1.294603307	14.69566742
071420HW-01 83	317.1757768	959.9677276	2.094881173	15.23621647	11.1827286	0.101700522	14.42365661	0.014673991	2.759530816	0.19131978	93.90729968	2.572617382	98.34483977	13.52043235	208.3395476	NA	93.90729968	2.572617382	45.07415936
071420HW-01 84	562.5830657	2013.139746	1.444476349	15.00221532	5.679918569	0.125675479	7.696533187	0.015340759	1.323500153	0.17196056	98.14200819	1.289072151	120.2043772	8.725153743	583.2927172	164.8295514	98.14200819	1.289072151	16.82551578
071420HW-01 85	236.065675	821.6004372	3.787123476	12.69891702	16.13505656	0.124227013	29.09152305	0.014753354	4.402363436	0.151328049	94.41148988	4.126049528	118.8969891	32.65186996	642.6371259	630.3535161	94.41148988	4.126049528	14.69125982
071420HW-01 86	640.0313287	1955.777716	1.544713419	18.85633237	5.686384303	0.102538652	10.37858564	0.016361808	1.20655559	0.116254337	104.6214066	1.252127327	99.1170085	9.801111967	NA	NA	104.6214066	1.252127327	
071420HW-01 87	552.1236224	1874.750846	3.41634212	12.43760108	9.268552876	0.107884462	10.37149004	0.010754915	1.793271221	0.172903914	68.96046803	1.230057248	104.0283361	10.25534468	1007.94314	207.7206633	68.96046803	1.230057248	6.841702205
071420HW-01 89	682.0576144	1908.781212	2.631020939	16.44021359	8.521070803	0.11419462	9.390883783	0.015531204	2.246747832	0.239247752	99.35103632	2.215054478	109.7952276	9.773145716	343.6759179	206.7158373	99.35103632	2.215054478	28.90834975
071420HW-01 90	608.1883292	1994.111907	2.840122161	15.08016595	9.51640354	0.123957821	12.28491489	0.015182561	1.667790876	0.135759254	97.13753328	1.607906192	118.6538305	13.75791299	575.9139854	265.4723592	97.13753328	1.607906192	16.8666738
071420HW-01 91	1201.049887	2445.615628	4.952857721	16.08436333	6.719017509	0.083768294	7.184873572	0.01077434	1.436929426	0.199993697	69.08435692	0.987393207	81.68160603	5.638930445	468.6486911	156.0328016	69.08435692	0.987393207	14.74118209
071420HW-01 92	912.6244949	2958.616255	2.552153193	16.08395574	4.90123465	0.135852669	6.589158758	0.017154233	1.025208942	0.155590263	109.6455144	1.114589863	129.3431681	8.002340001	509.329045	143.2609086	109.6455144	1.114589863	21.52744193
071420HW-01 93	310.4506106	931.9146629	3.618142222	10.31272656	10.00247408	0.171674251	15.67351627	0.015168072	1.818959566	0.116053063	97.04552232	1.751998313	160.8709038	23.32227916	1248.439858	306.5859496	97.04552232	1.751998313	7.773343803
071420HW-01 94	341.2553483	553.1494208	4.855575086	14.41909847	9.085721079	0.08586436	18.0167669	0.014579262	2.576378718	0.142998948	93.30543819	2.386588152	83.64351432	14.46683453	NA	NA	93.30543819	2.386588152	
071420HW-01 96	87.70443198	5421.030177	1.013247888	6.21199557	1.070542484	10.10092368	1.478422221	0.460195256	0.875907541	0.592461023	2440.420071	17.79544195	2444.055764	13.66018449	2447.805706	20.15431708	2447.805706	20.15431708	99.69827528
071420HW-01 97	208.203714	518.5414495	5.217984599	10.6227503	12.8774258	0.133077796	42.36222236	0.014498587	3.904052479	0.092158821	92.79282845	3.596732431	126.8595659	50.56072072	825.253613	920.8323341	92.79282845	3.596732431	11.24415901
071420HW-01 98	1303.348135	3943.826425	1.430313859	19.06877205	2.80908876	0.10302586	3.998856727	0.015290757	1.161926526	0.29056468	97.82453815	1.128068385	99.56560444	3.792523935	142.454512	89.82814339	97.82453815	1.128068385	68.67071936
071420HW-01 99	314.0317639	808.8012721	1.922917446	10.82317644	12.26125625	0.172332549	19.69024747	0.016713945	1.574460548	0.07996144	106.8544972	1.668515246	161.4412304	29.39807547	1063.497124	398.4986749	106.8544972	1.668515246	10.04746461
071420HW-01 100	149.4142305	600.6474605	1.421428002	10.92646439	28.05816288	0.221091773	30.67686027	0.023669749	2.633687071	0.085852563	150.8071783	3.925691867	202.8180482	56.45628671	861.6482461	648.7182448	150.8071783	3.925691867	17.50217435
071420HW-01 101	268.9859988	664.5216338	5.78634026	12.29354426	14.90102122	0.098019298	27.31626378	0.011927037	3.443158654	0.126047935	76.43171752	2.616125785	94.94635598	24.76503394	590.1639887	597.8406981	76.43171752	2.616125785	12.95092872
071420HW-01 102	484.48669	17423.62067	2.835586033	13.38740831	1.191464484	1.699650793	1.395141303	0.166247781	0.666279886	0.477571616	991.4041622	6.122658915	1008.399684	8.918901892	1046.41028	24.73840937	1046.41028	24.73840937	94.74335079
071420HW-01 103	210.0379052	605.6116905	3.985704239	9.126412489	19.31113663	0.187556533	20.45573824	0.015655436	3.43174861	0.167764593	100.1395871	3.409985023	174.5421762	32.81513036	1358.859077	392.6591656	100.1395871	3.409985023	7.369387221
071420HW-01 104	463.8133165	1276.352378	1.440956596	14.02360914	11.64436097	0.14087782	14.04881587	0.016953072	1.054169639	0.075036192	108.3704883	1.132859879	133.8254387	17.61638073	614.1605772	303.9664395	108.3704883	1.132859879	17.64530195
071420HW-01 105	147.0072784	11759.88807	1.730301289	9.003623499	1.46796023	4.906791018	1.79956472	0.321936113	0.757695564	0.421043798	1799.177527	11.89522529	1803.424592	15.18013701	1809.113609	29.66458686	1809.113609	29.66458686	99.45077626
071420HW-01 107	335.9355192	1314.229129	3.934771803	13.60594092	10.3931084	0.133330736	15.38388131	0.015347335	1.961591975	0.127509562	98.18376312	1.911372104	127.0862075	18.37878792	709.408318	326.1937395	98.18376312	1.911372104	13.84023286
071420HW-01 109	146.2818932	9802.359451	1.814524911	9.230073365	1.560317448	4.738431456	1.95381901	0.319562971	0.772437451	0.395347495	1787.594514	12.05891861	1774.062961	16.38299619	1758.95461	32.81872688	1758.95461	32.81872688	101.6282344
071420HW-01 110	156.3102248	354.2136251	2.739953127	8.86936805	20.09526971	0.107700073	49.93169474	0.010733856	7.048895828	0.141170771	68.82615536	4.825678004	103.8593283	49.33345995	1008.448187	1070.563789	68.82615536	4.825678004	6.824957024
071420HW-01 111	254.3712691	467.1809974	1.910569229	9.394256159	21.01374991	0.107752341	35.93597746	0.010229455	3.040873709	0.084619201	65.60830197	1.984947645	103.907239	35.50752396	1106.34967	739.4041089	65.60830197	1.984947645	5.930159672
071420HW-01 112	308.2560772	4106.485268	2.247625657	8.847540503	0.911530671	4.376735614	1.321409811	0.28836188	0.729043048	0.551716085	1633.337959	10.51893437	1707.956975	10.92234321	1801.512855	20.0477737	1801.512855	20.0477737	90.66479624

071420HW-01 113	181.8258216	1883.493489	1.896542507	15.49799808	5.874407188	0.459054956	9.128166549	0.058801815	1.316143273	0.144184844	368.3346048	4.711915628	383.6004831	29.16929566	477.7177934	200.0364443	368.3346048	4.711915628	77.10296954
071420HW-01 114	94.97444752	1470.138893	0.968634699	15.75851799	8.081677877	0.55465756	10.96589917	0.075392532	2.006105429	0.18294035	468.5623892	9.066372443	448.0431568	39.74532758	344.9967573	244.5309853	468.5623892	9.066372443	135.8164618
071420HW-01 115	187.6656237	1190.111358	3.742191724	13.96047323	7.68647861	0.258888858	14.64388586	0.031694397	1.570982684	0.107279086	201.1442147	3.111150779	233.7711054	30.58747	576.9671151	317.9747684	201.1442147	3.111150779	34.86233607
071420HW-01 116	327.8556685	1378.081575	5.31925242	14.23795332	11.48835498	0.1251216	16.96315673	0.015251121	1.488457533	0.087746494	97.57287055	1.441394778	119.7046437	19.15671046	586.4667493	369.0998244	97.57287055	1.441394778	16.6374088
071420HW-01 117	336.5947247	908.4584303	3.378851053	11.67075547	6.583540796	0.146118586	12.81997229	0.015209584	3.087696238	0.240850461	97.30912252	2.982046593	138.4790484	16.59707581	919.7526103	256.7870428	97.30912252	2.982046593	10.5799235
071420HW-01 118	165.595854	457.5701631	5.84300598	8.678136689	32.47304245	0.170133647	41.71290825	0.014674929	4.887742678	0.117175783	93.91325528	4.556964827	159.5349246	61.65786297	1295.322651	843.2320497	93.91325528	4.556964827	7.250182429
071420HW-01 119	48.6060225	3261.624388	1.194914629	8.684070097	2.832068889	5.349874318	3.724545391	0.349822126	0.828080907	0.222330733	1933.749077	13.83446522	1876.869595	31.87309541	1815.256494	65.96557463	1815.256494	65.96557463	106.5275945
071420HW-01 120	454.722808	3954.086305	2.463820584	17.6335312	3.320773449	0.429667549	6.525651	0.058837054	0.745615934	0.114259242	368.5491505	2.670885061	362.9404825	19.91622112	328.2185094	147.244986	368.5491505	2.670885061	112.2877412
071420HW-01 121	289.0421873	5911.966079	3.123444478	10.5337615	1.062810117	3.508091838	2.149298434	0.275051543	0.810476782	0.377088993	1566.392289	11.27056195	1529.038908	16.98420931	1478.539941	37.75013184	1478.539941	37.75013184	105.9418312
071420HW-01 122	54.01735517	4112.669909	0.525907219	8.398162273	2.29818756	5.70354587	2.905751324	0.357502295	0.806177719	0.277442089	1970.323697	13.68635846	1931.904981	25.10829455	1891.706861	50.23754087	1891.706861	50.23754087	104.1558678
071420HW-01 124	537.1914249	2395.621089	2.442442587	17.07187466	4.351247842	0.217720665	9.409217419	0.030120445	0.70592073	0.075024383	191.3020607	1.330600011	200.0109703	17.08348091	304.9633988	214.2013601	191.3020607	1.330600011	62.72951489
071420HW-01 126	1031.811865	4394.455861	2.252172289	17.03282775	3.680625943	0.118013144	5.659547467	0.015464165	1.319049378	0.233066228	98.92547024	1.294914646	113.2691595	6.065969976	427.2606553	122.8188979	98.92547024	1.294914646	23.1534238
071420HW-01 127	237.2075612	2964.606019	1.309134382	16.56722683	4.095211922	0.500950847	9.661030224	0.065572591	1.179465442	0.122084852	409.4265853	4.678889704	412.3458447	32.75160405	429.6671669	214.1584522	409.4265853	4.678889704	95.28924174
071420HW-01 128	484.432596	1321.395622	1.248127109	11.70885754	11.79486176	0.153503717	12.72249134	0.014890084	1.475433295	0.11597047	95.28003108	1.395455286	145.0007832	17.19267584	1063.189145	255.1478034	95.28003108	1.395455286	8.961719698
071420HW-01 129	178.6254784	1215.270472	2.251800083	12.04461244	16.189868	0.236005445	19.33785371	0.024039615	2.93296588	0.151669669	153.135936	4.43849801	215.1441988	37.50915732	964.1311849	393.7299224	153.135936	4.43849801	15.88330908
071420HW-01 130	223.9455626	2298.43373	1.71604503	15.63012231	2.029775061	0.454388916	3.907898581	0.057198282	1.45345748	0.371928148	358.5642439	5.069290265	380.3480974	12.39772358	516.1265259	79.68539799	358.5642439	5.069290265	69.47215962
071420HW-01 131	43.11040298	3967.158861	0.874874595	5.855435824	1.308333383	11.36590461	1.591527509	0.491961077	0.692861396	0.435343651	2579.154961	14.72782366	2553.63056	14.854333	2534.140393	24.03841976	2534.140393	24.03841976	101.776325
071420HW-01 132	717.9352706	1719.279309	9.133906192	12.9357685	11.43326456	0.093406343	12.25227059	0.009831843	1.728367525	0.14106508	63.07058745	1.084776278	90.67158266	10.62813662	896.7394038	251.1411486	63.07058745	1.084776278	7.033323972
071420HW-01 133	272.6677909	651.8738703	3.287453271	13.30306046	13.87577718	0.108691532	18.33458191	0.014986943	2.126502643	0.115983154	95.89523816	2.024122348	104.767751	18.25293373	312.570435	NA	95.89523816	2.024122348	30.67956129
071420HW-01 134	78.20169828	4568.055151	2.270550105	8.855760528	1.638138925	4.56085794	2.816626644	0.301390211	0.86766302	0.30805042	1698.198781	12.95362991	1742.145913	23.4607133	1796.086314	48.78521929	1796.086314	48.78521929	94.54995388
071420HW-01 135	193.4049175	583.1444433	5.118478776	9.06060475	13.89969931	0.170257501	28.79808954	0.014335365	3.766748628	0.130798559	91.75558677	3.431721842	159.6423935	42.56696876	1342.109507	563.1893617	91.75558677	3.431721842	6.836669161
071420HW-01 136	199.6695206	701.8849864	5.146064568	13.01265504	11.69086606	0.115835391	26.46608248	0.015016861	3.952657695	0.149348046	96.08525063	3.769757155	111.2893885	27.90422868	451.1292895	NA	96.08525063	3.769757155	21.29882782
071420HW-01 137	301.0493741	762.5924206	4.430099878	12.46838783	9.868999022	0.124014523	16.55024812	0.014727735	1.312496094	0.079303711	94.24873871	1.22801218	118.7050535	18.54314182	642.6928835	356.8663475	94.24873871	1.22801218	14.66466195
071420HW-01 138	555.6671173	7996.455129	2.588073892	18.86384357	2.392763475	0.40399946	4.023265291	0.057225537	0.898013653	0.22320518	358.7304346	3.133454627	344.5447743	11.75551956	250.9276683	90.25252475	358.7304346	3.133454627	142.9616897
071420HW-01 139	566.2272297	1123.85305	3.452401177	15.04352497	9.902448829	0.112587206	12.15907993	0.015223339	1.413274819	0.116232053	97.39646627	1.366133565	108.3293087	12.49417324	356.8701828	273.5502392	97.39646627	1.366133565	27.29184755
071420HW-01 140	1536.682703	3217.11482	1.402828486	17.42649964	3.821146039	0.074788358	8.413159888	0.010229975	1.082881791	0.12871285	65.61161951	0.706892803	73.23324953	5.944359393	330.7590718	189.5033373	65.61161951	0.706892803	19.83668026
071420HW-01 142	595.8955904	1796.993135	2.738383537	15.50187427	5.909772335	0.118971715	9.458931143	0.015245653	1.277684807	0.135077081	97.53815045	1.236849408	114.139363	10.21200995	476.8210781	207.6268831	97.53815045	1.236849408	20.45592255
071420HW-01 143	158.733663	441.4338104	5.69768072	10.2819454	14.62902927	0.131469554	39.94519547	0.014718904	4.387892874	0.109847826	94.19263403	4.103023499	125.4173511	47.16164323	768.1324115	869.6178471	94.19263403	4.103023499	12.26255169
071420HW-01 144	154.2052109	819.5839698	2.053905737	11.15132117	11.89762908	0.238586734	16.59296557	0.023774229	2.083295405	0.125552928	151.465096	3.118683824	217.262526	32.46547414	1008.821795	336.0293336	151.465096	3.118683824	15.01405865
071420HW-01 145	165.3825673	1191.403992	3.288277885	11.33684895	18.91899537	0.313443409	21.53025002	0.029607841	1.71606219	0.079704703	188.0934266	3.181164749	276.8464692	52.21669362	1116.383621	433.1632648	188.0934266	3.181164749	16.84845809
071420HW-01 146	348.7420445	1799.064172	2.125029953	16.6349902	7.647004654	0.207648931	10.22087719	0.02879218	1.150418123	0.112555713	182.9845199	2.0754909	191.5778415	17.84644823	299.7939713	232.142264	182.9845199	2.0754909	61.03675772
071420HW-01 147	153.2273966	362.1530929	2.694252077	7.695021368	27.72624384	0.18997752	34.25366132	0.014966916	5.927795496	0.173055821	95.76803716	5.634974564	176.6100588	55.58195853	1469.422288	659.9517266	95.76803716	5.634974564	6.517393806
071420HW-01 148	68.57522956	4647.14291	1.931133418	8.783150631	1.943413248	5.148683366	2.947094368	0.33437226	0.884751067	0.300211312	1859.53885	14.29200791	1844.177258	25.06260407	1827.661684	50.98110931	1827.661684	50.98110931	101.7441502
071420HW-01 149	124.5377939	2555.938147	1.190504461	15.0680702	5.719409697	0.840049201	9.714201203	0.099766898	1.44114153	0.148354095	613.0426846	8.427735793	619.1727787	45.06063028	642.6025341	206.9758024	613.0426846	8.427735793	95.39997931
071420HW-01 150	140.2838674	8229.825666	2.776840126	8.534889912	1.086860205	5.456559696	1.450963829	0.341321161	0.898197272	0.619034916	1893.022201	14.73401579	1893.787502	12.45162423	1895.391891	20.49437433	1895.391891	20.49437433	99.87497625
071420HW-01 151	195.6701874	2264.9747	3.900485859	16.21087906	4.842136654	0.449041854	9.627373359	0.058736619	0.762535753	0.079204963	367.9376556	2.727089901	376.6081614	30.30208551	431.2326235	214.3112639	367.9376556	2.727089901	85.32231459
071420HW-01 152	385.4976571	6046.398649	1.330359321	17.8702675	4.036465083	0.446701648	6.115236476	0.060406095	0.861664055	0.140904454	378.0947198	3.164206103	374.9669897	19.17491145	356.6503055	136.7907421	378.0947198	3.164206103	106.0127284
071420HW-01 153	724.7147838	1537.05527	2.325255991	16.86172636	7.68660755	0.070320304	12.4260369	0.010219943	1.601102746	0.128850635	65.54760447	1.044166926	69.00335391	8.289706857	191.5358823	NA	65.54760447	1.044166926	34.22210171
071420HW-01 154	213.9187282	341.2447203	2.716846854	10.310076	18.60136659	0.096665854	80.92050415	0.0129146	3.406517784	0.04209709	82.71985872	2.79986464	93.69399947	72.54799259	383.9054637	NA	82.71985872	2.79986464	21.54693448
071420HW-01 155	237.9456884	1034.076822	4.437984041	10.33224147	21.12395617	0.180831582	24.09368603	0.015716312	5.591326987	0.232066068	100.5259604	5.577138337	168.7758754	37.48147521	1280.574977	463.0309996	100.5259604	5.577138337	7.850064396
071420HW-01 156	37.21045673	2434.015639	1.067651097	8.767380304	5.249640091	4.961632156	5.532743223	0.330510567	0.991690163	0.179240229	1840.855786	15.88042462	1812.808342	46.78827593	1781.494039	99.33074353	1781.494039	99.33074353	103.3321328
071420HW-01 157	689.9453756	1703.441574	2.283960348	14.58425943	8.99281164	0.126130313	10.70015769	0.015146077	0.99892097	0.093355724	96.90585415	0.96077339	120.6145644	12.16947118	618.7600535	230.5264124	96.90585415	0.96077339	15.66129772
071420HW-01 158	270.6786155	613.8677386	4.413899859	12.62115592	10.80254161	0.114746055	35.97106456	0.014812287	2.409586747	0.066986807	94.78586124	2.26723845	110.2976348	37.61348796	460.5994208	NA	94.78586124	2.26723845	20.578806
071420HW-01 159	489.667288	463.0518424	3.927767307	10.46916738	19.73697626	0.05056555	34.6856202	0.005627116	2.406524778	0.069381051	36.17303823	0.868075321	50.08746336	16.9531853	780.8216234	748.816206	36.17303823	0.868075321	4.6326891
071420HW-01 160	204.1299262	489.8796054	4.71978336	10.7786279	11.707089	0.128786753	46.62151815	0.014570211	4.560713589	0.097824219	93.24793188	4.222161128	123.0069416	54.0612037	746.0549051	NA	93.24793188	4.222161128	12.49880287
071420HW-01 161	441.2106864	1120.323331	5.763802727	14.6396248	9.20918741	0.113239905	12.54296294	0.014661942	2.641097908	0.210564116	93.83075008	2.460213847	108.9248076	12.95580332	453.9628954	273.0809505	93.83075008	2.460213847	20.66925536
071420HW-01 162	356.1088855	3156.238091	2.872943805	7.653036946	2.267879102	1.135514342	3.294823476	0.064047269	1.835537439	0.557097354	400.1922045	7.122317408	770.3787654	17.79084733	2079.468193	48.17321655	2079.468193	48.17321655	19.24493031
071420HW-01 163	175.2897382	359.2817283	4.209720012	8.336797132	24.51366852	0.131694535	33.54108667	0.011605652	3.464783568	0.103299681	74.38402897	2.562433584	125.6192292	39.65210642	1253.48551	671.5485581	74.38402897	2.562433584	5.934175415
071420HW-01 165	389.5403642	324.1810651	3.824836749	8.938532296	16.20563916	0.056395604	24.45632718	0.005935837	5.061564277	0.206963386	38.15174607	1.925372133	55.70669656	13.25758718	896.8652557	500.5501165	38.15174607	1.925372133	4.253899438
071420HW-01 166	352.6049329	3369.830737	1.791314798	16.31168681	4.292327923	0.44089707	5.362042268	0.054935176	0.870073459	0.162265311	344.7498488	2.920780369	370.8847893	16.66108856	538.5611129	115.8315107	344.7498488	2.920780369	64.01313436
071420HW-01 167	97.668199	5702.78161	1.305594706	9.00583364	1.300194322	5.181033354	2.515982052	0.338550922	0.731710152	0.29082487	1879.694616	11.93017695	1849.505475	21.41692661	1816.494532	43.71222297	1816.494532	43.71222297	103.4792334
071420HW-01 168	246.585444	2340.399655	2.506631276	15.54156512	5.852513586	0.479059526	8.960403948	0.05850428	1.228312103	0.137082224	366.5228377	4.376450543	397.427456	29.47700164	582.3245479	193.0855362	366.5228377	4.376450543	62.94133384
071420HW-01 169	296.2602878	1027.471394	3.603639663	12.33873469	6.863446357	0.165724226	16.16945864	0.017453232	1.521525581	0.094098734	111.5402007	1.682514748	155.7014233	23.34490332	895.6279309	334.2565306	111.5402007	1.682514748	12.45385465
071420HW-01 171	242.2621128	624.7628509	5.197167894	11.82174623	20.15103879	0.130890782	33.60383766	0.015055368	2.892482074	0.086075945	96.329804	2.765607562	124.8978268	39.51175469	711.0035838	731.157191	96.329804	2.765607562	13.54842735
071420HW-01 172	239.1865857	581.8247493	4.150355169	11.0224514	11.02679027	0.135497035	27.17105762	0.014506039	2.541540524	0.09353852	92.84018078	2.342661123	129.0252032	32.93309091	861.6578248	571.2577082	92.84018078	2.342661123	10.77459963
071420HW-01 173	340.524369	1061.013946	3.428683087	13.01455162	18.66080372	0.133500107	23.49332779	0.014917214	2.103618639	0.08954111	95.45235219	1.993160709	127.2379402	28.10252663	772.2244172	498.8575852	95.45235219	1.993160709	12.36070112
071420HW-01 174	827.8384434	889.5271525	3.667034147	12.70888919	10.74814818	0.053096769	16.47189696	0.005999911	2.55503442	0.155114765	38.56234298	0.982340044	52.53097178	8.433023864	748.5765526	345.9139657	38.56234298	0.982340044	5.15142277
071420HW-01 177	138.2698832	8049.467117	1.603738509	6.249190197	1.010745234	9.829663254	1.375705209	0.437365801	0.705763949	0.513019755	2338.837282	13.84381724	2418.935845	12.67948321	2487.758849	19.90534948	2487.758849	19.90534948	94.01382627
071420HW-01 178	202.7708237	609.6187004	4.376325134	12.04909873	13.32324743	0.12469869	41.45085026	0.014891239	2.969625603	0.071642091	95.28737096	2.808867628	119.3229108	46.69765762	630.7743591	NA	95.28737096	2.808867628	15.1064116
071420HW-01 179	190.2693351	532.5566751	4.696877856	8.391109861	17.89871969	0.196635143	25.00321609	0.014941649	3.757794216	0.150292434	95.60755352	3.566224558	182.2750373	41.74166055	1537.707885	472.4267012	95.60755352	3.566224558	6.217536791
071420HW-01 180	155.0438066	914.913193	1.478463196	13.86637011	7.963162141	0.23346135	14.88876336	0.029384139	2.565918648	0.172339273	186.6926697	4.721681274	213.0520617	28.62153938	516.4166922	323.6027354	186.6926697	4.721681274	36.151556
071420HW-01 181	821.5590952	831.3778459	2.602012256	13.55266025	8.625353169	0.046034223	20.96788008	0.0057901	1.780216325	0.084902065	37.21773797	0.660647323	45.69841405	9.369829443	517.8966513	463.2206394	37.21773797	0.660647323	7.186325279
071420HW-01 182	339.5451731	941.4678519	2.429353767	13.61373345	8.986753927	0.11611069	20.45150499	0.01415855	2.111004988	0.103220031	90.6317753	1.899854788	111.5398723	21.60656176	585.5817468	445.7291583	90.6317753	1.899854788	15.47722001
071420HW-01 183	181.6117834	6818.724934	15.28035174	11.50667858	1.407465844	2.757117715	1.819486714	0.230925269	0.856325102	0.470641031	1339.346576	10.35611883	1344.013909	13.55829617	1352.27437	30.97265366	1352.27437	30.97265366	99.04399623
071420HW-01 185	548.2358577	1464.815651	2.402496564	14.23370697	9.328869642	0.090822954	12.62646258	0.010727595	2.018159432	0.159835696	68.78622302	1.380835491	88.26970061	10.67502646	654.3414474	268.3987414	68.78622302	1.380835491	10.51228274
071420HW-01 186	280.0355099	731.004968	4.240640716	12.96082678	11.37934996	0.121703929	15.16943077	0.015160891	2.968351692	0.195679834	96.99992403	2.857744751	116.6156212	16.71339869	539.0139663	327.0249112	96.99992403	2.857744751	17.99580903
071420HW-01 187	423.5719753	1469.359718	5.077950716	14.19117177	8.34854581	0.131152607	9.583567837	0.015427768	1.649159039	0.17208195	98.6944091	1.615231678	125.1328826	11.28315971	663.0961822	202.6804675	98.6944091	1.615231678	14.88387533
071420HW-01 188	416.8438743	945.3966014	5.492129213	11.91968874	11.7425056	0.144492696	14.94832847	0.015036678	1.686515842	0.112823039	96.21110662	1.610567039	137.0375984	19.16491867	920.2518054	306.9748422	96.21110662	1.610567039	10.45486747
071420HW-01 189	154.475263	12303.80863	0.893599102	8.026273358	1.381351568	5.432538793	1.583735614	0.315650738	0.714403447	0.451087569	1768.453832	11.04913722	1890.002839	13.58184958	2027.044544	25.0322305	2027.044544	25.0322305	87.24296843
071420HW-01 190	565.6268288	1998.807906	2.304259576	13.65984484	11.40308876	0.109853676	13.32334431	0.011945611	1.825533027	0.137017627	76.55004443	1.389181894	105.8315312	13.39112952	829.2463608	276.3862594	76.55004443	1.389181894	9.231278912
071420HW-01 191	83.08910258	364.9766256	2.105405237	8.965115898	17.35912659	0.244418479	25.13545903	0.024227846	4.395779487	0.174883597	154.3207588	6.703050404	222.0321226	50.16924048	1019.455776	508.6576668	154.3207588	6.703050404	15.13756285
071420HW-01 193	382.0907606	644.2402402	4.004423943	9.005796302	32.35042521	0.071749803	38.99129581	0.00576425	4.823971991	0.123719202	37.05205386	1.782253909	70.35857473	26.51084355	1432.206422	768.387668	37.05205386	1.782253909	2.587061006
071420HW-01 194	142.7824581	376.6622776	3.687792943	8.124141376	16.82685092	0.146268887	21.65367345	0.012302351	5.286827291	0.244153829	78.82218661	4.141820222	138.6121961	28.06322031	1344.186257	410.0495692	78.82218661	4.141820222	5.86393338
071420HW-01 195	848.7731383	1775.81428	1.932630327	13.81994566	7.503489993	0.091533555	8.513854679	0.01027771	1.048279616	0.123126322	65.91621868	0.687465542	88.93094258	7.249478443	761.9920528	178.3984133	65.91621868	0.687465542	8.650512619
071420HW-01 196	706.5400431	1737.523018	2.198188176	15.82165511	5.725750024	0.115323052	6.801226225	0.015178101	1.107509234	0.162839641	97.10921095	1.067433359	110.8230651	7.140682771	417.4700196	150.0495352	97.10921095	1.067433359	23.26136163
071420HW-01 197	243.2369516	995.4041242	7.330508707	9.669054151	7.287895772	0.188526588	10.75345603	0.015210005	3.457877387	0.321559634	97.31179728	3.339652665	175.3712533	17.32143251	1424.141326	194.9843422	97.31179728	3.339652665	6.833015483
071420HW-01 198	855.092825	2235.205873	2.636122898	16.12858289	5.678343932	0.115964302	8.165513804	0.015076258	0.941156819	0.115259963	96.46246829	0.901104344	111.4066878	8.615844826	444.8302958	180.5860546	96.46246829	0.901104344	21.68522899
071420HW-01 199	544.5241321	1683.228437	4.614274998	14.37602727	9.159734734	0.129668313	13.98693403	0.015353383	2.82244297	0.201791398	98.22216217	2.751251439	123.7996256	16.30319297	649.0675639	295.4500823	98.22216217	2.751251439	15.13281015
071420HW-01 200	207.6245865	1234.138699	2.825764203	11.84075219	11.55665672	0.299714038	19.5515353	0.029698829	1.469235766	0.075146823	188.6630802	2.731736644	266.1768484	45.81045228	1020.150079	398.3576985	188.6630802	2.731736644	18.49365933
071420HW-01 201	401.9096922	1161.668199	1.790389946	15.8353583	6.07244513	0.105196602	25.59861362	0.015047389	1.63380132	0.06382382	96.27913092	1.561321318	101.5619024	24.74540088	228.3788138	NA	96.27913092	1.561321318	42.15764559
071420HW-01 202	161.9669226	7292.353921	2.040661835	9.188539063	0.988190827	4.447687164	1.266714087	0.30003267	0.663562851	0.523845798	1691.470719	9.87222149	1721.268361	10.5013726	1758.481009	19.73227573	1758.481009	19.73227573	96.18930825
071420HW-01 203	156.7482533	8993.57182	0.567162661	5.431009059	0.572024193	10.87674147	1.393312891	0.429138862	1.199561124	0.860941668	2301.834448	23.22019608	2512.648616	12.95697559	2688.370006	11.71398873	2688.370006	11.71398873	85.62193606
071420HW-01 204	621.9888978	1339.385725	1.857253658	13.63635975	12.28690741	0.088337173	21.07534782	0.010188794	1.22098181	0.057934124	65.34883613	0.793866799	85.95319314	17.37108971	705.1309132	452.3224161	65.34883613	0.793866799	9.267617531
071420HW-01 205	898.1100546	721.689429	2.982709324	10.76202049	14.14768113	0.059357257	22.10241825	0.005853994	1.195025606	0.054067641	37.62723973	0.448345398	58.54938574	12.5754427	1029.716805	451.5014756	37.62723973	0.448345398	3.654134762
071420HW-01 206	246.4939866	1902.19566	2.139376205	14.4366727	8.28545377	0.354995149	11.43999382	0.041515535	1.181846787	0.103308341	262.2201265	3.036856694	308.4712133	30.44181003	675.6443052	244.0132129	262.2201265	3.036856694	38.81038063
071420HW-01 207	320.7929839	1702.910608	1.679793495	16.32394806	8.94117948	0.209974797	10.9167429	0.028745124	1.059149831	0.097020681	182.6896607	1.907796384	193.5315333	19.23826057	328.8733515	247.1408761	182.6896607	1.907796384	55.55015627
071420HW-01 208	336.9357074	845.1719916	4.902614421	11.41876225	11.07290775	0.144458677	24.45682212	0.014738649	1.774367437	0.072551022	94.31807107	1.661365743	137.0074162	31.35533665	960.7982659	505.5902977	94.31807107	1.661365743	9.816636272
071420HW-01 209	174.2399658	4624.988857	3.334466406	13.47045799	2.480249795	1.75953348	2.791988894	0.178176672	0.794821227	0.284679222	1057.005962	7.74869014	1030.676384	18.07804029	976.1210787	54.54267067	976.1210787	54.54267067	108.2863576
071420HW-01 210	248.2233211	517.7239944	3.739397643	10.49967036	8.239625813	0.13619419	21.38957754	0.014548867	1.901416452	0.08889453	93.11231092	1.75772793	129.6484214	26.03954121	866.2276267	446.5297157	93.11231092	1.75772793	10.74917355
071420HW-01 211	851.1781116	2379.623507	5.569255172	16.36464019	5.798604813	0.115820605	6.482158951	0.015182979	1.052678097	0.162396218	97.14018332	1.014907482	111.2759336	6.831995862	426.3619037	142.7937557	97.14018332	1.014907482	22.78350446
071420HW-01 212	212.8343718	890.8324639	5.260454556	13.6371496	16.95267303	0.164239766	18.36392426	0.020757942	2.306691737	0.125609957	132.4443604	3.023913171	154.4075879	26.31046213	507.2675416	403.6985673	132.4443604	3.023913171	26.1093702
071420HW-01 213	548.4922225	1361.55202	4.532874216	17.55320978	4.686602867	0.096827634	12.28471842	0.015144166	0.912971077	0.074317623	96.89371998	0.87799669	93.84377443	11.0121744	18.01040104	NA	96.89371998	0.87799669	537.987576
071420HW-01 214	237.8209082	953.995657	4.392408681	13.36320241	9.923654472	0.12419843	21.54643863	0.015029255	2.603002215	0.120808931	96.16396181	2.484572383	118.8711729	24.17467171	602.1340336	467.8402793	96.16396181	2.484572383	15.97052424
071420HW-01 215	433.4301686	1196.156708	3.453715227	13.71145108	6.898276671	0.122917634	8.650017637	0.014580183	1.482093422	0.171339931	93.31129169	1.372999539	117.7136911	9.614488266	645.2396447	183.4277765	93.31129169	1.372999539	14.46149387
071420HW-01 216	188.5981762	572.0033187	4.367088939	13.24362422	11.47881221	0.108099653	39.30350635	0.015660688	2.901542813	0.073824019	100.1729259	2.884094053	104.2255405	38.95109265	198.8991067	NA	100.1729259	2.884094053	50.36368818
071420HW-01 217	307.7289128	378.8766323	5.374164021	5.345093409	12.94245942	0.120766833	21.89575877	0.005680482	5.012062854	0.228905648	36.5151256	1.824987478	115.7669935	23.96088868	2393.666024	367.2609978	36.5151256	1.824987478	1.525489572
071420HW-01 218	324.2884105	2630.694292	1.995859816	17.40892984	6.985391399	0.21237312	11.655165	0.029460871	1.277695658	0.109624845	187.1731777	2.35711833	195.5421586	20.73346744	298.736785	265.0374707	187.1731777	2.35711833	62.65488117
071420HW-01 219	724.1222225	1794.543194	4.677746677	16.93748378	3.985646239	0.107034987	7.212348107	0.015140896	1.177026608	0.163196034	96.87295472	1.131695935	103.2494884	7.080730174	254.0479156	163.7858373	96.87295472	1.131695935	38.13176523
071420HW-01 220	446.5976836	705.8040023	3.143134888	10.77393516	6.938708965	0.08554435	10.98575016	0.008480873	2.209452971	0.2011199	54.44069548	1.197776779	83.34423133	8.790513354	1019.136718	218.5297706	54.44069548	1.197776779	5.34184418
071420HW-01 221	493.3620935	1951.321898	2.831707596	17.74968638	4.87475002	0.099724192	13.74943496	0.0147034	1.797827708	0.130756479	94.09413959	1.679364437	96.52177792	12.66059205	157.9178235	NA	94.09413959	1.679364437	59.58424293
071420HW-01 222	210.1360832	519.7081985	3.675105447	11.87717163	16.15853701	0.118072791	41.50173523	0.015138382	3.215213912	0.077471765	96.85698417	3.09088117	113.323329	44.53015613	475.7058177	NA	96.85698417	3.09088117	20.36068944
071420HW-01 223	350.2740989	1562.875052	2.273066044	12.31355425	6.955830645	0.173279871	9.630153647	0.017269893	1.643270652	0.170638051	110.3784906	1.798377129	162.2613954	14.44238469	1008.440009	192.8677194	110.3784906	1.798377129	10.9454692
071420HW-01 224	198.6208548	1266.718514	2.389050667	13.65940892	6.660015235	0.267497476	13.50629941	0.031019092	1.276590615	0.094518163	196.9232751	2.47589516	240.6909324	28.95053074	693.7294744	287.8384378	196.9232751	2.47589516	28.38617679
071420HW-01 225	653.0878056	2629.257151	3.044275446	16.59143677	5.316297411	0.115896426	7.275630286	0.015176056	1.004160155	0.13801693	97.09622642	0.96769559	111.3449272	7.672819053	428.8375451	160.8526773	97.09622642	0.96769559	22.64172704
071420HW-01 226	408.9328514	2886.733929	2.60559249	14.49190659	9.430755308	0.25714819	11.34343122	0.028783423	0.971148392	0.085613283	182.9296446	1.751548991	232.3661618	23.56401582	768.5751976	238.6981771	182.9296446	1.751548991	23.80113816
071420HW-01 227	466.7245681	1364.434385	3.847980035	12.95948545	13.25805615	0.137200848	14.85833217	0.014756802	1.702936611	0.114611559	94.43339328	1.596419354	130.547643	18.2039704	852.034637	308.2963325	94.43339328	1.596419354	11.08328103
071420HW-01 228	271.3889694	23814.85689	1.932751827	8.765155194	0.741883104	5.283721472	1.025678095	0.334532764	0.689974871	0.672701187	1860.314206	11.14965248	1866.235869	8.757391168	1873.606572	13.68569376	1873.606572	13.68569376	99.29054659
071420HW-01 230	140.9222069	1842.703115	1.9660685	14.438614	8.902799675	0.502844991	15.27915262	0.058971397	1.412193509	0.092426167	369.3670079	5.069553311	413.6264127	51.95506661	669.5990205	327.3363582	369.3670079	5.069553311	55.16241759
071420HW-01 231	372.0167431	1444.973713	2.171478026	11.52151294	5.5168726	0.157915654	11.06465799	0.01477732	1.591568357	0.143842526	94.56373411	1.494061362	148.8770256	15.32318799	1135.054713	218.5329593	94.56373411	1.494061362	8.331204925
071420HW-01 232	305.9369533	1005.67118	5.04992914	12.96910094	11.8246836	0.13477821	21.84284933	0.01547745	3.333352057	0.1526061	99.00980597	3.275130115	128.3822123	26.34786053	714.4223892	463.6191727	99.00980597	3.275130115	13.85872104
071420HW-01 233	303.4879277	809.6021472	3.868410577	12.57206651	12.43593816	0.124156217	23.18759222	0.01453338	2.032578919	0.087658041	93.01391036	1.877007159	118.8330457	26.00892121	673.5859472	500.2152275	93.01391036	1.877007159	13.80876646
071420HW-01 234	404.2285933	1181.716561	3.580468509	10.87617299	10.30949554	0.168645908	13.83309074	0.015227612	1.718623237	0.124240003	97.42359942	1.661756103	158.2431182	20.27214482	1205.780616	271.6078461	97.42359942	1.661756103	8.079711857
071420HW-01 235	459.2927057	1482.921843	2.271242657	15.11710721	5.366458064	0.128774712	7.108290434	0.016512506	1.49553554	0.210393139	105.5771621	1.566084608	122.9961098	8.234323239	475.4137623	153.8445353	105.5771621	1.566084608	22.20742655
071420HW-01 236	775.1806827	2344.683197	6.052504686	14.82797933	8.073886033	0.129308809	9.861947451	0.015242247	1.065663931	0.108058164	97.5165268	1.031377838	123.4764405	11.46638322	658.6821515	210.6707807	97.5165268	1.031377838	14.80417266
071420HW-01 237	947.3524869	2354.422102	4.497062362	16.06489273	8.728677369	0.117839755	9.608299155	0.015181106	1.18297266	0.123119882	97.12828855	1.140388406	113.1116747	10.28498258	465.0811242	211.6699414	97.12828855	1.140388406	20.88416053
071420HW-01 238	417.3695663	15026.48291	1.886298118	8.904511831	0.668156915	4.665817019	1.208305497	0.301853105	0.768723964	0.636200006	1700.491311	11.49007199	1761.13226	10.10383288	1834.615458	16.89087403	1834.615458	16.89087403	92.68925014
071420HW-01 239	214.1116744	410.0967522	2.706674228	9.32669632	11.91990744	0.119718614	18.37912602	0.011897547	2.632524755	0.143234491	76.2438555	1.995315549	114.8168925	19.95553889	1014.255044	371.539323	76.2438555	1.995315549	7.517227143
071420HW-01 240	884.8962573	2293.031631	3.249414228	16.98278301	5.50796098	0.110584311	9.834539605	0.015148509	1.019985706	0.103714637	96.92129547	0.981188838	106.4997547	9.943512193	327.4269507	222.4354674	96.92129547	0.981188838	29.60089121
071420HW-01 241	144.1108626	1462.021364	2.038704024	13.17921489	11.52392347	0.506381514	12.73048961	0.05513317	1.236775533	0.097150665	345.9596213	4.16595752	416.0130242	43.4793669	826.6082862	265.3553444	345.9596213	4.16595752	41.85290991
071420HW-01 242	257.9088147	2390.315485	2.391297167	16.24660087	5.011808663	0.449817226	6.392258549	0.058322364	0.917594751	0.143547815	365.4148489	3.259765095	377.1513401	20.1402112	450.8167202	140.6185743	365.4148489	3.259765095	81.05618813
071420HW-01 243	913.0121295	2952.090429	1.71891938	17.75624081	3.890885663	0.126931863	6.852160982	0.017775029	0.939392211	0.1370943	113.578733	1.057605499	121.3370302	7.836805828	277.2367097	155.5875564	113.578733	1.057605499	40.96814348
071420HW-01 244	484.7975649	952.284628	0.600229179	13.66443931	6.261291317	0.084285515	13.83670982	0.010500395	2.14868521	0.155288738	67.33698085	1.43932932	82.1660748	10.92166325	538.8504835	300.2743721	67.33698085	1.43932932	12.49641281
071420HW-01 245	490.228967	2216.634527	3.100876862	14.85581929	10.87874133	0.139293277	11.89668477	0.016565414	1.449993301	0.121882132	105.9126802	1.523179836	132.4142132	14.77002112	639.6799836	254.776248	105.9126802	1.523179836	16.55713527
071420HW-01 246	643.4963408	1778.507635	2.929571177	15.11776805	5.667785897	0.120249265	11.2735149	0.014993807	1.305408528	0.115794279	95.93882946	1.243120356	115.2979831	12.28791554	536.980917	245.7265957	95.93882946	1.243120356	17.86633871
071420HW-01 247	269.4557988	4907.311159	2.562893115	16.59449351	4.999071757	0.432837747	5.368366337	0.054592562	0.732056579	0.13636487	342.6558909	2.442933502	365.1895375	16.46790089	511.828063	116.9704818	342.6558909	2.442933502	66.94746063
071420HW-01 248	1004.391545	2710.841861	3.219560895	16.83654412	4.413641444	0.074272708	5.547038749	0.009941197	1.045943909	0.188558969	63.76862686	0.663695982	72.74594354	3.894107672	379.7566857	122.5830906	63.76862686	0.663695982	16.79196951
071420HW-01 249	86.68853237	496.4832372	2.014473399	9.59770712	18.00726925	0.337176069	32.82551427	0.032388515	4.487000913	0.136692479	205.4798638	9.074496073	295.0296785	84.23728287	1082.807881	669.7468656	205.4798638	9.074496073	18.9765763
071420HW-01 250	808.3012979	1645.233544	1.691536785	15.21322944	9.93728308	0.078156059	12.95045579	0.009986843	1.61205712	0.124478794	64.05998084	1.0275694	76.40983797	9.532542411	483.1553183	284.820919	64.05998084	1.0275694	13.2586724
071420HW-01 251	1399.097967	10954.37753	6.377112792	18.35089303	1.523584201	0.407629129	1.98824025	0.055717156	0.83803533	0.421496009	349.5265414	2.851162193	347.166391	5.846292455	332.3887663	40.86346636	349.5265414	2.851162193	105.1559429
071420HW-01 252	708.9369142	1083.205275	1.271133319	10.27041642	18.31995535	0.058173327	20.94014986	0.005012836	2.53507887	0.121063072	32.23409343	0.815120069	57.41396654	11.689501	1297.232036	408.474293	32.23409343	0.815120069	2.484836371
071420HW-01 253	167.4535041	7880.235265	4.509283532	12.00173566	2.209884822	2.46850067	2.58476588	0.220203914	0.743339933	0.287585014	1282.952377	8.647858898	1262.854665	18.68063284	1229.652388	48.58298292	1229.652388	48.58298292	104.3345575
071420HW-01 254	337.2121444	323.9372459	3.216403694	8.412744627	14.47140961	0.05731073	44.47932129	0.005569371	4.07691143	0.09165858	35.80286208	1.455605103	56.58591352	24.48530571	1059.519952	938.6187773	35.80286208	1.455605103	3.379158838
071420HW-01 255	173.3349722	9000.784539	3.235116679	8.759681724	0.925168331	5.114049022	1.413135801	0.330163556	0.861150061	0.609389458	1839.174275	13.77912984	1838.441632	12.00245281	1838.384706	20.28977087	1838.384706	20.28977087	100.0429491
071420HW-01 256	1232.513571	3562.857504	4.128205807	18.10704965	5.238129556	0.103085973	9.083277025	0.014671979	0.720126428	0.079280465	93.89451658	0.671258791	99.6209394	8.619322195	239.9231204	209.1284854	93.89451658	0.671258791	39.1352515
071420HW-01 257	151.3465483	348.0287904	2.796397098	6.428096476	15.77316559	0.161031304	34.56607549	0.01003585	4.999686022	0.144641414	64.37276342	3.202420304	151.6054889	48.71687601	1902.01753	634.7142698	64.37276342	3.202420304	3.38444638
071420HW-01 258	181.4145611	22102.05654	2.220429562	5.686700179	0.849650159	11.82528612	1.181680342	0.488698481	0.818392372	0.69256663	2565.042615	17.31869114	2590.66731	11.06347866	2611.478759	14.19522782	2611.478759	14.19522782	98.22184486
071420HW-01 259	93.99651432	3246.286536	3.867525859	12.42876791	3.433646279	1.892531786	3.871808294	0.180182221	1.130158198	0.291894152	1067.970033	11.12296947	1078.471005	25.72774519	1100.618355	74.11760884	1100.618355	74.11760884	97.03363823
071420HW-01 260	338.9730934	889.2188133	3.425992372	9.100338407	14.50187293	0.169771342	21.22915149	0.013047176	2.449140644	0.115366865	83.56354535	2.033381196	159.2204856	31.29416936	1516.390411	402.3598608	83.56354535	2.033381196	5.510688063
071420HW-01 261	68.3380134	5042.012807	0.326232414	7.847342736	1.557864699	6.279289191	1.971640533	0.364490069	0.98237303	0.49825159	2003.421647	16.91651717	2015.569091	17.27114145	2028.792829	30.26783191	2028.792829	30.26783191	98.74944442
071420HW-01 262	2082.034826	6042.886902	1.929925233	18.28885372	2.59833121	0.105359423	3.931607951	0.014685475	0.648969817	0.165064733	93.98025551	0.605479224	101.7114803	3.805152626	287.8751996	88.65721604	93.98025551	0.605479224	32.64617988
071420HW-01 263	538.8388202	1265.608658	5.053956718	14.020897	9.152419747	0.12600963	15.80930815	0.015238232	1.695204027	0.107228249	97.49103477	1.640237819	120.5057438	17.96592657	603.5826062	342.0267184	97.49103477	1.640237819	16.15206167
071420HW-01 264	143.1173956	4603.436545	1.690906948	12.22563074	1.79847044	2.299160775	2.624720864	0.21133911	0.794327965	0.302633311	1235.948109	8.933722771	1212.030386	18.5749365	1170.52289	49.53418617	1170.52289	49.53418617	105.5894011
071420HW-01 265	583.5735284	6844.971028	2.68508962	17.78533714	2.446359827	0.425362657	4.415665454	0.056905248	0.788836367	0.178644957	356.7771826	2.737924208	359.8784359	13.38089603	380.876365	97.7068626	356.7771826	2.737924208	93.67270208
071420HW-01 266	220.8650826	12873.78659	1.692299063	7.456573907	0.93327646	6.082651912	1.443692044	0.330743905	1.077044825	0.746035022	1841.986221	17.25640738	1987.763011	12.5899439	2143.721444	16.80137183	2143.721444	16.80137183	85.92470007
071420HW-01 267	131.0086642	4870.885757	1.638598455	11.82823651	3.116143246	2.432636757	4.052609368	0.215592948	0.674389379	0.166408681	1258.54621	7.71037523	1252.301061	29.16980466	1242.441894	78.32862332	1242.441894	78.32862332	101.2961826
071420HW-01 268	508.9530031	1861.556543	2.898705109	15.24530731	6.916863854	0.126829293	8.938283761	0.015872915	1.422932905	0.159195316	101.5197945	1.43324342	121.2446094	10.21551216	528.8872951	193.7008441	101.5197945	1.43324342	19.19497696
071420HW-01 269	247.5042008	2246.648528	8.575565041	15.09071057	6.100578923	0.420057957	8.155981483	0.050645425	0.919307211	0.112715706	318.482937	2.856688887	356.0924867	24.50155056	610.0539027	175.4243634	318.482937	2.856688887	52.20570438
071420HW-01 271	199.3460103	519.031153	3.02960675	10.58250691	18.95830499	0.140617784	39.75505208	0.01519176	3.66543665	0.092200524	97.19594211	3.535932509	133.5939806	49.80471358	842.8040217	856.8363651	97.19594211	3.535932509	11.53244878
071420HW-01 272	338.6064731	2144.072264	4.488893793	15.70764889	4.458418471	0.242434411	8.871344991	0.030742724	3.342642464	0.376790945	195.1950626	6.426882352	220.4119308	17.57857058	500.0023408	181.2414707	195.1950626	6.426882352	39.03882976
071420HW-01 273	281.0693979	632.7811423	5.190158952	12.80069659	12.84855114	0.114601171	41.63398766	0.014934873	1.753489511	0.04211678	95.56452087	1.663354272	110.1656565	43.49235933	439.4863537	NA	95.56452087	1.663354272	21.74459345
071420HW-01 274	787.9846861	8787.753729	7.134555992	18.30995653	1.996264974	0.433994719	2.433586685	0.058462192	1.069222945	0.439360945	366.2665105	3.80702975	366.0090973	7.478620184	365.338999	49.28683173	366.2665105	3.80702975	100.2538769
071420HW-01 275	1013.329217	4423.64894	2.857658052	17.16852905	2.732909345	0.117596545	3.294621678	0.015267427	1.139619513	0.345902997	97.67640575	1.104748649	112.8907321	3.52003283	447.8900067	68.70172683	97.67640575	1.104748649	21.80812349
071420HW-01 277	178.8422239	936.1702633	3.882671557	9.501099011	17.52524772	0.190870376	18.80433328	0.015071057	3.956773775	0.21041819	96.42943743	3.787099629	177.371628	30.61212226	1465.158538	352.1851017	96.42943743	3.787099629	6.581501929
071420HW-01 279	1001.016981	1847.165169	3.10086441	16.76259519	4.578953275	0.108879129	14.47466391	0.01501931	0.86944204	0.060066475	96.10080201	0.829343642	104.9395453	14.43205154	311.5526889	NA	96.10080201	0.829343642	30.84576234
071420HW-01 280	357.4408266	678.3483165	3.717024165	12.93301326	11.09251563	0.081279507	31.23535979	0.010393217	3.424123863	0.109623321	66.65321084	2.270530201	79.34717852	23.84511051	481.5705643	NA	66.65321084	2.270530201	13.84079838
071420HW-01 281	312.0038364	943.7188353	4.044594442	9.374241238	17.41515975	0.193749485	22.00520666	0.015036296	1.389885532	0.063161667	96.20867763	1.327261601	179.8235081	36.28001714	1497.912995	420.4917386	96.20867763	1.327261601	6.422848186
071420HW-01 282	785.1472062	743.3965477	2.462456121	13.19360289	10.66615759	0.04538505	20.0059692	0.005766306	2.844561734	0.14218565	37.06523588	1.051318224	45.06806778	8.819357795	495.7356174	440.313159	37.06523588	1.051318224	7.476815176
071420HW-01 283	180.65001	408.0401398	2.279648891	7.708782839	11.33716656	0.157724322	24.49948851	0.011790651	4.150429617	0.169408827	75.56282223	3.11787294	148.7092314	33.90328583	1568.3951	459.27742	75.56282223	3.11787294	4.817843553
071420HW-01 284	263.9655998	654.8083871	5.008347495	11.38881155	14.82274478	0.130863673	23.38702959	0.014243666	2.72729827	0.116615847	91.17278137	2.469052529	124.8456517	27.48076776	826.7673489	490.8669158	91.17278137	2.469052529	11.0276224
071420HW-01 285	1047.580087	4704.000831	1.113053634	18.10003032	3.138759441	0.187318825	5.370739193	0.025733697	0.920325821	0.171359246	163.7915156	1.488426476	174.3389118	8.603763024	320.9300446	120.288734	163.7915156	1.488426476	51.03651665
071420HW-01 286	640.9523488	1751.858575	3.98358246	14.82647946	9.621493911	0.123539556	11.37891932	0.014959166	1.717993006	0.150980331	95.71881795	1.632294179	118.2758997	12.70490031	600.7380354	244.2214488	95.71881795	1.632294179	15.93353713
071420HW-01 287	300.9253	14414.20503	1.012589205	10.30359066	1.28281017	3.048218762	1.662995633	0.227232911	0.927798717	0.55790809	1319.980464	11.07430906	1419.786742	12.71527856	1573.631149	25.84222358	1573.631149	25.84222358	83.88118553
071420HW-01 288	757.2842109	3825.368318	1.729974879	17.81130595	3.517526983	0.135379293	7.984639441	0.018481438	1.059593961	0.132704046	118.0514534	1.239482294	128.9199105	9.66739836	335.1972788	179.5953978	118.0514534	1.239482294	35.21849994
071420HW-01 290	196.245406	13030.84828	1.543209845	8.643916916	1.147720025	5.245065285	1.551158158	0.328145316	0.745802447	0.480803613	1829.385784	11.87854139	1859.970145	13.22892271	1895.097808	24.46279104	1895.097808	24.46279104	96.53252599
071420HW-01 291	315.2901377	15306.1424	4.837855577	6.936463909	0.687495552	7.142440378	1.096947051	0.357484304	0.806996978	0.735675416	1970.238263	13.69975907	2129.349582	9.770595102	2287.405356	12.78547544	2287.405356	12.78547544	86.13419821
071420HW-01 292	2488.552411	7412.788009	6.112269121	18.94973806	2.652298822	0.106817653	4.738467267	0.015086496	0.752166002	0.15873614	96.52749064	0.72063815	103.0501281	4.643417978	257.6442658	107.5506873	96.52749064	0.72063815	37.46541392
071420HW-01 293	332.2202034	2515.292248	2.358367164	15.31943572	6.496812565	0.24632657	11.43885864	0.029694935	0.769844783	0.067300839	188.6387021	1.431183053	223.5878363	22.95968991	610.3532894	247.4224704	188.6387021	1.431183053	30.9064775
071420HW-01 294	431.9046513	5464.123489	1.37102763	16.89952135	4.401957641	0.384395457	4.866103095	0.048671529	1.047308797	0.215225361	306.3603687	3.133491346	330.2670974	13.72005104	503.2660965	104.639501	306.3603687	3.133491346	60.87443021
071420HW-01 295	224.3925411	2477.950252	2.410008287	16.858719	3.852647971	0.421990352	10.26600876	0.056812666	1.153802391	0.112390552	356.212467	3.998497716	357.4732666	30.94367063	366.625111	230.4239036	356.212467	3.998497716	97.15986612
071420HW-01 296	395.8713793	2746.139251	3.730364309	16.80898425	4.908052487	0.330372076	8.593238723	0.04385962	1.076654309	0.125290865	276.7124397	2.916199887	289.8498853	21.67119877	398.0960515	191.401088	276.7124397	2.916199887	69.50896365
071420HW-01 297	509.9233411	1501.256307	3.670803685	14.16538342	10.25937194	0.122766366	12.88927085	0.014490808	1.096171427	0.085045263	92.7433991	1.009348582	117.5768997	14.31123205	655.796715	276.5402676	92.7433991	1.009348582	14.14209571
071420HW-01 298	444.0982376	1788.44243	2.21775527	16.29477611	3.992440515	0.231929255	13.92174354	0.031362069	1.142621656	0.082074609	199.0673697	2.239825707	211.7900599	26.61906399	356.7226565	314.5876544	199.0673697	2.239825707	55.80452098
071420HW-01 299	181.08445	2124.798036	1.680519582	14.21023648	6.13847376	0.502434321	9.496528814	0.05727597	1.286600276	0.135481111	359.0379402	4.493099177	413.3488417	32.25704738	730.0223714	199.7903381	359.0379402	4.493099177	49.18177227
071420HW-01 300	130.8464358	8188.435552	1.493528294	7.974380502	0.965629557	6.431991699	1.301886632	0.376315733	0.710617978	0.545837065	2059.050254	12.52533193	2036.649119	11.44094022	2014.78998	19.34515257	2014.78998	19.34515257	102.1967686
071420HW-01 301	216.6661898	594.2888386	3.837827753	7.831830011	14.83917058	0.210146129	16.97354214	0.014544796	2.588306605	0.152490658	93.08644534	2.392050513	193.6753011	29.9372421	1711.384454	310.8323687	93.08644534	2.392050513	5.439248037
071420HW-01 303	352.9358259	1420.240822	2.588034285	14.10524736	7.283866859	0.254472227	8.46429315	0.030156828	1.418335729	0.167566943	191.5297366	2.676576007	230.2025158	17.43583015	647.2363657	179.5147107	191.5297366	2.676576007	29.59193066
071420HW-01 304	159.7988986	1182.360108	3.468518641	12.70299774	11.1749242	0.501713341	12.19254594	0.054207423	1.540090566	0.126314108	340.3012207	5.105017665	412.8615356	41.38407986	842.6349136	252.5915428	340.3012207	5.105017665	40.38536918
071420HW-01 305	121.7705764	4527.77773	2.495135008	11.35853353	2.425063421	2.192510334	3.124791523	0.185633906	1.241033688	0.397157275	1097.679763	12.52590215	1178.66431	21.79349976	1331.36881	55.49798612	1331.36881	55.49798612	82.4474597
071420HW-01 306	265.7665077	682.0012182	5.744797797	10.66968207	17.35398805	0.151495181	21.06430568	0.014971778	2.040443128	0.096867334	95.79891942	1.940269832	143.2312084	28.14653718	1025.543678	428.6608988	95.79891942	1.940269832	9.341281259
071420HW-01 307	182.394348	11282.00557	2.514449945	8.822681996	1.071863071	5.205947358	1.406606532	0.332131243	0.706261151	0.502102852	1848.70329	11.3513284	1853.589972	11.98158801	1859.846127	21.97147783	1859.846127	21.97147783	99.40087315
071420HW-01 308	943.0025981	2346.763542	6.104161812	17.15624083	4.567052647	0.11032373	9.446757698	0.015152042	0.831970136	0.088069834	96.94373265	0.800508639	106.2614834	9.531138024	321.5501122	214.2081115	96.94373265	0.800508639	30.14887228
071420HW-01 309	379.0809379	711.9680773	4.489542876	16.31781785	11.84425069	0.080858988	26.63735414	0.014316091	1.363250651	0.051178155	91.63309357	1.240352329	78.9522107	20.23660977	NA	NA	91.63309357	1.240352329	
071420HW-01 311	236.2732279	730.6009481	5.235888648	10.24302741	8.21841644	0.168261511	22.75064618	0.015375461	2.9470365	0.129536387	98.36232839	2.87677056	157.909078	33.28310739	1182.252133	451.5173378	98.36232839	2.87677056	8.319911262
071420HW-01 312	447.4882461	480.0848399	2.935397724	7.916762058	17.17402415	0.083106865	26.32812744	0.00612054	5.791641699	0.219979249	39.33528459	2.271222422	81.06172313	20.51514367	1596.325822	487.7686799	39.33528459	2.271222422	2.464113782
071420HW-01 313	285.7526213	716.8283547	5.129449127	11.08561391	11.99547988	0.144875103	30.06522116	0.01483855	1.923730375	0.063985239	94.95268695	1.813246804	137.3768091	38.64912172	952.872809	627.4711469	94.95268695	1.813246804	9.96488577
071420HW-01 314	1967.41012	1728.701658	5.610530625	17.28489326	6.231559332	0.040759285	11.92984967	0.00594149	2.187189112	0.183337525	38.18797055	0.832774065	40.56508955	4.743995892	184.5187344	NA	38.18797055	0.832774065	20.69598553
071420HW-01 315	724.9051817	1224.461959	1.793871078	17.56291128	7.971760971	0.061979884	18.38206778	0.009939674	1.653905899	0.089973877	63.75890823	1.049314623	61.06004078	10.89369988	NA	NA	63.75890823	1.049314623	

Sample HC-062407-02

Analysis	U (ppm)	206Pb 204Pb	U/Th	206Pb* (%)	± (%)	207Pb* 235U	± (%)	206Pb* 238U	± (%)	error corr.	206Pb* 238U	± (Ma)	207Pb* 235U	± (Ma)	206Pb* 207Pb*	± (Ma)	Best age	± (Ma)	Conc (%)
HC062407_02 - 1	165.3272161	14371.28525	2.026200469	207Pb* 7.650881566	0.737257477	235U 6.728347787	1.139616996	0.373795584	0.815484416	0.715581574	2047.240202	14.30366995	2076.35183	10.07447597	2106.105774	13.97038044	2106.105774	13.97038044	97.20500401
HC062407_02 - 2	300.596732	17171.83164	1.559688056	6.900263326	0.712477794	6.828389955	1.127018235	0.34153025	0.84626268	0.750886413	1894.027013	13.88841781	2089.411447	9.982072228	2288.591933	12.80653227	2288.591933	12.80653227	82.75949005
HC062407_02 - 3	187.8004426	391.0924666	2.718286665	9.032139277	16.92523229	0.097987345	0.009518471	2.939996418	0.13637639	61.06981918	1.786972774	94.91680758	19.53726679	1060.320589	434.5776338	61.06981918	1.786972774	5.759561759
HC062407_02 - 4	353.1155532	2533.331108	1.570632284	18.0727435	3.015571191	0.384675954	4.512213674	0.055996635	0.748637046	0.165957798	351.2511821	2.559923446	330.4728074	12.72885111	187.6196955	103.6083367	351.2511821	2.559923446	187.2144506
HC062407_02 - 6	205.3193092	2685.675046	1.325252428	8.55709449	0.782534378	4.403901038	1.315293602	0.288408851	0.759522966	0.604830712	1611.520379	11.3432905	1713.074181	10.88427275	1840.344031	18.96318997	1840.344031	18.96318997	87.56625675
HC062407_02 - 7	209.0740493	2419.46552	0.794276276	17.54906815	2.139933503	0.609225204	4.277992582	0.086258315	0.767056175	0.179302883	533.3702004	3.926569472	483.0713542	19.56722669	96.86535016	533.3702004	3.926569472	211.6909187

Sample HC-062407-08

Analysis	U	206Pb	U/Th	206Pb*	±	207Pb*	±	206Pb*	±	error	206Pb*	±	207Pb*	±	206Pb*	±	Best age	±	Conc
	(ppm)	204Pb		207Pb*	(%)	235U	(%)	238U	(%)	corr.	238U	(Ma)	235U	(Ma)	207Pb*	(Ma)	(Ma)	(Ma)	(%)
HC-062407-08 1	77.92473078	1560.388214	0.42000058	10.77388732	2.195815759	0.357832138	3.817186047	0.218190575	0.862092839	0.225845119	1272.306996	9.953901553	1288.674833	27.87204819	1316.880939	72.09963705	1316.880939	72.09963705	96.61518806
HC-062407-08 2	273.6871087	2680.296848	3.980148598	17.3475327	5.246318593	0.299324876	6.941997288	0.041015815	1.147501575	0.165298476	259.1263914	2.914509946	265.8727761	16.23964146	326.7452441	155.5627534	259.1263914	2.914509946	79.30532917
HC-062407-08 3	189.2447009	285.6428836	2.214663298	7.194508069	27.98783153	0.114052809	32.68352243	0.009032378	4.453580956	0.1362638	57.96506224	2.569945919	109.6659853	33.98764957	1459.509717	632.6540378	57.96506224	2.569945919	3.971543426
HC-062407-08 4	594.5983197	2038.860284	2.218654102	17.4627238	7.993406046	0.116787319	14.75476054	0.01664638	13.15395268	0.078991779	106.426091	14.15525503	15.66829572	2.346021469	236.5474816NA		106.426091	14.15525503	44.99142285
HC-062407-08 5	1139.766242	3771.861214	2.081812377	17.80265519	3.580172079	0.076295003	4.344841713	0.010410781	0.857958802	0.197466066	66.76526624	0.569862365	74.65562345	3.127303386	336.2567062	96.52981305	66.76526624	0.569862365	19.85544526
HC-062407-08 6	1003.027314	2618.83421	2.81100497	17.45440532	4.893636514	0.073287122	10.29280843	0.010115822	9.905235367	0.087948335	64.84315585	0.584399353	71.81399799	7.136457772	310.1657635	233.9526596	64.84315585	0.584399353	20.91886452
HC-062407-08 7	4256.536481	4293.2896	6.826003342	18.97159131	2.850518134	0.051317791	6.954523399	0.007429147	6.662405882	0.095240198	47.71434122	0.314895706	50.81405872	3.449520393	200.5891047	160.9045223	47.71434122	0.314895706	23.78710513
HC-062407-08 8	1262.652353	3373.051335	0.821754427	17.90774691	4.881415533	0.07260145	6.404171004	0.010020676	0.999394855	0.156053743	64.27591607	0.639178345	71.1651127	4.401517858	310.2771389	144.1278452	64.27591607	0.639178345	20.71564676

HC-062407-08 9	227.6373661	640.2736308	2.231209344	11.04201457	17.01459288	0.099153563	33.8220109	0.010346404	3.147611737	0.093064003	66.35453157	2.077870732	95.99471496	30.98946664	914.6884116	712.650124	66.35453157	2.077870732	7.254331719
HC-062407-08 10	441.5391285	1151.685931	1.136915419	13.17272627	7.858594383	0.086769604	11.91310392	0.009733416	1.650969263	0.138584308	62.44223197	1.025925308	84.48964803	9.658241733	764.0223004	249.442461	62.44223197	1.025925308	8.172828455
HC-062407-08 12	201.0851984	2591.021588	1.641161491	15.47151759	7.111881517	0.43242866	7.921343361	0.051586802	1.563117192	0.197329811	324.2563322	4.943144547	364.8995965	24.28583398	632.9791731	167.4352409	324.2563322	4.943144547	51.22701441
HC-062407-08 13	180.3473427	293.8888247	1.326773853	10.05410327	15.27270996	0.058633633	87.83868887	0.008340294	8.318143112	0.094697943	53.54202023	4.435258099	57.855563	49.43788283	241.2648851	NA	53.54202023	4.435258099	22.19221426
HC-062407-08 14	112.7727802	865.9028854	1.186770361	9.4802146	18.15453831	0.400873978	21.74146266	0.031481406	3.615718694	0.166305218	199.8132276	7.113866804	342.2818826	63.25411111	1475.46937	411.4606765	199.8132276	7.113866804	13.54235009
HC-062407-08 15	305.3239297	1919.965462	1.658050982	15.30687829	5.922157238	0.238641888	9.239649695	0.02899591	1.435404733	0.155352722	184.2609656	2.607448266	217.3077404	18.07724368	593.3549314	198.2121568	184.2609656	2.607448266	31.05408852
HC-062407-08 16	423.8045505	1068.692534	1.011348649	11.53130346	7.098261524	0.096844832	17.85765254	0.009263738	2.360936903	0.132208693	59.44298272	1.396960687	93.85969802	16.01111323	1091.197728	357.2760938	59.44298272	1.396960687	5.447498762
HC-062407-08 17	111.7277057	216.2479216	2.758871869	6.048382647	31.62283972	0.16721221	57.91898373	0.011532473	5.766136859	0.099555215	73.91768453	4.237852408	156.9966785	84.44396956	1717.870417	1172.151753	73.91768453	4.237852408	4.302867306
HC-062407-08 18	326.0107306	679.0025872	1.328109069	9.690984862	19.50712555	0.111488919	27.04151735	0.009561426	3.038773383	0.112374367	61.34410951	1.855267157	107.326481	27.54825381	1306.486496	531.3401989	61.34410951	1.855267157	4.695349681
HC-062407-08 19	174.9042328	1616.108543	2.320189266	13.68056397	6.622514168	0.277873926	8.325884335	0.030785918	2.770374196	0.332742335	195.465198	5.3338448	248.9695908	18.38516491	790.138585	165.0065693	195.465198	5.3338448	24.73809047
HC-062407-08 20	884.1501615	878.5340821	1.763732557	16.06062737	6.035906405	0.063950224	20.33074901	0.010010743	1.581485941	0.077787884	64.21252069	1.010471006	62.94218176	12.40868236	15.93913188	NA	64.21252069	1.010471006	402.8608407
HC-062407-08 21	168.9511124	825.0800493	0.954754925	12.76394575	8.987797218	0.338362045	17.30273897	0.039572845	1.607131666	0.092883079	250.1847056	3.943774379	295.9298491	44.44573011	675.4950941	370.8879674	250.1847056	3.943774379	37.03723502
HC-062407-08 23	901.7627993	569.0279343	2.154827585	15.90212142	8.030447327	0.049732435	28.15275415	0.009707706	0.999759402	0.035511957	62.278094	0.619633179	49.2819291	13.54371045	NA	NA	62.278094	0.619633179	
HC-062407-08 24	214.9681581	869.1105211	1.772563854	15.28862437	6.249103117	0.46122571	13.05050801	0.067654257	0.872010052	0.066818093	422.0077908	3.562084622	385.110028	41.85037546	169.9519221	NA	422.0077908	3.562084622	248.3101018
HC-062407-08 25	371.668402	181.4133811	0.903879018	13.04545128	7.981840946	-0.013539447	280.9926785	0.008976922	1.818761169	0.006472628	57.61075771	1.043133981	NA	-39.17974399	NA	NA	57.61075771	1.043133981	
HC-062407-08 26	1595.960436	1215.359308	2.130278696	17.53063585	3.308694155	0.065657399	10.37903521	0.010413621	0.953657133	0.091883023	66.7833838	0.633596879	64.57012256	6.49320162	NA	NA	66.7833838	0.633596879	
HC-062407-08 27	686.7284746	335.5880327	0.879805839	12.50271554	11.98260723	0.04749227	44.08142504	0.009570033	1.68417919	0.038206097	61.39906704	1.029161399	47.11275133	20.29623449	NA	NA	61.39906704	1.029161399	
HC-062407-08 28	2621.734164	1577.784666	1.030665502	19.13578387	2.096990079	0.060941988	7.896024334	0.010168505	0.761134981	0.096394711	65.21936255	0.493904716	60.06719959	4.605389298	NA	NA	65.21936255	0.493904716	
HC-062407-08 29	304.7115434	3997.687279	0.752804465	17.59061843	4.071294458	0.426225683	4.664953768	0.057296176	0.950872846	0.203833284	359.1611437	3.321770843	360.4930418	14.1565281	370.0325676	102.9329938	359.1611437	3.321770843	97.06203592
HC-062407-08 30	615.5281006	2098.026152	1.272681683	15.65543674	9.389032371	0.117501796	11.02216717	0.014759839	1.094812202	0.099328216	94.45268257	1.026540715	112.8046448	11.76827	520.7685088	241.3087103	94.45268257	1.026540715	18.13717246
HC-062407-08 31	1238.838108	2564.765129	1.556724435	16.72599302	3.348656484	0.074750669	8.2201054	0.009883905	1.087199196	0.13226098	63.40292722	0.685937361	73.19764308	5.805229428	407.1105688	182.6104897	63.40292722	0.685937361	15.57388388
HC-062407-08 32	89.61813262	9087.520621	0.495256518	8.447248042	1.332819829	5.689384822	1.671281055	0.347981399	0.868221234	0.519494451	1924.95222	14.44845687	1929.757745	14.43403594	1935.68489	25.56184284	1935.68489	25.56184284	99.44553634
HC-062407-08 33	1126.80804	11440.54385	0.853593175	18.78136525	1.157634869	0.390900345	1.999186894	0.053777948	0.757858719	0.379083477	337.6744744	2.493225746	335.0269254	5.705029775	317.6548204	42.06143029	337.6744744	2.493225746	106.3023297
HC-062407-08 34	1029.848304	712.0814064	2.050819214	15.60933683	5.520497395	0.058767873	40.23601635	0.009804984	0.850912965	0.021148042	62.89912756	0.532614188	57.98431077	22.68069345	NA	NA	62.89912756	0.532614188	
HC-062407-08 35	241.989932	2574.953762	1.894769378	15.56790707	7.242078811	0.397592294	8.884696996	0.048924852	1.132265805	0.127440002	307.9174153	3.404487802	339.9004583	25.66980102	565.7923609	192.2302416	307.9174153	3.404487802	54.42233522
HC-062407-08 36	132.6135573	1153.590717	0.917699583	11.60444057	12.98834772	0.305689255	16.02187026	0.029859653	4.063765424	0.253638643	189.6698403	7.595454268	270.834204	38.10546615	1049.157008	314.2157659	189.6698403	7.595454268	18.07830847
HC-062407-08 37	189.3179158	1026.697126	0.725672195	15.18679849	6.278316715	0.498561678	25.19165504	0.069681004	1.222293871	0.048519792	434.2335323	5.132796499	410.7283005	85.3003592	281.6864947	NA	434.2335323	5.132796499	154.1548993
HC-062407-08 38	119.1536641	351.8829111	1.167051448	10.21875594	16.46000795	0.091269345	46.14832302	0.011683579	5.680684141	0.12309622	74.88059838	4.229120912	88.68513553	39.20979841	479.1182561	NA	74.88059838	4.229120912	15.62883431
HC-062407-08 39	1048.099016	2322.433484	0.877632094	17.27084809	6.511751053	0.081630552	7.274076018	0.011459568	1.8289243	0.251430463	73.45304863	1.335776036	79.67677631	5.574243002	271.5177235	161.5548209	73.45304863	1.335776036	27.05276388
HC-062407-08 40	613.6266987	1312.217991	1.166910861	16.38287019	6.33834884	0.06689268	17.37972094	0.009721839	2.59637028	0.149390792	62.36832373	1.611504523	65.74644513	11.06490686	191.524594	NA	62.36832373	1.611504523	32.56413311
HC-062407-08 41	1277.564073	3468.830293	2.073847987	15.45050245	2.775458179	0.083868539	4.555168722	0.010031175	0.774417807	0.170008589	64.3429259	0.495804599	81.77552089	3.578974834	627.3402094	96.76803775	64.3429259	0.495804599	10.2564645
HC-062407-08 42	320.8512777	143.6676726	2.072952819	9.798301158	11.63496484	-0.015440344	736.5054155	0.014280649	1.218210092	0.001654041	91.4078406	1.105681938	NA	-117.8048905	NA	NA	91.4078406	1.105681938	
HC-062407-08 43	554.1044028	1438.269043	1.590753853	12.2194716	11.2631593	0.097199592	12.71703486	0.009790081	1.987879828	0.156316299	62.80399	1.242405986	94.18805744	11.43965567	987.033525	256.5548776	62.80399	1.242405986	6.362903428
HC-062407-08 44	266.5039104	757.3815305	2.053745117	11.71520644	11.81485262	0.092038236	15.87209347	0.010038258	3.579573275	0.225526222	64.38813393	2.293348245	89.40030589	13.58377477	823.0187354	324.6262783	64.38813393	2.293348245	7.823410471
HC-062407-08 45	741.7493731	2238.574306	0.935844232	14.87025892	5.604043993	0.082042434	7.035278335	0.009727261	1.807803607	0.256962628	62.4029403	1.122679935	80.06335798	5.416385409	646.2135966	146.2085364	62.4029403	1.122679935	9.65670494
HC-062407-08 46	1549.506707	3276.869214	8.890152765	18.72222998	3.943836518	0.071320462	5.266416364	0.010504228	0.910634789	0.172913558	67.36142899	0.610222812	69.95173336	3.55993142	160.4669913	121.4034632	67.36142899	0.610222812	41.97837103
HC-062407-08 47	55.35179394	4112.722963	0.638948176	10.00258534	2.628422819	3.919339058	3.206076435	0.292227278	1.136551669	0.354499243	1652.649809	16.56876713	1617.682067	25.94205303	1573.274076	56.14494765	1573.274076	56.14494765	105.0452578
HC-062407-08 48	2097.121683	5759.65283	3.310444646	18.68761764	2.751187324	0.071528481	3.287284391	0.010112226	0.82895482	0.252170096	64.86020964	0.534966058	70.14887128	2.228143552	255.3831986	73.15868218	64.86020964	0.534966058	25.39721094
HC-062407-08 49	909.8179666	493.4086725	1.166115769	15.72468611	5.538413087	0.038249168	53.09743794	0.008303837	1.377343651	0.025939927	53.30894081	0.731219719	38.11321708	19.8645749	NA	NA	53.30894081	0.731219719	
HC-062407-08 50	1701.963117	4937.277235	2.673054981	17.3551485	4.857665049	0.075396388	5.3725209	0.009947696	0.941359387	0.175217445	63.81011073	0.597719313	73.80751006	3.82465304	411.9602581	118.3384058	63.81011073	0.597719313	15.48938508
HC-062407-08 52	289.6164199	958.5213588	2.266323578	16.41002246	3.436656619	0.338474436	10.89928868	0.053440154	0.846860595	0.077698703	335.6077103	2.769414695	296.015114	27.99328524	NA	NA	335.6077103	2.769414695	
HC-062407-08 53	1186.899279	1243.540613	1.297020968	16.49238234	5.331829403	0.06648614	10.37792001	0.009826477	1.179763056	0.113680107	63.03633126	0.740055136	65.35945844	6.569346819	152.2883391	NA	63.03633126	0.740055136	41.39274985
HC-062407-08 54	1881.591799	1171.743157	1.869958986	19.1582814	3.677844459	0.054052141	11.75974107	0.00987366	0.863989697	0.073470129	63.33752435	0.544550139	53.45171234	6.123274715	NA	NA	63.33752435	0.544550139	
HC-062407-08 55	931.1833897	602.1463125	5.041168302	14.16312014	5.619413535	0.072238567	17.28688347	0.011311447	1.161097821	0.067166405	72.50895014	0.837182723	70.82152796	11.82616546	15.24954423	NA	72.50895014	0.837182723	475.482736
HC-062407-08 56	265.1858892	161.7978341	0.880433314	10.39832196	22.17197782	-0.000834873	4900.61382	0.009422601	2.597514043	0.000530039	60.45759718	1.563053613	NA	-41.60126023	NA	NA	60.45759718	1.563053613	
HC-062407-08 57	518.3698524	474.9786901	1.342490541	17.86291811	6.026552306	0.048888464	41.39924089	0.01475991	1.07338351	0.025927613	94.4531334	1.006453065	48.46524609	19.59536157	NA	NA	94.4531334	1.006453065	
HC-062407-08 59	195.4671786	795.5400416	1.540852908	17.3900413	4.363563242	0.346003097	15.29933221	0.064123902	1.339334283	0.087542009	400.6564605	5.202774812	301.710445	39.95400997	NA	NA	400.6564605	5.202774812	
HC-062407-08 61	1106.59065	2406.785906	1.693216667	16.48716151	3.638350141	0.074148098	11.05967576	0.009772068	1.034949157	0.093578617	62.68899528	0.645654765	72.62819764	7.752050534	414.4585251	246.7618122	62.68899528	0.645654765	15.12551715
HC-062407-08 62	274.1638061	2984.343172	0.945256874	16.97298273	3.473342274	0.416746241	6.778890658	0.055314153	0.858550392	0.126650574	347.0652559	2.900938546	353.7217474	20.25003296	398.5962304	150.8517172	347.0652559	2.900938546	87.07188614
HC-062407-08 65	344.1212555	83.02012004	1.404888568	5.886802679	18.96816781	-0.015024318	380.5105652	0.004448771	5.407570418	0.014211354	28.6150181	1.54394803	NA	-59.00030925	NA	NA	28.6150181	1.54394803	
HC-062407-08 66	95.41228224	217.4511437	1.583325648	4.382898577	9.997759958	0.272513569	24.94190314	0.011437766	9.384925836	0.376271441	73.31409697	6.841498803	244.7013585	54.28736259	2585.671349	391.5843968	73.31409697	6.841498803	2.8353989
HC-062407-08 67	430.8480889	1662.964717	1.566048041	14.34137047	10.68354345	0.12122371	15.31635941	0.014248396	1.469442043	0.095939381	91.20284842	1.330737291	116.1808262	16.81591327	664.853147	328.2685566	91.20284842	1.330737291	13.71774336
HC-062407-08 68	587.8536146	736.5898212	1.394388557	12.35779881	11.39464921	0.084013437	24.52142121	0.009871183	1.837684339	0.074942	63.32171247	1.157956718	81.91125431	19.29931653	665.589602	531.0603247	63.32171247	1.157956718	9.513627059
HC-062407-08 69	133.0297885	289.1023909	1.23945014	6.281395218	19.16240328	0.140135856	23.95320277	0.009017412	7.891793396	0.329467148	57.86944863	4.546500587	133.1648755	29.90278904	1844.352213	414.8174716	57.86944863	4.546500587	3.137657126
HC-062407-08 70	1449.809182	3845.160838	1.656563939	16.88147668	5.646479939	0.075947118	8.282348649	0.00990063	0.765631428	0.092441342	63.5096819	0.483862679	74.32737372	5.936202949	438.7741136	183.8112679	63.5096819	0.483862679	14.47434566
HC-062407-08 71	2419.463274	6210.136909	2.122145661	18.95196814	1.528835888	0.070401156	4.072631383	0.010095277	0.751456476	0.184513747	64.75203978	0.484147777	69.08005302	2.719814427	222.666309	92.5925067	64.75203978	0.484147777	29.0803041
HC-062407-08 72	287.3099049	598.0358656	1.277525127	13.25185471	9.321433541	0.068282796	45.82361417	0.009699287	2.572770124	0.056145072	62.22434212	1.593187783	67.0685846	29.7487381	244.4875179	NA	62.22434212	1.593187783	25.45092799
HC-062407-08 73	829.9809091	3514.520614	2.028537982	15.03077507	7.22113836	0.084036773	9.327344659	0.009737497	1.537570743	0.164845495	62.46828867	0.95585535	81.93311268	7.342109511	695.3559483	196.4312833	62.46828867	0.95585535	8.983641949
HC-062407-08 74	211.6688862	782.9223445	1.300237063	10.55280252	11.85367734	0.149034619	14.32054993	0.014049291	2.413231243	0.168515263	89.93723861	2.155323648	141.0591749	18.86225483	1120.425951	282.8746472	89.93723861	2.155323648	8.027057789
HC-062407-08 75	385.4772665	953.5623293	0.885033681	11.07609983	8.07555319	0.100168006	20.15619654	0.009600128	2.508580315	0.124457028	61.59122924	1.537707893	96.93141195	18.63619627	1087.332515	404.7580099	61.59122924	1.537707893	5.664433684
HC-062407-08 76	319.8695756	798.2737682	1.174647683	11.79697875	8.923203935	0.088673167	26.62667782	0.009597096	2.862616767	0.107509348	61.57187355	1.75417612	86.26661597	22.02468467	839.0264987	560.5814587	61.57187355	1.75417612	7.338489744
HC-062407-08 77	560.3175242	1743.23741	1.237573768	14.19621272	10.08718317	0.083144151	14.82481405	0.009663742	2.171130235	0.146452443	61.99739915	1.33959231	81.09667753	11.55535678	688.7764685	314.4191445	61.99739915	1.33959231	9.001091353
HC-062407-08 78	114.0472116	410.3798588	1.789321114	8.450394984	20.65004456	0.180568961	25.46084923	0.015542787	6.548071934	0.257181992	99.42456241	6.460445496	168.5500254	39.56163372	1299.351279	485.5452942	99.42456241	6.460445496	7.651861667
HC-062407-08 79	384.9187299	2363.510919	2.059099469	17.38137901	6.016972115	0.211864714	9.732193879	0.029836845	0.986497053	0.101364303	189.527073	1.842461783	195.1162709	17.27774527	264.2796596	222.6914004	189.527073	1.842461783	71.71458949
HC-062407-08 80	675.6625136	1108.151585	2.126663413	15.48983899	7.198791306	0.065732687	24.41385512	0.009262168	3.443472238	0.141045821	59.43295478	2.037152137	64.64185534	15.29087009	262.9846581	NA	59.43295478	2.037152137	22.59939998
HC-062407-08 81	594.6873328	1301.241156	5.927607393	14.90082867	11.14249162	0.083413415	14.19693234	0.010788755	1.617325062	0.113920742	69.17628589	1.1128239	81.34906447	11.09898875	456.2735022	314.3181101	69.17628589	1.1128239	15.1611447
HC-062407-08 82	502.8467144	1264.032565	2.211687733	13.66462372	8.517781071	0.087257493	14.59968641	0.010220396	1.973745121	0.135190926	65.55049981	1.287244033	84.94538654	11.89771699	672.311432	310.9440674	65.55049981	1.287244033	9.750020108
HC-062407-08 83	135.5786947	14973.70455	0.596115051	5.470865681	0.716863707	12.7843711	1.135078731	0.508341993	0.867615127	0.764365593	2649.547329	18.84962539	2663.893406	10.68967135	2675.512483	12.11357581	2675.512483	12.11357581	99.02952596
HC-062407-08 84	9150.480102	14200.80426	3.220222891	20.76878044	0.928060839	0.063845699	1.665323528	0.009836767	1.209022337	0.725998472	63.10202354	0.759195731	62.8424237	1.014802853	54.01369379	27.32616169	63.10202354	0.759195731	116.8259734
HC-062407-08 85	777.1046883	1043.381206	1.473041449	13.9473203	9.748839204	0.080965215	16.09420814	0.010179471	1.392569124	0.086526104	65.28934342	0.904610559	79.0519974	12.24072996	518.7978306	354.0175231	65.28934342	0.904610559	12.58473717
HC-062407-08 86	98.46093806	954.6814251	1.431965096	10.36347533	13.18040294	0.380449483	20.09168419	0.033793215	2.701135995	0.134440496	214.2450945	5.691943736	327.3687953	56.2816974	1238.051372	394.1896668	214.2450945	5.691943736	17.30502459
HC-062407-08 87	245.7251352	693.4894406	1.049236481	8.621956649	17.59298881	0.138632221	23.98151682	0.010481784	7.436178117	0.310079557	67.21824743	4.972499842	131.8248831	29.6558745	1547.086691	434.1408547	67.21824743	4.972499842	4.344827465
HC-062407-08 88	579.9331345	2096.453273	3.849485767	13.56644581	4.115267013	0.110055465	7.406455861	0.011924816	1.407013101	0.189971172	76.41757068	1.068857459	106.0161264	7.456157751	836.6721262	151.6628105	76.41757068	1.068857459	9.133514586
HC-062407-08 89	467.3665044	1265.99377	0.997825606	13.36134791	10.26398389	0.085871306	12.530689	0.00982856	2.040581708	0.162846728	63.04963304	1.280308015	83.65000984	10.06210375	721.4444729	263.2982997	63.04963304	1.280308015	8.739360465
HC-062407-08 90	774.6518177	2285.7312	1.159611828	15.15716066	8.798520934	0.084689031	12.4288804	0.010310981	1.44321482	0.116117846	66.12851354	0.949498124	82.54387807	9.853657597	588.9214526	268.6840683	66.12851354	0.949498124	11.22874931
HC-062407-08 91	615.5773148	1811.710715	1.815482644	16.94803522	4.032931447	0.06728678	10.35965015	0.009597028	1.74685846	0.168621376	61.57143669	1.070445665	66.12144795	6.631775076	235.0674251	236.1581066	61.57143669	1.070445665	26.19309616
HC-062407-08 92	190.3392738	1355.471751	1.31774008	12.80258381	9.321674767	0.27682312	13.80086994	0.029764205	2.099323012	0.152115267	189.0723563	3.911596304	248.1342898	30.39048629	852.7297985	284.6567027	189.0723563	3.911596304	22.17259872
HC-062407-08 93	282.0185382	456.6436931	2.707874319	10.83285922	21.90146289	0.073225681	25.64294056	0.008784157	4.741386413	0.184900261	56.37905532	2.661493609	71.7558701	17.76701299	620.9660923	551.8103511	56.37905532	2.661493609	9.079248612
HC-062407-08 94	523.9823082	1804.512842	1.208544304	15.28152146	4.562353438	0.122802222	8.521554583	0.015526955	1.367788499	0.160509269	99.32406329	1.348130705	117.6093256	9.463772187	506.4185037	185.3070764	99.32406329	1.348130705	19.61303992
HC-062407-08 95	441.3625012	1542.66955	0.981376444	15.12680048	6.599529644	0.124319363	16.24922876	0.015873827	1.296931542	0.07981496	101.5255819	1.306402939	118.9803945	18.24561422	484.7977829	359.732818	101.5255819	1.306402939	20.94184122
HC-062407-08 96	151.2096981	351.1674559	1.478771318	7.429990412	26.91426073	0.120076747	46.49385478	0.009136499	6.067326785	0.130497392	58.6302249	3.541159839	115.1416023	50.65200403	1535.1797	920.4920031	58.6302249	3.541159839	3.819111528
HC-062407-08 97	303.0390474	507.5219885	2.324610659	9.027849178	17.76374651	0.063986648	33.93038967	0.005578545	5.032104855	0.148306722	35.86167711	1.799587011	62.97694261	20.7220266	1274.526889	673.7089923	35.86167711	1.799587011	2.813724638
HC-062407-08 98	629.23518	1444.640849	2.254482858	15.26655921	8.04234423	0.074950731	13.10312569	0.009789273	1.865351699	0.142359292	62.79883251	1.165731796	73.3866366	9.276928639	434.5554706	289.9469411	62.79883251	1.165731796	14.45128108
HC-062407-08 100	57.37188533	458.4476884	1.337181454	7.071203944	33.51390686	0.482758739	42.12905403	0.030963285	4.02311463	0.095495015	196.5743338	7.789052971	399.9638174	140.1578252	1850.249493	796.864887	196.5743338	7.789052971	10.62420687
HC-062407-08 101	1283.518506	3892.878217	2.437405226	18.86528819	3.856694484	0.101042188	5.052910927	0.014725729	0.788319587	0.156012959	94.23599391	0.737477314	97.73790451	4.70840107	185.0262933	116.2836664	94.23599391	0.737477314	50.93113645
HC-062407-08 102	787.4242548	7147.474431	2.046731133	19.67902254	2.245334921	0.204555999	4.844516592	0.029917306	0.799631809	0.165059154	190.0307096	1.497367512	188.9739893	8.353632817	176.783315	111.5057169	190.0307096	1.497367512	107.4935774
HC-062407-08 103	2079.022446	4959.486261	1.983478275	20.30719849	2.106078193	0.06105807	4.726547876	0.009467249	0.900873073	0.190598529	60.74272876	0.544644842	60.17829076	2.761715667	38.79587602	NA	60.74272876	0.544644842	156.5700662
HC-062407-08 104	1097.558379	4153.369191	1.537597691	16.3292345	6.003914361	0.117066725	6.811390445	0.014545151	0.913667871	0.134138232	93.0887006	0.844410077	112.4092547	7.248154093	544.756193	147.676927	93.0887006	0.844410077	17.08813994
HC-062407-08 105	987.4331716	11552.12769	1.257169064	19.42085537	1.381875938	0.311059008	2.32180905	0.044428804	0.787918758	0.339355537	280.2265048	2.160655063	275.0014865	5.593470445	231.7547901	50.45380258	280.2265048	2.160655063	120.9150865
HC-062407-08 106	1169.652444	3601.081943	1.476086116	18.41081218	5.088583614	0.067080555	5.838438462	0.009579406	1.023916641	0.175375085	61.45891709	0.626297834	65.92523324	3.72673067	232.1797535	132.7739863	61.45891709	0.626297834	26.47040328
HC-062407-08 107	217.5502654	469.0797424	1.124583104	9.063047478	25.32263647	0.104011743	40.22757548	0.009252912	4.637439384	0.115280111	59.37383248	2.740784468	100.4727467	38.50086753	1235.054284	817.3553484	59.37383248	2.740784468	4.807386467
HC-062407-08 108	671.7705949	1488.92927	1.124757567	12.36737809	6.124245845	0.095107552	7.839966177	0.009536968	1.419475786	0.181056366	61.18793129	0.864438853	92.25016934	6.913676269	996.0660541	156.8877291	61.18793129	0.864438853	6.142959199
HC-062407-08 109	798.1721819	3293.749754	4.282678318	17.3134168	4.336818454	0.088999795	5.992485628	0.011925931	0.995428664	0.166112816	76.4246739	0.756261374	86.57120932	4.972806854	377.1995957	133.0398937	76.4246739	0.756261374	20.26106994
HC-062407-08 110	367.6551588	1143.796533	1.122529513	10.43103914	7.715761038	0.114495645	15.07383765	0.009789708	3.087614885	0.204832701	62.80160592	1.929657073	110.0695199	15.72530428	1312.341891	287.7788565	62.80160592	1.929657073	4.785460735
HC-062407-08 111	772.6899617	1998.33505	1.229773196	14.78794496	6.467162839	0.080791336	9.462942764	0.00956247	0.980533521	0.103618245	61.35077327	0.598711401	78.88865475	7.182676467	649.8657296	202.4994551	61.35077327	0.598711401	9.440530632
HC-062407-08 112	293.3591559	627.1828938	1.408879276	12.34565505	11.16690439	0.080944728	29.41440544	0.009974026	3.281855915	0.111573084	63.97817191	2.089286661	79.03275285	22.36893532	562.8313206	NA	63.97817191	2.089286661	11.36720178
HC-062407-08 113	617.7326146	1553.114815	2.612127937	16.20708948	4.626708281	0.085830062	7.595859419	0.011662254	1.294166321	0.170377866	74.74471764	0.961734647	83.61144209	6.09662684	345.8445645	169.5210324	74.74471764	0.961734647	21.61222853
HC-062407-08 115	96.43313758	673.5034588	1.824529572	11.06401635	13.18223916	0.223440185	29.03239048	0.022966144	3.999595027	0.1377632	146.3748056	5.788435084	204.7689643	53.88882785	945.6501187	600.9012628	146.3748056	5.788435084	15.47874872
HC-062407-08 116	1025.460556	2492.274021	1.792088484	16.67148467	5.767988501	0.077847862	10.5495174	0.010215004	1.1064087	0.10487766	65.51609197	0.721204669	76.11954403	7.736777992	424.201394	234.6485018	65.51609197	0.721204669	15.44457253
HC-062407-08 117	722.048632	1316.481601	1.112047759	13.70279293	3.97222184	0.085061431	10.9900106	0.009745996	1.356481789	0.123428615	62.52254542	0.844007398	82.89242394	8.748168216	719.2353282	232.1438837	62.52254542	0.844007398	8.692919127
HC-062407-08 118	808.282595	2254.230467	2.548700364	16.78180197	6.154472559	0.082414788	7.607332986	0.011052484	1.033566184	0.135864459	70.85802565	0.728354281	80.41271288	5.881371657	375.3789708	169.8261599	70.85802565	0.728354281	18.87639723
HC-062407-08 119	219.3933675	413.5483474	1.187372472	10.40424627	13.56789416	0.101622381	44.95477224	0.011884421	3.029735896	0.067395201	76.16022918	2.293876879	98.27281808	42.13194146	675.6427578	NA	76.16022918	2.293876879	11.27226308
HC-062407-08 120	472.9730345	1248.032125	3.207140295	14.24822429	9.700224916	0.1005609	12.38118474	0.012263801	1.6857171	0.136151518	78.57669776	1.316540753	97.29396283	11.48750509	585.3354374	267.1320434	78.57669776	1.316540753	13.42421674
HC-062407-08 121	1058.788056	1576.10801	2.476871927	17.08966351	4.474916403	0.084765894	12.34532623	0.01230375	1.234248502	0.099976986	78.83110048	0.967046783	82.615828	9.795600865	194.4881052	NA	78.83110048	0.967046783	40.53260759
HC-062407-08 122	1433.705531	2941.555011	1.621428038	18.12770871	5.317546189	0.067651705	9.073323651	0.009625179	1.062153934	0.11706338	61.75117881	0.652761137	66.46856716	5.837813906	240.7457702	208.0981849	61.75117881	0.652761137	25.6499538
HC-062407-08 123	373.8679716	24213.78857	5.333107487	9.267029596	0.933557029	4.383277942	1.289657776	0.2926421	0.825815059	0.640336587	1654.718859	12.05202483	1709.191726	10.6628319	1777.39407	18.07253365	1777.39407	18.07253365	93.09802969
HC-062407-08 124	564.6923517	1781.213702	1.307387216	12.89619597	13.47417709	0.110991171	17.76405274	0.011502597	1.358945812	0.076499762	73.72728659	0.996206244	106.8716696	18.02168484	928.7502717	366.3714267	73.72728659	0.996206244	7.938332707
HC-062407-08 125	727.9613404	1315.849185	1.290631213	17.0009581	6.592504384	0.062606414	10.35042539	0.009471233	1.2526818	0.121027084	60.76816575	0.757655066	61.65890308	6.192127442	97.3879332	NA	60.76816575	0.757655066	62.39804435
HC-062407-08 126	347.2237838	776.9526734	1.562114708	11.56293319	22.84174251	0.090853895	27.79597968	0.009625431	3.068527419	0.110394649	61.75279316	1.885854344	88.29850186	23.51074897	883.361985	581.9038171	61.75279316	1.885854344	6.990655496
HC-062407-08 128	1330.072663	2567.892686	2.110025287	17.084045	4.775431688	0.070054716	9.409270549	0.009550394	0.915945021	0.097344955	61.27366592	0.558574242	68.75136667	6.254934278	338.3174498	212.5295854	61.27366592	0.558574242	18.11129339
HC-062407-08 129	182.6601118	3428.310873	1.312300949	10.22723741	3.51439263	1.134320193	4.90896703	0.08692134	2.169044761	0.441853601	537.3037285	11.18189606	769.8108191	26.49687648	1521.865068	83.06077684	1521.865068	83.06077684	35.30560888
HC-062407-08 130	698.6416699	9781.584366	0.952100472	17.76532395	1.738137875	0.525681555	2.279565204	0.068900466	0.691330111	0.303272795	429.5279193	2.872688936	428.9396675	7.975349128	426.730203	48.4619473	429.5279193	2.872688936	100.6556171
HC-062407-08 131	535.5928008	981.1684467	0.895778748	12.0766238	12.42567119	0.091426088	18.09485142	0.00963586	2.551341846	0.14099822	61.81937764	1.569685223	88.83096799	15.39196272	894.0571778	372.6176949	61.81937764	1.569685223	6.914476969
HC-062407-08 132	1324.193475	2449.968869	1.561018642	19.5769388	1.694572683	0.05997977	8.263287897	0.009565982	1.00972475	0.122194066	61.3731992	0.61675979	59.14588275	4.747808311	NA	NA	61.3731992	0.61675979	
HC-062407-08 133	292.2810711	51.0750789	1.445083114	7.057701949	10.75660471	-0.264363443	115.2359576	0.007340103	3.794081929	0.032924462	47.14452964	1.782177387	NA	-447.3511203	NA	NA	47.14452964	1.782177387	
HC-062407-08 134	617.2409842	1546.653748	2.277278168	16.48888771	4.254551563	0.102694354	8.731908878	0.014483351	1.404155837	0.160807431	92.69601342	1.292283061	99.26039299	8.257338675	260.9350086	198.247647	92.69601342	1.292283061	35.5245599
HC-062407-08 135	144.6158444	1629.182899	1.839628775	13.77167236	10.27041424	0.499755675	14.59982165	0.05654161	1.418053434	0.097128134	354.5588509	4.892067575	411.5369968	49.43763301	745.9780905	308.6481886	354.5588509	4.892067575	47.52939201
HC-062407-08 136	1823.490236	5144.145186	2.451599046	18.37889081	4.336562514	0.074571634	4.66060684	0.010434009	0.881433081	0.189124101	66.91346183	0.58674692	73.02848403	3.284068314	279.1464389	104.8125339	66.91346183	0.58674692	23.97073812
HC-062407-08 137	203.1143716	491.2638959	1.546554434	7.025336241	24.09969031	0.1513335	29.92342819	0.00950562	4.266745262	0.142588785	60.98775473	2.589921689	143.0886285	39.95759074	1887.933518	545.9371486	60.98775473	2.589921689	3.230397371
HC-062407-08 138	184.1994657	1070.881444	2.260047084	11.32620005	14.26788113	0.202054352	16.09324122	0.019283253	2.842934529	0.176653944	123.1244963	3.467133177	186.8630278	27.47410184	1095.819262	319.010925	123.1244963	3.467133177	11.23583976
HC-062407-08 139	117.7048746	1864.170563	1.03934264	12.09520925	10.82741454	0.598282104	13.76035122	0.057505059	1.337444	0.097195484	360.4345933	4.688322648	476.142933	52.34757075	1081.564892	275.951354	360.4345933	4.688322648	33.32528599
HC-062407-08 140	1064.340994	2361.440122	3.45671383	16.99795624	4.377489817	0.071210702	5.50723484	0.009762403	1.106930377	0.200995674	62.62729071	0.68988395	69.84769852	3.717370179	325.6440297	122.5527688	62.62729071	0.68988395	19.23182525
HC-062407-08 141	847.7960465	2112.701351	1.640011796	15.34753041	8.418841216	0.078833477	9.653546693	0.009760331	1.168028322	0.120994735	62.61406069	0.727809634	77.04761458	7.162758057	552.4540815	209.5526934	62.61406069	0.727809634	11.33380362
HC-062407-08 142	1363.704598	1740.722133	0.467070091	18.42681196	3.588872317	0.100374547	8.667487964	0.015818741	0.780776201	0.090081025	101.176009	0.78379134	97.12201779	8.028146152	NA	NA	101.176009	0.78379134	
HC-062407-08 143	407.5595882	1278.831313	1.126503797	11.16927715	10.22391068	0.100427143	12.15107453	0.009235986	3.928529124	0.323307137	59.26572302	2.317601421	97.17054995	11.26035835	1169.510846	228.4164435	59.26572302	2.317601421	5.067565061
HC-062407-08 144	428.5757851	1264.287341	1.045935251	13.36150987	14.25275842	0.103828607	15.16382752	0.011843611	2.564068232	0.169091097	75.90023801	1.934721868	100.3042986	14.48383548	728.6846718	318.4383391	75.90023801	1.934721868	10.41606074
HC-062407-08 145	376.9067716	1130.428691	1.109263478	12.70168847	13.28908613	0.087551505	19.40333896	0.009571002	2.094331345	0.107936647	61.4052529	1.279923847	85.21992545	15.86191024	818.1930492	406.5753698	61.4052529	1.279923847	7.504983447
HC-062407-08 146	1057.162309	1942.997946	1.105105739	16.81759348	5.865898773	0.067872191	7.572580557	0.009430716	1.414580833	0.186803009	60.50942479	0.85195005	66.67823703	4.887083467	295.0677372	170.0098086	60.50942479	0.85195005	20.50696066
HC-062407-08 148	495.1594364	84.17993432	0.598619096	8.959034346	10.99216397	-0.106418138	173.0330764	0.008038715	2.875012409	0.016615392	51.61371067	1.477975953	NA	-212.277417	NA	NA	51.61371067	1.477975953	
HC-062407-08 149	646.1004753	8353.515747	0.822194236	18.50828606	2.05402115	0.389279174	3.033410041	0.053516846	0.723774822	0.23860105	336.0770002	2.370122114	333.8427505	8.630642634	319.2724275	66.94262731	336.0770002	2.370122114	105.2633962
HC-062407-08 150	1551.33997	3204.104691	1.345407371	17.83393584	5.286118561	0.069839244	7.078997972	0.009784896	0.690987133	0.097610867	62.7708898	0.431633882	68.54688361	4.692300288	276.0493419	161.5377893	62.7708898	0.431633882	22.73901092
HC-062407-08 151	1661.349376	660.4745977	3.798335407	18.12695114	4.775011038	0.042738106	63.97124153	0.009520775	0.84159987	0.01315591	61.08453155	0.511659336	42.49382918	26.62896383	NA	NA	61.08453155	0.511659336	
HC-062407-08 152	1197.780053	874.2993965	1.428591852	15.43193793	4.710880148	0.098671595	32.62018265	0.01486357	1.021031849	0.031300617	95.11162033	0.963991002	95.5493826	29.7553351	107.5410174	NA	95.11162033	0.963991002	88.44218011
HC-062407-08 153	645.1706496	271.8954296	2.372111485	12.71183528	14.40570423	0.029478629	79.84718897	0.009413457	1.360214265	0.017035218	60.39920179	0.817721789	29.49940499	23.21962423	NA	NA	60.39920179	0.817721789	
HC-062407-08 154	470.6959392	165.3791971	1.31178055	12.45640352	13.51727873	-0.017596569	456.3091328	0.007853427	1.940102892	0.004251729	50.42868075	0.974551495	NA	-83.17581665	NA	NA	50.42868075	0.974551495	
HC-062407-08 155	246.3270748	185.936438	0.410250455	12.09580406	13.08850018	-0.003384334	2027.318759	0.015243963	2.622852351	0.001293754	97.52742148	2.538747694	NA	-70.01402481	NA	NA	97.52742148	2.538747694	
HC-062407-08 156	336.6754319	213.7946226	1.532683438	13.88792052	10.25948127	-0.002453755	2060.204133	0.013895777	1.388371556	0.0006739	88.9612643	1.226629622	NA	-51.50038164	NA	NA	88.9612643	1.226629622	
HC-062407-08 157	436.9317112	3259.570449	1.130331606	16.72891285	4.667011043	0.238209269	7.256397686	0.031090788	1.037092363	0.142921103	197.3715357	2.015906942	216.9530367	14.17567694	436.1012044	160.0722864	197.3715357	2.015906942	45.25819551
HC-062407-08 158	803.3640479	1479.464349	1.096752	15.58241368	6.429276827	0.07199093	9.347518941	0.009583288	1.136206958	0.121551715	61.48370456	0.695261279	70.58699451	6.374096599	392.0286464	208.5749169	61.48370456	0.695261279	15.6834724
HC-062407-08 159	1058.405294	2952.253757	1.066644908	17.74116103	3.780981934	0.068644663	8.947730138	0.009651816	0.97608484	0.109087425	61.92125617	0.601510456	67.41247426	5.836077162	267.8914606	204.354876	61.92125617	0.601510456	23.11430758
HC-062407-08 160	327.4601321	2431.996497	0.756542602	17.72902524	3.687252328	0.372241311	7.880563421	0.053395871	0.730074707	0.09264245	335.3367172	2.385621776	321.3132929	21.70938034	221.8949447	181.7274095	335.3367172	2.385621776	151.1240906
HC-062407-08 161	2701.28502	8407.140562	1.630503625	20.37216983	1.741418086	0.094788869	3.48141877	0.014470641	0.574184666	0.164928354	92.6152491	0.527980744	91.95464342	3.060655568	75.85785614	NA	92.6152491	0.527980744	122.0905175
HC-062407-08 162	295.7356006	676.6598903	1.287696159	11.88005335	4.108222095	0.099876638	16.77842755	0.011538211	3.309729672	0.197261016	73.95425282	2.433699388	96.66246292	15.4715817	701.7480109	352.3934294	73.95425282	2.433699388	10.53857677
HC-062407-08 163	1067.166366	2107.630627	2.276089051	16.27991163	6.544257811	0.073325037	7.921677033	0.009742156	1.345078346	0.169797171	62.4980329	0.836585608	71.84986697	5.495058424	396.3353222	175.2696314	62.4980329	0.836585608	15.76897879
HC-062407-08 164	1192.454008	7527.309811	0.838024461	18.93073069	2.562662493	0.21368358	3.143592044	0.030403598	0.712554257	0.226668807	193.0737648	1.355357176	196.6390981	5.619869105	240.6269864	70.59974685	193.0737648	1.355357176	80.23778535
HC-062407-08 165	551.1124434	2927.383624	1.439334645	17.7860868	3.858375512	0.253324627	5.433669821	0.035805518	0.896321012	0.164956842	226.780996	1.997347058	229.2732111	11.15204353	255.9110317	123.2746745	226.780996	1.997347058	88.61712389
HC-062407-08 166	128.4444999	887.3272447	3.090554714	11.6204477	13.37070865	0.299569052	14.90077156	0.031019008	2.117409162	0.142100639	196.9227457	4.106617742	266.0635739	34.89049527	930.5020029	304.3181095	196.9227457	4.106617742	21.16306521
HC-062407-08 167	38.9948386	3201.646007	2.530914397	8.024758897	2.42298399	5.573898505	3.991199233	0.33499225	0.969042744	0.242794881	1862.533355	15.67537759	1912.074972	34.37440947	1967.009353	69.06918123	1967.009353	69.06918123	94.68858662
HC-062407-08 168	158.0061584	374.1386213	1.009354737	8.11778455	20.40602474	0.100315987	41.88501992	0.008490595	5.083118258	0.12135886	54.50284048	2.758765231	97.06797905	38.79293114	1332.026449	842.4063046	54.50284048	2.758765231	4.091723594
HC-062407-08 169	1116.298727	2540.871176	1.527207752	15.61000835	4.500213718	0.077686871	10.44252963	0.00966716	1.103599312	0.105683139	62.01922134	0.681161811	75.96787116	7.643616108	541.4172346	227.5879027	62.01922134	0.681161811	11.4549773
HC-062407-08 170	1343.509548	3053.546815	1.494006655	17.15152394	5.06339338	0.072851742	5.721741361	0.009882939	0.896376482	0.156661482	63.39676138	0.565488477	71.40202302	3.945122994	349.4844907	127.8406087	63.39676138	0.565488477	18.14007862
HC-062407-08 171	577.5184405	1297.566594	1.061278223	14.12626463	9.980270181	0.08084219	19.60512	0.009847994	1.276996571	0.065135871	63.1736912	0.802785872	78.93642953	14.89039872	587.7477297	428.1791438	63.1736912	0.802785872	10.74843645
HC-062407-08 172	96.44073643	568.8452225	0.802705822	7.089345361	18.36668021	0.243050331	26.5690622	0.015027333	6.134534412	0.230890137	96.15175845	5.854692832	220.9151677	52.79645767	1916.315614	472.1540882	96.15175845	5.854692832	5.017532484
HC-062407-08 173	1078.496775	2708.601256	1.433994129	16.02258347	4.61291647	0.078955361	8.725235068	0.01003317	1.12780405	0.129257727	64.35566093	0.722194858	77.16232372	6.483224999	495.3755756	191.0017485	64.35566093	0.722194858	12.99128663
HC-062407-08 174	945.5784101	1666.307375	1.522376325	13.94144938	8.593329879	0.067044128	9.014827266	0.007698333	1.363355933	0.151234837	49.43659423	0.671418946	65.89057109	5.751357102	714.6289279	189.6330966	49.43659423	0.671418946	6.917799196
HC-062407-08 175	343.5261078	934.7937882	1.573122472	10.87189102	14.70650361	0.105595868	16.44704188	0.009956633	3.150545938	0.191556996	63.86715451	2.002229293	101.928656	15.95158908	1119.974944	324.000799	63.86715451	2.002229293	5.702552085
HC-062407-08 177	1248.560903	2787.576859	0.602303803	16.54377855	7.748487141	0.07679514	8.67204883	0.01007028	1.095095576	0.12627876	64.592509	0.703817727	75.1273461	6.279973545	425.660141	192.1868009	64.592509	0.703817727	15.17466701
HC-062407-08 178	1196.450007	2499.466238	2.901348896	15.79111631	7.080002668	0.047226513	10.76226764	0.005938294	1.589448143	0.147687104	38.16749179	0.604860117	46.85510846	4.928132353	518.5509024	234.2297075	38.16749179	0.604860117	7.360413726
HC-062407-08 179	104.7059481	5634.668906	1.329008332	13.15485711	3.5136328	1.807335753	3.724576952	0.177500235	0.920603461	0.24716994	1053.303765	8.946002545	1048.114843	24.3519981	1038.177104	72.87431245	1038.177104	72.87431245	101.4570405
HC-062407-08 180	1027.287789	2979.148509	2.207867045	16.95075533	7.433398032	0.073600988	8.451124422	0.009823383	1.353794693	0.160191074	63.01658459	0.848958946	72.11088776	5.882880266	386.1322244	187.6457465	63.01658459	0.848958946	16.31994965
HC-062407-08 181	197.572342	1513.947219	0.682090132	14.63862862	7.453804616	0.466764634	16.05102876	0.057371072	1.454832366	0.090637952	359.6177733	5.088582181	388.9516637	51.90968877	568.3233048	349.9488909	359.6177733	5.088582181	63.27697109
HC-062407-08 182	1299.359563	2721.395348	1.389854428	17.61075661	3.983294466	0.068280557	6.35028865	0.009591266	1.068221118	0.168216152	61.53464297	0.654198739	67.06645706	4.121330998	270.1280675	143.6304648	61.53464297	0.654198739	22.7798035
HC-062407-08 183	214.1966315	1086.22893	0.861856174	10.90157758	13.41885447	0.274214878	16.72270481	0.025200425	1.344755943	0.080414978	160.439192	2.130888738	246.0579853	36.55715331	1170.985514	332.2354681	160.439192	2.130888738	13.70121066
HC-062407-08 184	170.1216452	415.525451	1.314681928	6.901452991	21.14183878	0.169437912	27.35575052	0.010907526	3.131343028	0.114467451	69.93371813	2.17802919	158.9310211	40.2660975	1843.589581	501.6182679	69.93371813	2.17802919	3.793345268
HC-062407-08 185	703.5006767	1402.688942	1.291433338	16.29381301	3.991411793	0.106306843	6.211484342	0.015096099	0.869146504	0.139925734	96.58847163	0.833237424	102.5814082	6.060606491	245.1715953	141.7763402	96.58847163	0.833237424	39.39627326
HC-062407-08 186	1088.670549	1621.480984	1.740807226	16.5365578	5.38124948	0.071202067	11.16822658	0.010009764	1.091264226	0.097711505	64.2062753	0.697182384	69.83951388	7.537777357	268.2667825	255.6437879	64.2062753	0.697182384	23.9337404
HC-062407-08 187	240.3109261	2414.304862	4.348534365	15.36970109	3.846040279	0.461620603	9.403217225	0.056497799	1.017676031	0.108226366	354.2915401	3.508251881	385.3843958	30.16370151	577.5803992	203.5586973	354.2915401	3.508251881	61.34064462
HC-062407-08 188	671.621883	1087.877971	2.947529004	13.09098264	10.80248052	0.085971992	11.6494581	0.009868415	1.878597323	0.16126049	63.30404403	1.183408023	83.74415548	9.364537101	715.3718659	244.9694842	63.30404403	1.183408023	8.849110099
HC-062407-08 189	446.7000779	1128.980211	2.455311888	14.16747452	7.694630986	0.083646435	12.05927655	0.01051639	2.100662697	0.174194753	67.43901765	1.409281871	81.56742927	9.451996201	518.8373525	261.463163	67.43901765	1.409281871	12.9981038
HC-062407-08 190	1364.126417	2568.545699	1.318576371	15.56737963	5.833818876	0.079220845	10.64425935	0.009807849	1.0940795	0.102785874	62.9174193	0.68501824	77.41213497	7.933838264	552.5263323	231.6442948	62.9174193	0.68501824	11.38722548
HC-062407-08 191	1459.306205	4791.351731	1.387570412	18.88096406	2.664720174	0.066191391	4.744949247	0.009620079	0.878820355	0.18521175	61.71862058	0.539807592	65.07879468	2.991087205	191.4856216	108.525465	61.71862058	0.539807592	32.23146472
HC-062407-08 192	916.8621501	3325.830413	1.671687184	16.19623051	4.699834556	0.116632799	6.36697313	0.014743821	1.094050165	0.171832069	94.3509275	1.02472913	112.0147505	6.752734062	506.8879008	138.1015748	94.3509275	1.02472913	18.61376595
HC-062407-08 193	196.3111313	1406.472492	1.518203521	7.824930687	16.86129061	0.13965825	19.14615243	0.00856476	5.42511618	0.283352815	54.97689539	2.969878663	132.7394397	23.82775311	1930.911047	331.7724395	54.97689539	2.969878663	2.847199796
HC-062407-08 194	361.1266886	613.6479877	1.531784589	11.10744146	10.03749608	0.089012251	13.70992476	0.009685901	2.054988113	0.149890546	62.13888027	1.270811915	86.58282333	11.37889735	827.8233247	283.9671172	62.13888027	1.270811915	7.506297348
HC-062407-08 195	1504.592402	6469.722782	0.603851586	19.46715024	1.770286185	0.188028795	3.532598311	0.027524712	0.710988764	0.201265103	175.0376618	1.22775426	174.945889	5.677094045	174.6988232	80.75100728	175.0376618	1.22775426	100.1939558
HC-062407-08 196	427.4444922	1282.946193	3.60195939	12.1908213	9.303141188	0.116699359	11.74946652	0.011835577	1.978294519	0.168373136	75.84905484	1.491724632	112.0752742	12.46815207	972.9854529	236.9533068	75.84905484	1.491724632	7.795497313
HC-062407-08 197	828.4447876	1941.879316	1.103628187	15.13061143	7.591079379	0.079450657	10.15156141	0.009744808	1.559999525	0.153670895	62.51496066	0.970519619	77.62832957	7.586920521	572.8865605	218.6676862	62.51496066	0.970519619	10.91227565
HC-062407-08 198	481.8998597	832.011894	1.845155639	11.82559294	6.194322482	0.092157302	7.886890539	0.009847197	2.744901474	0.348033418	63.1686019	1.72544826	89.51100802	6.75750994	865.6903967	153.4904843	63.1686019	1.72544826	7.296904544
HC-062407-08 199	695.7559756	1674.064931	2.511555856	13.34739562	11.6576363	0.089636859	14.40206387	0.009705305	2.326084633	0.161510507	62.26276154	1.44131288	87.16503376	12.03039278	838.2222178	297.4028294	62.26276154	1.44131288	7.427954094
HC-062407-08 200	589.2516409	2519.218581	1.563113209	15.51173478	10.31843294	0.130952002	12.55393868	0.016074938	0.937605089	0.074686129	102.8016407	0.956228618	124.9527922	14.76075163	571.1067892	273.3294932	102.8016407	0.956228618	18.00042351
HC-062407-08 201	495.3128666	2522.462061	1.786198434	17.97846647	3.833344561	0.204627569	7.649036262	0.029607487	1.152347937	0.150652696	188.0912095	2.136149792	189.0343174	13.19387661	201.8298057	175.7375645	188.0912095	2.136149792	93.19297954
HC-062407-08 202	738.6928113	1821.512792	1.979674739	15.85513683	6.465509131	0.074858534	8.157357225	0.009884988	1.372670651	0.168273941	63.40983542	0.866141344	73.29954502	5.768648473	410.0924347	180.0892805	63.40983542	0.866141344	15.46232753
HC-062407-08 203	306.6548636	708.2669318	1.229263274	9.738929589	18.02464943	0.118878681	25.09748241	0.010376223	2.847549549	0.113459569	66.54478332	1.885149021	114.0549387	27.0822047	1272.25387	494.1397943	66.54478332	1.885149021	5.230464209
HC-062407-08 204	1672.032544	5519.542286	2.270222055	19.09337314	2.490995598	0.071691406	5.583789311	0.010418856	1.018725835	0.182443459	66.816782	0.677164372	70.3032477	3.792785677	191.6148053	127.7887567	66.816782	0.677164372	34.87036501
HC-062407-08 205	514.1478554	9227.326691	1.187654613	18.58109753	3.035452942	0.39196307	3.237174146	0.054209574	0.845268365	0.261113035	340.3143718	2.8019597	335.8024384	9.256044648	305.648325	71.18791596	340.3143718	2.8019597	111.3418082
HC-062407-08 206	918.4081286	1806.016728	1.49852165	15.70864807	6.910844544	0.073637384	8.145797272	0.009573131	0.961123286	0.117990082	61.41884943	0.587507652	72.14530888	5.672947328	444.8997805	180.0878544	61.41884943	0.587507652	13.80509771
HC-062407-08 207	250.7211602	583.5509612	2.000606506	9.38499836	8.951969714	0.120406836	12.83120397	0.010517959	3.569316922	0.278174747	67.44902516	2.394918678	115.4407935	14.00232783	1270.678662	241.4114261	67.44902516	2.394918678	5.308110318

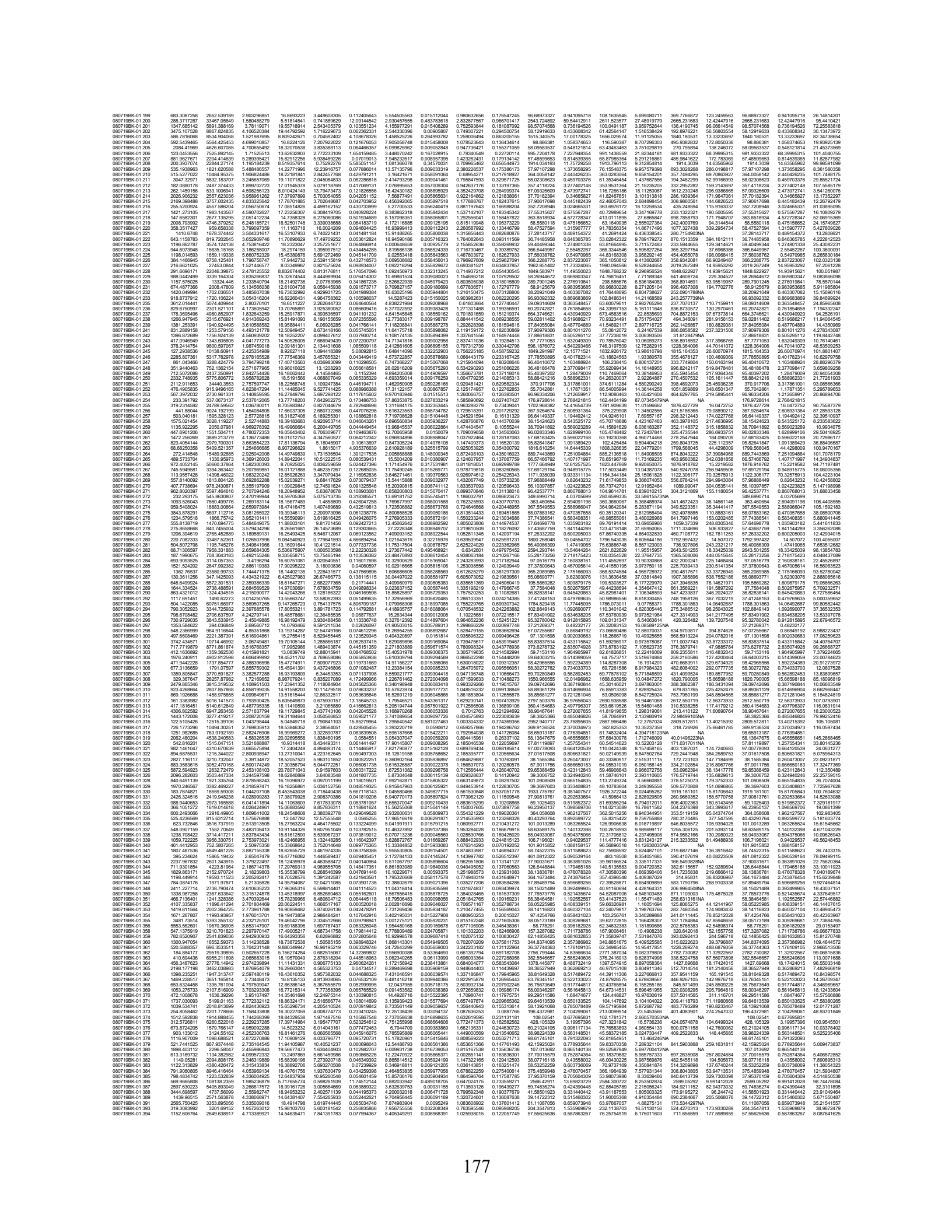
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HC-062407-08 209	277.4484516	630.4105817	1.878035317	7.578750821	22.24209006	0.14696917	23.10859295	0.009610131	4.824231951	0.208763552	61.65510077	2.96020664	139.2323288	30.07494816	1815.259111	415.9634511	61.65510077	2.96020664	3.396490363
HC-062407-08 210	1414.818923	4434.015966	1.005015961	16.92723813	4.860962693	0.109702474	7.109751745	0.014195059	1.174595629	0.165209092	90.86383787	1.059796084	105.6931896	7.136764491	455.3329838	155.7757158	90.86383787	1.059796084	19.9554702
HC-062407-08 211	220.2257977	695.066865	1.81179084	10.3246542	10.07615685	0.119376335	11.57291942	0.011279879	3.02176631	0.261106658	72.30772575	2.172762149	114.5064596	12.53247982	1115.746274	223.6367701	72.30772575	2.172762149	6.480660294
HC-062407-08 212	666.6809311	1748.319823	1.875290255	12.68666059	10.5907672	0.094445464	15.56990091	0.009621745	1.675823657	0.107632262	61.72925568	1.02953632	91.63609653	13.64359678	963.8152362	317.9204713	61.72925568	1.02953632	6.404677303
HC-062407-08 213	916.0491894	2146.792145	1.878623948	16.93159695	6.974361635	0.072259383	9.289530302	0.009987117	1.26635053	0.136320189	64.06172877	0.807228456	70.84124035	6.356583205	307.14276	209.9960345	64.06172877	0.807228456	20.85731364
HC-062407-08 214	269.6471321	648.7471477	1.300559993	14.99982165	7.202481069	0.198921778	34.7281639	0.032749575	0.893144561	0.025718162	207.7339966	1.825789161	184.213469	58.57125625	NA	NA	207.7339966	1.825789161	
HC-062407-08 215	2003.640813	2483.595389	1.735398407	17.48605458	4.587814017	0.072511256	8.492639726	0.010208131	0.822268906	0.096821357	65.47223228	0.535633158	71.0797251	5.830166473	265.0655684	194.2987296	65.47223228	0.535633158	24.70039118
HC-062407-08 216	474.9852884	1180.037005	4.786791843	15.35711452	7.041400875	0.125170352	9.711655814	0.017146273	1.538358244	0.158403291	109.5950678	1.671714182	119.7486401	10.97042075	327.4514518	218.0541097	109.5950678	1.671714182	33.46910426
HC-062407-08 217	249.0649915	435.4321411	0.873446042	8.907058697	19.8955917	0.106825176	38.60581424	0.009669659	4.349030962	0.112652227	62.03517584	2.684989337	103.0570293	37.85108373	1200.882004	785.6077186	62.03517584	2.684989337	5.165801106
HC-062407-08 218	1599.796212	3462.13305	1.584202321	17.09702413	4.985987611	0.074004108	7.981571082	0.009796384	0.899033687	0.112638687	62.84422726	0.562245736	72.49207575	5.584349095	404.5525558	177.8096266	62.84422726	0.562245736	15.53425541
HC-062407-08 219	616.7706306	2066.246503	2.443922663	13.3821829	11.69234026	0.089408745	14.80299447	0.009523705	2.172551631	0.146764334	61.10324287	1.321227904	86.95244269	12.33644416	872.1393679	304.8601168	61.10324287	1.321227904	7.006132864
HC-062407-08 220	521.6881602	1011.56761	1.040904076	13.93413093	7.246416963	0.075558479	24.44313342	0.009509655	1.968887385	0.080549713	61.01352377	1.195620552	73.96054409	17.43727662	516.4989306	542.3240914	61.01352377	1.195620552	11.81290418
HC-062407-08 221	704.7371012	2437.413538	1.440581633	16.50440475	5.766917694	0.108612991	11.64230458	0.014361494	0.964494221	0.082843926	91.92163859	0.880287819	104.6958183	11.58215878	407.0882272	260.4247652	91.92163859	0.880287819	22.58027436
HC-062407-08 222	872.4584965	1677.161563	1.89902085	13.21430423	9.979325957	0.091478462	11.39649721	0.00984198	1.208882708	0.106074936	63.13529607	0.759506359	88.8796912	9.698804133	851.4330341	236.2285894	63.13529607	0.759506359	7.415180471
HC-062407-08 223	1095.767594	23608.96057	2.009020865	16.34050342	1.245782738	0.884140063	1.5894884	0.101198762	0.760718553	0.478593334	621.4302654	4.506628609	643.216243	7.573614813	721.3826298	29.60735335	621.4302654	4.506628609	86.14433447
HC-062407-08 224	1048.74065	2055.450302	1.837516968	15.25667891	5.004849906	0.082680112	8.979934955	0.009656557	1.19623382	0.133211858	61.95152457	0.737535473	80.66157532	6.963231078	678.3939075	190.5487918	61.95152457	0.737535473	9.132087403
HC-062407-08 225	1510.53461	4907.549147	4.202298024	17.04864055	4.321401773	0.082638459	4.792946108	0.010134033	1.021771356	0.213182317	64.99937558	0.660807932	80.62251074	3.714780482	573.3079101	101.9036133	64.99937558	0.660807932	11.33760313
HC-062407-08 226	1356.343704	4005.721882	2.119067209	17.60876881	4.673829965	0.078335162	6.132146689	0.010067033	1.094337504	0.17845912	64.57178512	0.703105985	76.57849983	4.523226133	470.5356958	133.6307686	64.57178512	0.703105985	13.72303647
HC-062407-08 227	371.7774531	987.3292314	1.476396849	11.78623638	11.90784964	0.116301939	14.10427465	0.011292252	2.747261064	0.194782159	72.38659616	1.977525268	111.7138467	14.92166223	1061.262719	279.6425317	72.38659616	1.977525268	6.820798929
HC-062407-08 228	225.8982414	513.5411925	1.609427859	7.090935229	16.42267033	0.174791296	18.27146515	0.010587316	3.391457711	0.185614984	67.89145787	2.290428002	163.5685752	27.6101895	1953.079637	323.4386106	67.89145787	2.290428002	3.476123379
HC-062407-08 229	101.6364462	767.5470854	2.901861933	12.91537217	7.290361253	0.243373952	13.31589807	0.02865734	2.286759921	0.171731558	182.1395522	4.106804002	221.1794826	26.47104431	660.9600747	282.2606061	182.1395522	4.106804002	27.55681609
HC-062407-08 230	107.9930683	2303.523848	1.11987244	12.90867611	12.05833112	0.687633778	12.8830375	0.066443945	1.155068252	0.089658068	414.6958775	4.63920225	531.3777901	53.34903224	1070.964903	258.8041894	414.6958775	4.63920225	38.72170565
HC-062407-08 231	288.6593414	344.4103118	1.823438175	16.28387464	5.211494592	0.129922218	109.450362	0.052461335	0.809433713	0.007395441	329.6151472	2.600954215	124.0278183	128.4667351	NA	NA	329.6151472	2.600954215	
HC-062407-08 232	278.4252479	88.17394339	0.845156563	12.85297573	11.58194483	-0.20981969	76.18576177	0.011441264	3.040177823	0.039904803	73.33639104	2.216922678	NA	-208.2840578	NA	NA	73.33639104	2.216922678	
HC-062407-08 233	1939.683451	436.6963827	2.252745743	17.63345662	5.299870092	0.030270638	67.09645881	0.009607632	0.837006347	0.012474672	61.63914561	0.513464833	30.28026943	20.01962951	NA	NA	61.63914561	0.513464833	
HC-062407-08 234	979.0792561	209.2530853	1.658705813	16.73198516	6.936954155	-0.021673858	198.4866869	0.008931333	1.262104293	0.006358634	57.31948359	0.720224914	NA	-44.67803017	NA	NA	57.31948359	0.720224914	
HC-062407-08 237	815.2713115	169.6549574	1.540391069	16.66127504	3.169700018	-0.045949311	115.7244157	0.008628677	1.282498352	0.011082349	55.38541776	0.70727439	NA	-56.65167757	NA	NA	55.38541776	0.70727439	
HC-062407-08 238	37.17226129	149.9209938	0.509544049	12.72537615	8.229636259	-0.64282868	167.5704693	0.15996726	1.830926355	0.010926307	956.5948778	16.27703805	NA	NA	NA	NA	956.5948778	16.27703805	
HC-062407-08 239	1388.506865	3564.495814	1.436888884	18.10228086	3.624604544	0.073593376	5.027303384	0.009738215	0.955575266	0.190077104	62.47287057	0.594091948	72.10368804	3.499174706	405.4252431	110.5257781	62.47287057	0.594091948	15.40922072
HC-062407-08 240	1338.455876	3934.12439	2.103771	17.39237611	4.681049898	0.077344014	6.826475416	0.009729225	0.975002421	0.142826622	62.41547734	0.605615839	75.64478463	4.976250382	517.6621213	148.4949913	62.41547734	0.605615839	12.05718456
HC-062407-08 241	598.4336748	1825.977082	1.847834257	15.27342971	6.505195026	0.082559616	8.254019248	0.009714083	1.614487646	0.195600179	62.31880242	1.001281779	80.54856231	6.391708569	662.5642443	173.6957693	62.31880242	1.001281779	9.405699591
HC-062407-08 242	329.6647299	852.575465	1.691760647	12.80245566	9.343449989	0.087522193	18.15696791	0.009691231	2.936075663	0.161705174	62.17290897	1.816669117	85.19255872	14.8383023	791.3152958	378.7948709	62.17290897	1.816669117	7.856907265
HC-062407-08 243	1003.910241	3109.986423	1.547728355	16.49589407	5.233544652	0.081083625	6.416843811	0.009807352	1.230590292	0.191775011	62.91424578	0.770450854	79.16321709	4.886845382	603.1441195	136.4019641	62.91424578	0.770450854	10.43104687
HC-062407-08 244	122.3670961	5462.493116	2.060209975	12.92587534	1.756822458	1.883002439	2.471266062	0.178923269	0.801493032	0.324324865	1061.089691	7.841505587	1075.120338	16.3905304	1104.530923	46.72136683	1104.530923	46.72136683	96.06699716
HC-062407-08 245	378.4436705	1154.71962	2.401007386	12.74940877	9.898149768	0.132935197	10.91546834	0.014362315	1.820203686	0.16675452	91.92685857	1.661382169	126.7317706	13.00561662	842.7245321	224.6058729	91.92685857	1.661382169	10.9082927
HC-062407-08 246	789.1863517	22964.92552	8.008140361	13.94368784	0.87291147	1.62124859	1.284474031	0.162480822	0.646328122	0.503185044	970.5486618	5.823548367	978.4746562	8.066883362	997.1717805	22.53965312	997.1717805	22.53965312	97.33013717
HC-062407-08 247	374.8863274	4481.341304	0.658966889	18.11349249	2.669836898	0.494484498	3.178465195	0.067831496	0.895400799	0.281708543	423.0778566	3.666607284	407.9619537	10.67885401	324.2723625	69.25085963	423.0778566	3.666607284	130.4699091
HC-062407-08 248	1025.477831	2558.124201	2.163557752	19.28153521	3.8881852	0.0767486	6.011654333	0.011866993	1.059710241	0.176275977	76.04920061	0.801166148	75.0834589	4.350936196	45.50722768	NA	76.04920061	0.801166148	167.1145541
HC-062407-08 249	681.8005847	1826.252713	1.086254022	16.54046897	6.033826245	0.070067001	8.244862669	0.009596159	1.863623468	0.226034507	61.56588771	1.141894883	68.76302405	5.481761217	327.890641	182.4972475	61.56588771	1.141894883	18.77634797
HC-062407-08 250	556.1015176	1280.383101	1.103657722	17.68989825	5.907225308	0.061651427	12.98284584	0.009835344	1.576228139	0.121408523	63.09293408	0.989637752	60.7459471	7.655423603	NA	NA	63.09293408	0.989637752	
HC-062407-08 251	351.9530435	700.2979298	1.412170296	13.13032221	10.0924394	0.076521249	16.83965368	0.009928229	3.178058296	0.188724283	63.68585526	2.014008825	74.86904247	12.15467224	449.3300486	369.6156221	63.68585526	2.014008825	14.17351354
HC-062407-08 252	327.9714324	598.1337845	1.53987596	12.35119553	15.85120821	0.075808642	29.69428028	0.009600643	3.433728085	0.11563601	61.59452066	2.104916336	74.19668345	21.2495529	502.8298288	NA	61.59452066	2.104916336	12.24957573
HC-062407-08 253	1757.373123	4889.068161	1.854465032	17.91624238	4.674281126	0.074277662	5.294963795	0.010087134	0.727257469	0.137348903	64.70007325	0.468182705	72.75066595	3.717376299	347.085671	118.7057761	64.70007325	0.468182705	18.64095198
HC-062407-08 254	275.3608222	2855.61785	1.081122959	15.83991855	7.692611556	0.229683852	9.422653732	0.028385824	1.15826482	0.12292342	180.4377896	2.060969265	209.937661	17.87248673	556.3609231	204.3572513	180.4377896	2.060969265	32.43178701
HC-062407-08 255	452.9444669	803.3488718	1.107032448	10.83056483	11.74755133	0.09858595	19.15241225	0.009481315	1.64183351	0.085724633	60.83255267	0.994071513	95.47022674	17.45328361	1080.418238	386.2524281	60.83255267	0.994071513	5.630463329
HC-062407-08 256	413.0962639	1027.947347	2.541330692	11.561624	11.00359506	0.110558413	13.1842886	0.010928486	1.843466868	0.139823006	70.04441719	1.284255874	106.4760763	13.32790666	1025.773931	265.1637097	70.04441719	1.284255874	6.828445828
HC-062407-08 257	2222.331644	4504.836353	2.83214997	18.48006422	2.594011169	0.070279661	4.473638684	0.009923221	0.767252053	0.171505145	63.65388899	0.485982452	68.96479684	2.98280219	258.3035483	101.3134727	63.65388899	0.485982452	24.64305636
HC-062407-08 258	375.3116853	16053.11939	3.290608363	12.73409424	1.046151889	2.074792395	1.332458828	0.191652648	0.668953675	0.502044536	1130.321508	6.935528478	1140.516206	9.129652799	1160.807207	22.84747504	1160.807207	22.84747504	97.37374999
HC-062407-08 259	160.2955842	1436.124079	1.577109542	14.8497466	7.310979988	0.2665959	12.4189417	0.033428312	2.087868563	0.168119685	211.9692739	4.353670132	239.9684298	26.54781801	524.6881452	269.3561212	211.9692739	4.353670132	40.39909722
HC-062407-08 260	666.3084563	1826.136706	1.585635362	17.05960571	7.177515798	0.069543759	11.22892339	0.009864913	1.53923006	0.137077261	63.28169383	0.969285546	68.26640035	7.413705879	247.6284419	NA	63.28169383	0.969285546	25.55509914
HC-062407-08 261	420.8375792	1028.967457	1.424874821	12.26735682	11.09060853	0.090679934	16.55464368	0.009631345	1.678292072	0.101378931	61.79055326	1.032071726	88.13656296	13.97626237	878.0953454	343.0118667	61.79055326	1.032071726	7.036884273
HC-062407-08 262	1261.653522	2954.658424	1.85597453	14.90239206	7.964640348	0.086627772	8.250073147	0.009976077	0.758317589	0.091916469	63.99125932	0.482856439	84.35712358	6.678367519	708.4540573	174.9527717	63.99125932	0.482856439	9.032520693
HC-062407-08 264	1042.261854	2791.416102	1.768528843	16.60830312	4.814074012	0.078714529	8.058027876	0.009968343	1.433285123	0.17787046	63.94189436	0.911939431	76.93565669	5.970518597	502.9394323	174.7588388	63.94189436	0.911939431	12.71363712
HC-062407-08 265	208.4002894	2002.01074	2.018761758	15.06527922	6.683394484	0.260089615	8.952817733	0.030625581	1.553394476	0.173509003	194.4623904	2.975660739	234.7391395	18.76552308	660.9615488	189.3188156	194.4623904	2.975660739	29.42113512
HC-062407-08 266	135.2717578	1349.444342	1.055411895	13.51095873	6.189110035	0.543464029	10.58143235	0.059750109	1.354781618	0.128033859	374.1056216	4.924054154	440.7059548	37.84859292	806.23924	220.2103035	374.1056216	4.924054154	46.40131651
HC-062407-08 267	474.0122991	1325.805071	1.597790856	12.88148987	8.135490469	0.108169678	9.29068377	0.0112786	1.895839194	0.204058091	72.29956766	1.363025786	104.2897874	9.208504331	916.2594156	187.451318	72.29956766	1.363025786	7.890731209
HC-062407-08 268	243.1808679	572.8985829	1.780918549	10.23651483	13.93925923	0.101646672	19.23012051	0.009821363	2.423753278	0.126039422	63.00368555	1.519615883	98.29520746	18.01807272	1071.055389	386.6643394	63.00368555	1.519615883	5.882392846
HC-062407-08 269	123.4350876	814.8026883	1.363690918	9.951726209	13.72452166	0.37764938	18.38176263	0.031689776	1.617937401	0.088018621	201.1153419	3.203686427	325.3071016	51.20768141	1348.656942	356.3953737	201.1153419	3.203686427	14.91226832
HC-062407-08 270	543.4620288	1806.033936	0.950671054	12.46575849	5.27433922	0.101702721	6.01035462	0.009820871	1.673088622	0.278367705	63.0005469	1.048921111	98.34686632	5.633815431	1072.26418	116.0717476	63.0005469	1.048921111	5.875468755
HC-062407-08 271	340.9691838	1104.188494	1.357679773	11.87786825	10.96293952	0.122125334	17.39401492	0.011971774	2.310131885	0.132811884	76.71670458	1.761753275	116.9970113	19.22410069	1041.928331	350.3809015	76.71670458	1.761753275	7.362954084
HC-062407-08 272	1014.109521	2160.021678	1.631273887	16.08352282	6.165139582	0.083394526	6.829097667	0.010508013	1.210607873	0.17727201	67.38557867	0.811526217	81.33136199	5.337620046	513.9935377	147.8186371	67.38557867	0.811526217	13.11019959
HC-062407-08 273	585.5345516	3291.141856	2.964650207	14.56626709	5.995454224	0.092743815	6.368024803	0.010173863	1.271460586	0.199663259	65.25355651	0.825488223	90.05614558	5.487891122	810.9375455	130.6518188	65.25355651	0.825488223	8.046680891
HC-062407-08 274	365.2147415	1363.132819	1.136728875	12.0179471	9.519332847	0.163220321	14.25622847	0.015739265	1.382277832	0.096959573	100.6716372	1.380752295	153.518097	20.31443485	1075.0714	286.2962279	100.6716372	1.380752295	9.364181505
HC-062407-08 275	137.9234297	1099.057704	1.076157852	13.46709349	7.65139261	0.257300252	18.23816516	0.029547884	1.920867952	0.105321338	187.7180252	3.55382142	232.488973	37.91526097	714.3995116	388.2505593	187.7180252	3.55382142	26.27633728
HC-062407-08 276	1013.925236	2817.98985	1.705937611	15.8140068	5.238651497	0.08033261	8.207449987	0.009702339	0.939535077	0.114473445	62.24382455	0.581988329	78.45759835	6.196949236	606.3039854	176.6093065	62.24382455	0.581988329	10.26610843
HC-062407-08 278	2265.242047	7828.755819	2.246439193	18.80131633	2.010675224	0.071460565	2.289578356	0.009787116	0.682135681	0.297930699	62.78506168	0.426200443	70.08451244	1.550515156	327.8763397	49.58130626	62.78506168	0.426200443	19.14900652
HC-062407-08 279	189.1238681	14701.1829	2.084071523	10.92598999	1.194536281	3.158164253	1.451347837	0.242410367	0.752440223	0.518442377	1399.215712	9.464041672	1446.995676	11.19314385	1518.713988	23.40678397	1518.713988	23.40678397	92.13161419
HC-062407-08 280	539.9809974	1078.592154	1.528496885	15.48014342	8.358227143	0.072491834	23.60416565	0.009888414	1.946826669	0.082478097	63.431706	1.228849625	71.06133727	16.20132419	337.0080943	NA	63.431706	1.228849625	18.82201261
HC-062407-08 281	436.432814	732.3968293	1.791549505	13.7964556	11.05167187	0.057595375	22.58509848	0.007635547	2.383240913	0.105522715	49.03492961	1.164187183	56.85923427	12.4894084	401.2387033	NA	49.03492961	1.164187183	12.22088727
HC-062407-08 282	1304.746026	2657.47511	1.766704404	17.69993327	3.39319592	0.074583275	6.006948378	0.010174357	1.026982677	0.17096579	65.25670804	0.666794433	73.0394834	4.233384345	336.864151	134.2022966	65.25670804	0.666794433	19.37181735
HC-062407-08 283	1268.543593	2777.802935	1.486008384	17.88761872	2.817646357	0.069081036	7.585238481	0.009592119	1.104288437	0.145583878	61.54009179	0.676346644	67.82701409	4.976807534	296.5994078	171.4460607	61.54009179	0.676346644	20.74855518
HC-062407-08 284	1181.998707	3295.320552	1.382517828	17.14796264	5.869758493	0.072818033	6.304793824	0.009709953	0.967866557	0.153512801	62.29243587	0.600004033	71.37011935	4.345265615	388.1955598	140.0212026	62.29243587	0.600004033	16.04666367
HC-062407-08 285	678.1448382	2155.923435	1.914082014	18.11223373	10.2702611	0.065799306	12.49908378	0.009771968	1.563455233	0.125085587	62.68835782	0.9753543	64.70532576	7.835425623	140.9987721	NA	62.68835782	0.9753543	44.46021542
HC-062407-08 286	109.4075647	4578.498165	0.937992604	5.085465778	0.805653025	12.19897265	1.264401459	0.451699152	0.797558248	0.630779285	2402.802253	15.99757519	2619.829412	11.86636762	2792.80435	16.06070046	2792.80435	16.06070046	86.03546656
HC-062407-08 287	1271.067157	956.708924	1.419575823	16.0196687	4.699324224	0.063375456	8.1116539	0.009690704	1.238570327	0.152690233	62.16954427	0.766312414	62.39350272	4.908820727	72.03625352	NA	62.16954427	0.766312414	86.30313381
HC-062407-08 288	527.8623742	353.0891745	2.174727462	12.74069795	10.82684356	0.048185188	34.53684613	0.009620627	1.651229968	0.047810676	61.72211581	1.014310502	47.78420713	16.12221173	NA	NA	61.72211581	1.014310502	
HC-062407-08 289	181.4135071	166.9094147	1.80773671	8.900017378	18.01624613	0.027058166	323.4958413	0.009367278	4.174168722	0.012903315	60.1042829	2.497194694	27.1092719	86.74745719	NA	NA	60.1042829	2.497194694	
HC-062407-08 290	1626.153646	1428.506264	1.628700548	18.01419898	3.637123526	0.06055895	5.66126457	0.009717385	0.753953355	0.133177552	62.33988398	0.467748328	59.70054382	3.282376533	NA	NA	62.33988398	0.467748328	
HC-062407-08 292	510.5420258	312.6343333	1.626909937	13.2759143	13.4020592	0.033430519	36.41442138	0.009016336	1.587739041	0.04360193	57.86256947	0.914595797	33.38972333	11.96148911	NA	NA	57.86256947	0.914595797	
HC-062407-08 294	1605.104659	544.5638985	1.025793249	18.21973951	4.810072027	0.037104803	30.60108876	0.009940053	0.709394014	0.023181986	63.76132676	0.450089455	36.99343834	11.11710293	NA	NA	63.76132676	0.450089455	
HC-062407-08 295	622.7830828	767.5185079	2.127000887	14.57185472	9.139625784	0.06845473	12.99173563	0.010004785	1.413441844	0.108795459	64.17449732	0.902569181	67.23199164	8.451901958	178.4252475	NA	64.17449732	0.902569181	35.96716173
HC-062407-08 296	261.5261411	573.1304317	1.288476016	9.305725513	14.2859717	0.109073284	21.07679117	0.009511981	3.127812255	0.14840078	61.02837805	1.899846007	105.1173147	21.05012892	1273.981901	410.9859765	61.02837805	1.899846007	4.790364605
HC-062407-08 297	559.0042766	8840.131489	9.553506156	13.35163817	0.954202109	1.384613795	2.546238101	0.1364996	0.988061528	0.388047578	824.8381123	7.650053807	882.4056257	15.01312746	1030.534255	47.42688536	1030.534255	47.42688536	80.03985391
HC-062407-08 299	972.0972042	2217.428016	1.429876487	17.27530397	5.496006882	0.068384595	8.338757116	0.009620526	1.30151367	0.156080055	61.72147503	0.799480003	67.1653382	5.419584856	266.6759534	189.2539071	61.72147503	0.799480003	23.14474711
HC-062407-08 300	208.0668447	523.5556779	1.56280487	10.91325434	8.344257106	0.089429799	23.97438619	0.010015296	3.348322693	0.139662499	64.24158342	2.140333163	86.97206564	19.98556769	767.4958949	506.6963146	64.24158342	2.140333163	8.370283651
HC-062407-08 301	745.5798575	1748.001492	1.962819081	13.59111931	12.43486324	0.092676382	14.11479211	0.010171833	1.394465003	0.098794583	65.24060271	0.905169293	89.99348442	12.15633504	809.7937985	295.1925141	65.24060271	0.905169293	8.056446323
HC-062407-08 302	326.2000869	392.1605969	0.967733483	6.911092957	28.63038314	0.114433283	35.99482116	0.007500981	3.415025017	0.094875454	48.17398081	1.639021709	110.0127016	37.54620886	1810.814206	674.3666689	48.17398081	1.639021709	2.660349176
HC-062407-08 303	670.7094776	1928.152999	1.96088864	17.13563891	6.192901289	0.103752893	15.4533911	0.014774001	1.461546818	0.094577741	94.54265176	1.371701911	100.2346491	14.75069957	238.8233141	NA	94.54265176	1.371701911	39.58686031
HC-062407-08 304	1834.569676	930.9013176	1.716253925	17.96500225	3.120054544	0.063102376	10.07675948	0.011498415	0.958162254	0.095086348	73.70063473	0.702150242	62.13271385	6.073326168	NA	NA	73.70063473	0.702150242	
HC-062407-08 305	267.4815112	3069.050604	4.218359391	16.6555929	6.837202032	0.43510273	7.765981081	0.056852355	1.010534693	0.130123249	356.4545612	3.504318843	366.7933547	23.91196856	433.6218906	171.731101	356.4545612	3.504318843	82.20400512
HC-062407-08 306	253.768718	2854.005645	1.794634912	18.00203852	3.484475959	0.429341157	5.827554207	0.061528688	0.863062855	0.148100356	384.9155721	3.224828248	362.7086447	17.77572077	224.0238966	133.3279334	384.9155721	3.224828248	171.8189792
HC-062407-08 307	1022.872688	5444.83757	0.731199398	18.27430704	3.807879081	0.121938929	5.994061155	0.01690012	1.007776749	0.168129207	108.0348255	1.079677488	116.8283244	6.615008153	300.8748002	134.8388776	108.0348255	1.079677488	35.90690395
HC-062407-08 308	1215.035871	4326.103471	2.207668977	17.91535103	5.321066381	0.072552844	6.543706525	0.009968995	0.871878228	0.133239201	63.94606091	0.55477565	71.11909665	4.494612992	320.5315298	147.5241676	63.94606091	0.55477565	19.95000646
HC-062407-08 309	286.8318877	840.2002605	1.325988332	12.56485571	12.85029637	0.085033947	23.96907141	0.009825519	2.241237882	0.093505411	63.03021693	1.405773403	82.86670468	19.07573241	701.3144575	514.9140188	63.03021693	1.405773403	8.987440122
HC-062407-08 310	364.9861788	1029.715789	1.506535173	12.46017704	19.1592864	0.089947927	21.22228196	0.009779445	2.403053124	0.113232551	62.73609016	1.500269498	87.45486269	17.7849156	829.5733393	444.385231	62.73609016	1.500269498	7.562452551
HC-062407-08 311	408.8463281	1141.862907	1.261026664	12.05082464	13.77803463	0.091310273	14.93556803	0.009339879	1.764089091	0.118113291	59.92929273	1.052307143	88.72321655	12.68953367	955.5477157	304.8304168	59.92929273	1.052307143	6.271721625
HC-062407-08 312	421.2584764	3120.640412	4.197592465	17.26839505	4.146806105	0.212702835	7.331534969	0.028696883	1.016598031	0.138661008	182.3873623	1.828162481	195.8182628	13.05772885	361.8560119	163.9801003	182.3873623	1.828162481	50.40329753
HC-062407-08 313	820.8676037	2004.946606	1.865584544	16.84244381	5.011654205	0.082185151	8.201778002	0.011316704	1.158781585	0.141284193	72.54245821	0.835896596	80.17927404	6.324632945	315.6212077	184.9151618	72.54245821	0.835896596	22.9840253
HC-062407-08 314	1241.912977	3149.120098	2.232616697	16.65784717	4.195200141	0.079120075	7.712513128	0.010238191	1.085932576	0.140801391	65.66404768	0.709447887	77.31732106	5.741790923	455.2591047	169.6553269	65.66404768	0.709447887	14.42344524
HC-062407-08 315	228.638558	1401.675143	1.955986814	15.31295449	8.914666478	0.205547675	14.36582915	0.026844653	1.689459701	0.117602659	170.7697445	2.847207503	189.8095805	24.87572007	434.7059927	319.1595775	170.7697445	2.847207503	39.28396373
HC-062407-08 316	652.4358714	1250.68015	2.28748654	12.0695671	14.16650418	0.095919181	14.75221422	0.00962842	1.776001417	0.120388803	61.77187268	1.091829836	93.00243267	13.11107165	993.9109772	299.1985068	61.77187268	1.091829836	6.215030732
HC-062407-08 318	457.129026	829.4032777	3.120330986	10.31268742	10.60447719	0.085700983	16.79745781	0.007666802	4.819349505	0.286909457	49.23488601	2.363763158	83.49072994	13.4640121	1224.023153	318.1159606	49.23488601	2.363763158	4.02238192
HC-062407-08 320	1499.472453	2112.319557	2.507278776	18.26726892	5.245513172	0.066376028	5.847812169	0.009922997	1.098646786	0.187873132	63.65245489	0.695874436	65.25461725	3.695950339	125.4119559	NA	63.65245489	0.695874436	50.75469436
HC-062407-08 321	337.7613068	1110.951298	1.087996448	13.85860382	9.086320629	0.124372278	12.86667136	0.015032685	1.562180003	0.121412909	96.18574385	1.491440064	119.028182	14.45236449	604.6666819	277.3323459	96.18574385	1.491440064	15.90723397
HC-062407-08 322	872.6852553	2535.788725	1.95563128	15.37345562	6.910160135	0.083140167	8.414588664	0.010007393	1.381527618	0.16418243	64.19114132	0.882417656	81.09294271	6.5583573	613.6425501	179.5809789	64.19114132	0.882417656	10.46067312
HC-062407-08 323	463.6856007	1111.199082	1.396642271	14.22910092	11.36033857	0.077916882	16.04891846	0.009770991	1.44492404	0.090032487	62.68211855	0.901319884	76.1845617	11.77989599	524.4559751	352.547189	62.68211855	0.901319884	11.9518361
HC-062407-08 324	176.7166878	2806.710344	0.927038271	17.46419417	5.042366941	0.383028658	7.19686539	0.052947274	0.884137427	0.122850349	332.5908773	2.865992116	329.2641259	20.24095043	306.7883571	162.8704294	332.5908773	2.865992116	108.4105279
HC-062407-08 325	248.992301	470.9102147	1.339175388	10.59688653	10.64677594	0.081426914	38.51679713	0.009203483	3.906971034	0.101435512	59.05810859	2.296846078	79.48559268	29.45592629	748.0536077	839.4710857	59.05810859	2.296846078	7.89490325
HC-062407-08 326	484.6630616	1088.262827	1.034286421	11.33653768	14.13955546	0.103958648	15.58296501	0.009956579	1.698864782	0.109020638	63.86680892	1.079653656	100.423913	14.901123	1088.706286	312.205162	63.86680892	1.079653656	5.866302945
HC-062407-08 327	608.2036274	1061.599669	12.49432608	15.99770813	7.080992547	0.068747185	20.65739657	0.010172355	1.628343859	0.07882619	65.24393156	1.05703742	67.50988175	13.49307687	149.56898	NA	65.24393156	1.05703742	43.62129873
HC-062407-08 328	512.7311794	1642.123206	0.598807275	16.23118739	6.908245344	0.085037025	8.201484634	0.011600063	1.652407633	0.201476648	74.34841792	1.221481552	82.86958496	6.526673194	336.9606599	182.2441003	74.34841792	1.221481552	22.0644208
HC-062407-08 330	119.4674694	316.6417823	1.270201056	7.987583967	25.93411355	0.114027271	44.63003852	0.010147174	5.41007801	0.121220554	65.08323552	3.503339479	109.6427085	46.41650634	1234.420677	915.9442291	65.08323552	3.503339479	5.272370814
HC-062407-08 332	56.54908683	5723.393654	2.420625908	9.701522494	2.211708651	4.053382864	2.521018504	0.288437115	1.001275943	0.397171199	1633.714391	14.44975989	1644.97933	20.53527738	1660.19368	42.84143838	1660.19368	42.84143838	98.40504818
HC-062407-08 333	430.5985247	796.1991063	1.309865691	14.67359634	8.723906218	0.069112929	11.17566655	0.009985223	1.675832646	0.149953709	64.04963963	1.068050081	67.85730406	7.33578537	205.2783432	NA	64.04963963	1.068050081	31.20136232
HC-062407-08 334	482.1869414	976.2711304	2.182865528	11.63562366	10.67197249	0.098615719	12.69622679	0.009919128	1.904588319	0.150012153	63.62776309	1.205885966	95.49774035	11.57240757	989.7988375	256.2967495	63.62776309	1.205885966	6.428352982
HC-062407-08 335	63.89250166	8163.071257	0.239329972	5.395003065	0.907367121	13.12293255	1.266257931	0.511614696	0.839772579	0.663192355	2663.519193	18.32242573	2688.531145	11.94753037	2708.096072	15.63878579	2708.096072	15.63878579	98.35394023
HC-062407-08 336	590.450006	1560.877999	1.635102603	14.0078199	8.786434747	0.087400231	14.39967322	0.010088961	1.744734707	0.121164882	64.71172805	1.123399984	85.07867972	11.7523603	703.3876739	305.6495296	64.71172805	1.123399984	9.200008821
HC-062407-08 337	397.8786039	1180.940157	1.1206652	13.3577047	9.071287731	0.088794567	11.15830067	0.010168861	1.963213507	0.175941979	65.22163637	1.273984352	86.37983683	9.240179471	720.2505749	233.8028529	65.22163637	1.273984352	9.055409137
HC-062407-08 338	612.6424868	1853.927526	2.172067547	13.54195847	8.867336161	0.094692824	9.858798979	0.010274195	1.364437117	0.138397904	65.89379261	0.894499894	91.8655607	8.659428813	833.8711072	203.9142126	65.89379261	0.894499894	7.902155626
HC-062407-08 339	731.244567	1455.081016	4.738002499	14.79511376	6.078096988	0.080711549	17.00143656	0.010061563	1.003005577	0.058995343	64.53687423	0.644079042	78.81369305	12.89331993	537.4678732	373.7885227	64.53687423	0.644079042	12.00757802
HC-062407-08 340	690.9478868	3731.067551	2.266788889	12.85429686	12.4951446	0.105050309	13.4064045	0.010192416	2.459124811	0.183429107	65.37194762	1.599454218	101.4274889	12.94139308	1062.716982	266.2261835	65.37194762	1.599454218	6.151397662
HC-062407-08 341	365.7416791	1098.273373	1.177292601	11.62206831	19.15977544	0.101444526	20.15526847	0.009968943	2.030347477	0.100735323	63.94572718	1.291902318	98.10887308	18.85099936	1036.964393	408.9096295	63.94572718	1.291902318	6.166627089
HC-062407-08 342	37.61462985	3966.193398	0.430639762	6.476272352	2.157847077	9.174154709	3.04159483	0.435455521	0.928906761	0.305401216	2330.264209	18.16542405	2355.537039	27.85530533	2378.219511	49.36911842	2378.219511	49.36911842	97.98356284
HC-062407-08 344	720.2258806	1132.252097	1.779401671	13.95757986	9.16853101	0.080718326	17.58976252	0.009864558	1.618966401	0.092040265	63.27942757	1.019460867	78.82006075	13.34057369	580.7497373	383.107518	63.27942757	1.019460867	10.8961612
HC-062407-08 345	214.4497283	404.7979792	1.490908399	9.404162949	15.33311966	0.106547918	40.90390054	0.010818189	4.063478749	0.099342085	69.36400136	2.803481725	102.8026453	40.01235302	970.6538377	866.2614424	69.36400136	2.803481725	7.146111071
HC-062407-08 346	149.8204248	304.7024556	1.669097078	5.71713781	29.53958984	0.135549198	32.52728092	0.007419207	8.263080418	0.254035388	47.65073577	3.922902545	129.0718472	39.44455441	2132.197111	565.8887456	47.65073577	3.922902545	2.234818513
HC-062407-08 347	307.1399414	21753.33774	0.546974642	8.200395912	0.763631022	5.020349985	1.119529415	0.298041084	0.808278629	0.721980699	1681.587553	11.96375459	1822.760212	9.479606113	1988.883734	13.77764812	1988.883734	13.77764812	84.54931401
HC-062407-08 348	750.3860459	2084.314795	1.99676516	17.98906092	3.635967381	0.10291156	7.989084363	0.015278445	1.283938962	0.160711654	97.74636296	1.245536812	99.4603808	7.569347382	141.7819087	NA	97.74636296	1.245536812	68.94135073
HC-062407-08 349	48.60067907	566.7149172	0.982542045	10.45593104	15.72220631	0.539876641	19.5284831	0.055100456	2.905066748	0.148760492	345.7597517	9.779936552	438.3432096	69.62849608	960.1085422	398.1066432	345.7597517	9.779936552	36.01256905
HC-062407-08 352	893.605435	2648.193983	2.677595657	15.31722882	6.77755035	0.081127223	9.584705037	0.009747675	1.380248903	0.14400536	62.5332672	0.858941933	79.20416453	7.303078297	617.4982919	205.1830383	62.5332672	0.858941933	10.1268729
HC-062407-08 353	1123.153564	2417.918216	1.70312798	15.44533451	7.511245522	0.08020554	10.06726823	0.009837813	0.914365102	0.090825543	63.10870014	0.574228572	78.33816075	7.590101879	572.7948703	218.554537	63.10870014	0.574228572	11.017679
HC-062407-08 354	309.3637969	1030.194889	1.605596349	12.31605767	9.488286173	0.105444919	12.19589828	0.011298924	2.989947565	0.245160094	72.42912368	2.153472503	101.7900141	11.81277266	859.7819772	246.2225262	72.42912368	2.153472503	8.424126767
HC-062407-08 355	2294.133233	6259.173698	2.008046095	18.96745724	3.346479862	0.07077944	5.417857153	0.010121238	0.818580847	0.151089411	64.91772049	0.528737271	69.43882993	3.636356173	229.0710675	123.7891232	64.91772049	0.528737271	28.33955471
HC-062407-08 356	3849.218558	10506.20313	0.76549978	19.90368285	0.951802172	0.102574614	2.934736922	0.015127913	0.759937844	0.258945815	96.79050381	0.730053217	99.15012752	2.772247931	157.2873204	66.36194147	96.79050381	0.730053217	61.53738492
HC-062407-08 358	875.0165791	2463.085783	1.986537084	15.53289272	5.366594017	0.091546165	6.207830695	0.011278016	1.122077621	0.180751969	72.29584673	0.806683631	88.94267228	5.286542707	563.2797406	133.1215056	72.29584673	0.806683631	12.8348033
HC-062407-08 359	240.4399738	594.7740947	1.441862924	9.178794818	23.1647415	0.14436194	25.50501114	0.01221642	3.800654394	0.149015986	78.27494947	2.956971815	136.9215861	32.68094925	1332.368333	495.7985135	78.27494947	2.956971815	5.874873153
HC-062408-08 357	160.9338609	1030.571682	1.355237807	12.78203277	10.39069216	0.267950304	13.88451882	0.030117486	2.219291439	0.159839276	191.283542	4.182775515	241.0536256	29.80145342	759.8131243	290.3026725	191.283542	4.182775515	25.17507739
HC-062407-08 360	85.20112773	540.5342239	1.603065029	7.986459981	23.76593284	0.404588718	27.21038406	0.029740739	5.075993809	0.186546202	186.1077307	9.311761606	344.9708404	79.74819794	1628.223789	506.3667258	186.1077307	9.311761606	11.43010758
HC-062407-08 361	635.2226499	1703.645856	1.621954056	15.94267451	5.822541166	0.075063333	7.531548394	0.010011075	1.353951391	0.179770655	64.21464234	0.865119041	73.49299281	5.339640003	387.8095376	166.5555763	64.21464234	0.865119041	16.55829373
HC-062407-08 362	786.0396078	1609.214605	1.230960697	15.86163351	5.36661752	0.074651485	16.65726236	0.010026899	2.008783739	0.120595071	64.31563527	1.285538492	73.10393394	11.74961755	371.8873539	374.5896336	64.31563527	1.285538492	17.29438622
HC-062407-08 363	493.8103421	1437.873388	1.213624985	11.4108577	11.01574389	0.113544326	11.68576901	0.010553421	1.647129722	0.140951761	67.67524337	1.108868357	109.2024316	12.09945171	1148.526011	230.5325157	67.67524337	1.108868357	5.892356177
HC-062407-08 364	331.8952122	904.9386419	1.307398176	10.43595302	17.10410258	0.128097138	20.52242492	0.011546491	2.965625204	0.144506569	74.00702318	2.182220731	122.3864189	23.66628823	1209.179657	403.875806	74.00702318	2.182220731	6.120432373
HC-062407-08 365	793.8702858	1555.770697	1.869084798	15.13844669	6.770483909	0.076220329	14.99822152	0.00971976	2.603589404	0.173593209	62.35505015	1.615642998	74.58517263	10.78588127	487.6345283	327.5642544	62.35505015	1.615642998	12.78725081
HC-062407-08 366	855.9842412	2181.664914	1.037087227	16.27601843	6.294883979	0.07378231	8.693617627	0.00974271	1.527822136	0.175740664	62.50157073	0.950298559	72.28236208	6.065569905	410.1298402	191.7122015	62.50157073	0.950298559	15.23945946
HC-062407-08 367	1050.828093	3342.718189	1.666450717	17.51564332	6.599346472	0.071884686	10.17674879	0.009857768	1.147486546	0.112755711	63.2360811	0.722078124	70.48635608	6.930012562	324.9578636	230.0850755	63.2360811	0.722078124	19.4597787
HC-062407-08 368	521.3165252	1302.877147	1.660789358	17.01327862	5.170225464	0.063907634	10.17634266	0.009706787	1.723303251	0.169344067	62.2722266	1.067972713	62.90153518	6.206915831	87.97005622	NA	62.2722266	1.067972713	70.78798091
HC-062407-08 369	458.4262874	1263.204983	2.188937079	15.27677927	5.897515334	0.110297197	8.419814189	0.014731919	1.581240148	0.187799886	94.27531779	1.479871664	106.2372181	8.493130117	384.4897998	186.0783068	94.27531779	1.479871664	24.51958877
HC-062407-08 370	318.6880504	828.3278171	1.382010751	9.051925085	22.94382431	0.126917222	25.40790845	0.009746843	2.094145825	0.082421024	62.527953	1.303096529	121.323839	29.06336857	1517.731537	485.586455	62.527953	1.303096529	4.119829592
HC-062407-08 371	267.172173	1875.96919	2.082947021	14.99381958	8.00284516	0.253810874	8.512139352	0.030978924	2.078044488	0.24412717	196.6721212	4.025220249	229.6670689	17.4980566	583.4935788	179.491235	196.6721212	4.025220249	33.70596154
HC-062407-08 373	464.859304	1497.757422	1.567578705	11.42822512	11.70964737	0.138005332	15.08365186	0.012668705	1.35447524	0.089797567	81.15473698	1.092330657	131.2656966	18.57532516	1173.175517	298.9507444	81.15473698	1.092330657	6.917527327
HC-062407-08 374	304.4216226	1147.200287	0.924835381	9.991162481	22.93610132	0.119746889	26.31262216	0.009770111	2.752238404	0.104597649	62.67650241	1.716648067	114.8425323	28.57939823	1402.652743	510.1795695	62.67650241	1.716648067	4.468426184
HC-062407-08 375	853.408847	2412.223059	1.807990301	16.68572756	6.685954242	0.078623323	7.470842187	0.010466035	1.261898476	0.168909802	67.11778012	0.842564397	76.84980159	5.529493539	392.0594063	165.4224142	67.11778012	0.842564397	17.11928831
HC-062407-08 376	1962.760955	4018.604935	2.605743038	19.0666166	4.504659008	0.070511297	5.240819943	0.010363734	0.938854589	0.179142691	66.46509855	0.620804758	69.18452733	3.505083123	165.2405061	120.5695823	66.46509855	0.620804758	40.22324799
HC-062407-08 377	324.1458532	4254.163357	2.318965872	17.1474695	4.465653851	0.418783233	6.358852857	0.054701855	0.83367168	0.1311041	343.3239351	2.78731228	355.1806121	19.06044042	434.3596675	140.5216962	343.3239351	2.78731228	79.04139375
HC-062407-08 378	271.0578563	517.9245082	2.470294554	12.3100373	15.24347835	0.066281639	40.27529878	0.008773979	3.589483192	0.089123689	56.31401259	2.012578631	65.16473864	25.4261587	404.5867751	NA	56.31401259	2.012578631	13.91889603
HC-062407-08 379	967.5582494	3314.059849	1.642533072	16.2633987	6.028229768	0.081397437	8.269153819	0.00987068	1.179782252	0.14267267	63.31850252	0.743363717	79.45791549	6.320071405	597.5769222	177.5437044	63.31850252	0.743363717	10.5958748
HC-062407-08 380	524.003101	1011.908526	1.710694283	13.34876427	11.4111161	0.086752684	20.15744403	0.009916333	2.033314043	0.10087162	63.60991673	1.287029072	84.47383915	16.34011312	724.2468335	429.3901434	63.60991673	1.287029072	8.782905743
HC-062407-08 381	550.6003255	12339.51515	8.582858998	16.75681293	1.933258878	0.771008168	2.462215867	0.091234151	0.762924274	0.309852716	562.8319383	4.111868185	580.3411389	10.88456521	650.3929327	50.26771599	562.8319383	4.111868185	86.5372162
HC-062407-08 382	169.2469611	12338.76718	1.008813799	8.673618642	1.001528285	5.501209996	1.288120877	0.33346838	0.788598399	0.612208383	1855.170686	12.71295758	1900.785209	11.06796453	1951.720605	18.19552081	1951.720605	18.19552081	95.05308707
HC-062407-08 383	561.7053215	1642.71785	1.45981869	15.81120259	9.172936183	0.098428035	15.11929347	0.012688824	1.485910109	0.098279071	81.28281009	1.200206903	95.32426108	13.7573627	463.6117672	335.1300569	81.28281009	1.200206903	17.53251661
HC-062407-08 384	470.5312085	122.7496649	1.145409376	12.82930915	7.340704103	-0.070646371	100.4761468	0.008365891	2.375501977	0.023642447	53.70566095	1.270479466	NA	-77.70489895	NA	NA	53.70566095	1.270479466	
HC-062407-08 385	1182.657931	470.6128929	2.836978149	16.5680785	3.676007214	0.05864896	45.64618403	0.014381174	0.857415824	0.018783954	92.04670823	0.783615211	57.87026407	25.68238372	NA	NA	92.04670823	0.783615211	
HC-062407-08 386	157.6986911	1452.701033	1.044321842	8.264477842	0.824256457	5.671173668	3.444293466	0.351384676	0.782735089	0.227255632	1941.207109	13.12010879	1926.989701	29.73890095	1912.496922	60.21505664	1912.496922	60.21505664	101.5011887
HC-062407-08 388	293.9068794	88.59385817	1.978916897	11.90609378	10.79955096	-0.157102837	77.62952911	0.009331678	2.698894761	0.034766342	60.06852066	1.613656386	NA	-147.9533486	NA	NA	60.06852066	1.613656386	
HC-062407-08 389	81.12659011	64.71463164	1.153004288	11.50972518	15.51635024	-0.663609199	68.09744298	0.021264419	3.867329781	0.056791116	135.642135	5.1909259	NA	NA	NA	NA	135.642135	5.1909259	
HC-062407-08 390	234.5244856	60.57434242	1.523902138	8.376333064	10.84931245	-0.199810672	77.75549256	0.006888021	4.866681877	0.062589558	44.25081325	2.146171862	NA	-199.6804142	NA	NA	44.25081325	2.146171862	
HC-062407-08 391	439.2568912	120.3544172	1.020594034	15.92073174	8.915436275	-0.097355362	77.61842674	0.00847279	2.510170192	0.032339875	54.38902434	1.359513857	NA	-85.20311498	NA	NA	54.38902434	1.359513857	
HC-062407-08 392	118.0791885	732.0208045	1.071365359	10.29702402	12.99841177	0.311370008	15.40168501	0.027741347	2.249532277	0.146057543	176.3966313	3.914300866	275.2423194	37.14868028	1232.096771	300.6896615	176.3966313	3.914300866	14.31678383
HC-062407-08 393	44.39233849	1123.8963	1.960745986	11.54909741	9.890116187	0.733067789	12.71999854	0.068683385	3.498029496	0.27500235	428.2185968	14.49255776	558.3521616	54.68461551	1132.609848	244.3569886	428.2185968	14.49255776	37.8081294
HC-062407-08 394	756.9492522	2094.139006	2.818265951	15.4913912	8.179571576	0.093013494	13.37848837	0.011072265	1.294021943	0.096724077	70.98414817	0.9135117	90.30670163	11.56048772	637.6064017	287.6577416	70.98414817	0.9135117	11.13291021
HC-062407-08 395	737.4952381	1911.106642	4.421301892	13.6707211	7.347479415	0.096681808	9.364442904	0.010308524	1.040431441	0.111104467	66.11283798	0.684343528	93.70877096	8.38273716	870.0950328	193.2496225	66.11283798	0.684343528	7.598346789
HC-062407-08 396	269.3696935	768.8475247	1.135363194	9.151676534	13.2809642	0.137083789	19.09744766	0.010522242	2.981502271	0.156120458	67.47634644	2.001316435	130.443118	23.38167524	1518.689232	358.9806506	67.47634644	2.001316435	4.443064784
HC-062407-08 397	925.268713	1993.348617	2.350033597	15.93873803	4.931946934	0.086995339	9.067397265	0.01098202	0.866734674	0.095588034	70.40873565	0.606936367	84.70053351	7.368659396	509.91198	198.7965344	70.40873565	0.606936367	13.80801754
HC-062407-08 398	924.0630677	2868.824173	2.684058205	16.04923178	4.312874652	0.085824103	7.873378374	0.010490064	1.374191533	0.174536453	67.27107255	0.919626696	83.6058691	6.318972033	580.4488345	168.6296071	67.27107255	0.919626696	11.58949223
HC-062407-08 399	408.8331727	777.0553515	0.957897069	10.55644324	12.08944691	0.098397863	21.78870631	0.009317418	5.230400559	0.240057933	59.78583897	3.112583307	95.29636996	19.8212001	1111.463112	427.0564275	59.78583897	3.112583307	5.37902143
HC-062407-08 400	552.539792	1527.777051	1.433804651	12.82386666	10.44967315	0.104118962	11.1382227	0.010977947	2.222683959	0.199554634	70.3827678	1.555877431	100.5713535	10.66536543	893.2831095	225.9523571	70.3827678	1.555877431	7.879111006
HC-062407-08 401	408.7292007	1196.933556	1.19307088	12.27095007	9.200054682	0.098092019	18.58468803	0.010204497	1.63697056	0.088081681	65.44904111	1.065961152	95.01360173	16.85854264	920.9541344	383.6802107	65.44904111	1.065961152	7.106655876
HC-062407-08 402	37.44041552	68.91895774	0.280016948	6.65636473	29.26872703	-0.485517104	197.779867	0.033959132	6.978642285	0.035284897	215.2796189	14.77553137	NA	NA	NA		215.2796189	14.77553137	
HC-062407-08 404	668.6326158	2131.240186	2.276298724	14.21725411	5.044891208	0.092644153	9.63342401	0.010569865	1.418891773	0.147288417	67.78014358	0.956688574	89.96353484	8.293913759	728.2738966	202.3928539	67.78014358	0.956688574	9.306957712
HC-062407-08 405	435.2265313	6440.212527	0.999977884	17.8804966	2.970547925	0.431756729	3.996209003	0.058339657	0.925911017	0.231697345	365.5201874	3.290230307	364.4231836	12.23683239	358.4084559	87.77216594	365.5201874	3.290230307	101.9842533
HC-062407-08 406	503.6947123	1183.72861	1.851573138	14.20553278	5.161539905	0.082776583	8.979230784	0.010331978	1.878992769	0.209259881	66.26248599	1.238690201	80.75204552	6.970188217	534.7208092	192.563514	66.26248599	1.238690201	12.39197818
HC-062407-08 407	232.7088722	838.5503158	0.899814277	15.64878466	3.639838637	0.404974427	25.56334097	0.063286185	1.083822375	0.042397524	395.5796101	4.158484848	345.2496334	74.95395415	20.03969404	NA	395.5796101	4.158484848	1973.980288
HC-062407-08 408	966.4999528	1991.86528	2.231978212	13.92929391	9.612113568	0.087293372	10.76528596	0.009775772	1.272721724	0.118224609	62.71263767	0.79428757	84.97889304	8.77608504	767.5529783	225.7393079	62.71263767	0.79428757	8.170463725
HC-062407-08 409	392.6384869	1223.179875	1.099783496	13.06086841	8.240185759	0.110496973	14.00046979	0.012332129	2.25022525	0.160724982	79.01181756	1.767092423	106.4199004	14.14599887	774.7359006	291.9943515	79.01181756	1.767092423	10.19854863
HC-062407-08 410	658.96944	1750.764164	0.925276213	14.05340548	4.89334596	0.072853498	6.428555944	0.008372941	1.823692896	0.283686245	53.75073493	0.976172981	71.40368478	4.432574891	712.7436743	131.124297	53.75073493	0.976172981	7.541383652
HC-062407-08 411	596.4252289	1066.846981	0.977327476	15.88526503	4.17280404	0.0604909	20.31366315	0.008897227	1.111640294	0.054723773	57.1015613	0.631960917	59.63539008	11.76577917	163.5877682	NA	57.1015613	0.631960917	34.90576461

HC-062407-08 412	673.3613144	1222.135158	1.877112396	13.92171313	7.607162659	0.07995702	20.45818545	0.009657702	1.452185928	0.070983125	61.95883728	0.895447393	78.10452766	15.38085101	606.1399929	445.5917686	61.95883728	0.895447393	10.2218692
HC-062407-08 413	222.6378047	755.5926241	1.225328601	6.111970696	39.77346384	0.193937224	41.39332362	0.009566613	4.020261079	0.097123418	61.37722994	2.45581537	179.983183	68.37473218	2312.381927	742.9544385	61.37722994	2.45581537	2.654286007
HC-062407-08 414	1237.088112	2659.314545	1.274739837	18.23415979	5.12738843	0.068797516	7.110331604	0.010085275	1.119534778	0.157451838	64.6882057	0.720585466	67.55769922	4.647293735	171.3846381	164.0810961	64.6882057	0.720585466	37.74445971
HC-062407-08 415	569.0396894	1233.105504	1.320945805	13.29335404	12.32160854	0.083453961	13.89430095	0.00949963	1.222357296	0.087975444	60.94950858	0.741509834	81.38706406	10.86725071	733.1123768	294.4461904	60.94950858	0.741509834	8.31380161
HC-062407-08 416	524.5503956	9632.144798	4.015223993	17.74403355	2.336554731	0.4188173	3.595861584	0.055193739	0.976099749	0.271450868	346.3296606	3.291319568	355.2049929	10.77822698	414.5679854	77.38242342	346.3296606	3.291319568	83.53989523
HC-062407-08 417	604.539381	5819.710784	1.798812244	18.27310804	3.522389853	0.295630904	5.132537868	0.040925215	1.013162667	0.19739994	258.5653348	2.567845257	262.9819372	11.89187845	303.5083142	114.7206354	258.5653348	2.567845257	85.19217522
HC-062407-08 418	125.4570638	1188.748195	2.246184138	12.55197639	15.07912937	0.309099107	16.919909	0.032980003	2.099674223	0.124094889	209.1721645	4.32144477	273.4824551	40.58675867	868.6905276	350.2817986	209.1721645	4.32144477	24.07901984
HC-062407-08 419	450.3246328	2037.761329	4.721501558	15.31674814	7.62178045	0.129320389	10.68468765	0.015999814	1.664547681	0.155788146	102.325002	1.689801755	123.4868515	12.42405159	553.9880533	230.8447338	102.325002	1.689801755	18.47061528
HC-062407-08 421	985.4177353	2428.63055	0.842396788	14.53778293	8.551541345	0.083879492	11.77272685	0.009604465	1.122072832	0.095311209	61.61892417	0.688115249	81.78578193	9.251108806	720.5860122	249.5082201	61.61892417	0.688115249	8.551224022
HC-062407-08 423	252.7154162	630.4721861	1.361362606	10.13256872	8.92398837	0.101024311	22.41671005	0.009533797	5.415170515	0.241568477	61.16768532	3.296669564	97.72141783	20.88776773	1118.25555	439.0354064	61.16768532	3.296669564	5.469920118
HC-062407-08 424	325.6601881	2338.21602	1.422203526	16.23520765	7.273530534	0.228773023	9.947990956	0.029642343	1.484145819	0.149190507	188.3094417	2.754361499	209.1852861	18.80823756	452.3060543	218.8928638	188.3094417	2.754361499	41.6331906
HC-062407-08 425	2276.779522	6662.838512	2.55622612	17.94734501	3.638651707	0.07548684	4.922276553	0.010115632	0.719072737	0.1460854	64.88194581	0.46420838	73.89291138	3.508034015	377.1038405	109.6161428	64.88194581	0.46420838	17.20532618
HC-062407-08 426	1289.92346	3416.160947	0.878721372	17.76354375	5.391973747	0.071375735	6.188971015	0.009844708	0.955965471	0.154462748	63.15271455	0.600770598	70.00411834	4.186582039	311.8396198	139.2738134	63.15271455	0.600770598	20.25166481
HC-062407-08 427	1137.160429	2911.172349	1.36098748	17.97976386	5.078131681	0.069207289	6.743022696	0.009815897	1.141704127	0.16931637	62.96879302	0.715417512	67.94691847	4.431770042	247.9545833	153.1144432	62.96879302	0.715417512	25.39529303
HC-062407-08 428	3522.075655	8256.840295	2.493369618	18.9654784	2.339726589	0.072428191	2.660128269	0.010211701	0.761253993	0.286171912	65.49501466	0.496059189	71.00108143	1.824199676	261.6375825	58.54016176	65.49501466	0.496059189	25.03272429
HC-062407-08 429	220.3991045	506.4018479	1.698481839	11.62449366	18.75774336	0.08985911	43.40015563	0.01126116	2.380341156	0.054846374	72.18839494	1.708744804	87.37211823	36.34949809	525.8993486NA		72.18839494	1.708744804	13.72665609
HC-062407-08 430	664.2352969	1215.297919	1.048018223	15.60929686	9.430729416	0.0717614	14.95197583	0.009900609	1.116424649	0.074667366	63.509549	0.70555502	70.36956216	10.16566511	311.2363578NA		63.509549	0.70555502	20.40556876
HC-062407-08 431	730.8294591	1467.83605	2.069808005	15.92421379	7.613660325	0.070595269	10.71837492	0.00958814	1.643460874	0.153331161	61.51468595	1.006161538	69.26417222	7.176560731	346.8178184	240.1372215	61.51468595	1.006161538	17.73688741
HC-062407-08 433	232.575484	1939.905691	1.441239582	14.18807207	9.99356212	0.245560433	14.15603353	0.027894453	1.654789651	0.116896421	177.3569051	2.894878647	222.9634722	28.3450921	737.5007248	298.9447287	177.3569051	2.894878647	24.04837027
HC-062407-08 434	705.1448391	1224.599148	0.87953903	15.60131297	4.666615655	0.071031045	8.870285615	0.009739905	1.03915128	0.117149698	62.48365966	0.646163135	69.67739044	5.973359722	325.1694295	200.3652933	62.48365966	0.646163135	19.21572386
HC-062407-08 435	641.5183129	2200.342861	2.331318602	14.37861648	8.017484822	0.103916971	8.779079941	0.011791831	1.331907709	0.151713815	75.57033991	1.000650495	100.3855791	8.391485936	739.7256711	183.9123689	75.57033991	1.000650495	10.21599532
HC-062407-08 436	199.1771941	367.3118153	1.428368675	8.241661535	14.70135079	0.104355287	29.63458756	0.008991084	4.654633406	0.157067595	57.70124132	2.673797104	100.7886624	28.44120545	1297.5094	581.5211209	57.70124132	2.673797104	4.447076941
HC-062407-08 437	250.1275909	567.597866	2.00197087	11.0251509	11.89179255	0.086191491	36.72410736	0.009435661	4.891891159	0.133206537	60.5410057	2.947736923	83.94936617	29.59798463	815.2373357	786.0464347	60.5410057	2.947736923	7.426181683
HC-062407-08 438	932.5240973	2374.769868	2.605102324	16.7795792	5.431740883	0.082052694	12.37120234	0.010997042	1.394723059	0.112739491	70.50452159	0.977984962	80.07298598	9.525746022	376.7852409	277.4729598	70.50452159	0.977984962	18.71212403
HC-062407-08 439	289.598892	1719.403295	0.837732036	15.57395198	5.94457403	0.218028751	7.339762142	0.028016945	1.239859425	0.168923652	178.1250651	2.178267338	200.2678321	13.34114533	470.7284074	160.3192252	178.1250651	2.178267338	37.84030501
HC-062407-08 440	868.4733216	2623.248577	1.837103261	15.80602106	6.519300313	0.079681006	9.794889122	0.009886291	1.129379548	0.115302944	63.41815827	0.712720186	77.84498427	7.340004857	547.7794417	212.9658561	63.41815827	0.712720186	11.57731624
HC-062407-08 441	301.7240666	2695.35111	0.888995991	16.83304198	3.998876544	0.400974875	5.700599101	0.053180753	1.056078949	0.185257537	334.0201342	3.43768594	342.3550119	16.5682167	400.2858249	125.5957878	334.0201342	3.43768594	83.44540661
HC-062407-08 442	292.7191096	610.8994886	3.787381227	12.37383864	9.912374398	0.085373064	25.40251541	0.010736934	4.341266239	0.170899069	68.84578811	2.972876195	83.18400372	20.29113179	518.1286949	557.4283913	68.84578811	2.972876195	13.28739149
HC-062407-08 443	637.1853469	2615.055069	2.033064614	16.02320123	5.199763523	0.121521546	7.647588255	0.015310749	1.330217453	0.173939471	97.95147113	1.293118415	116.4505114	8.414145393	514.1851689	165.6689938	97.95147113	1.293118415	19.04984372
HC-062407-08 444	196.8526826	1151.411126	1.674973961	15.34390688	7.459928292	0.20550367	23.97520286	0.028072583	1.382308254	0.057655748	178.4739471	2.433221986	189.7725167	41.52266701	333.7629153NA		178.4739471	2.433221986	53.47327068
HC-062407-08 445	85.87330927	358.4255702	2.265131564	7.315111127	22.99554723	0.280752397	27.87765457	0.020539772	7.747572854	0.277913367	131.0664007	10.05194045	251.2542165	62.12779428	1608.699581	508.5709831	131.0664007	10.05194045	8.147350956
HC-062407-08 446	282.0190539	1350.985428	2.277097146	9.244282867	12.50482313	0.130688538	15.97564196	0.009582899	3.576535805	0.223874309	61.48121998	2.18844544	124.7162233	18.75133122	1604.461154	292.1638253	61.48121998	2.18844544	3.831892085
HC-062407-08 447	242.7862886	666.0617227	3.05015651	9.445420725	14.74254035	0.14107968	21.07563573	0.011955276	3.308329217	0.156974113	76.61161305	2.519563134	134.0050787	26.46411712	1329.678266	407.2096696	76.61161305	2.519563134	5.761665437
HC-062407-08 448	384.8699061	5917.855002	1.41839117	17.41990192	2.368244702	0.424137477	4.305186527	0.055442	1.028042495	0.238791627	347.8461684	3.481238946	359.0052815	13.01968321	432.7213533	93.17307164	347.8461684	3.481238946	80.38571838
HC-062407-08 449	509.2709813	1531.63049	2.543522452	13.4437331	9.69344205	0.086775077	13.68766602	0.009633116	2.091654284	0.152813071	61.80185905	1.286504528	84.49476138	11.09767341	785.9456665	285.2685345	61.80185905	1.286504528	7.863375508
HC-062407-08 450	346.5230355	23190.6868	2.290548106	8.115440218	0.781181738	5.599516731	1.126294281	0.329803803	0.778715872	0.691396454	1837.430552	12.44989992	1916.02419	9.703611999	2002.946189	14.44972303	2002.946189	14.44972303	91.73639125
HC-062407-08 451	146.946712	13740.76776	1.655435395	6.036925025	0.968084536	9.844468334	1.282563036	0.431686561	0.826928871	0.644747157	2313.316117	16.07340326	2420.323013	11.82257987	2512.290419	16.48242143	2512.290419	16.48242143	92.07996415
HC-062407-08 452	79.20186328	992.2352747	2.360623411	12.96976891	13.07315897	0.481220915	18.55637266	0.055610771	2.18050824	0.117507246	348.8769015	7.405105199	398.9101792	61.28788326	701.0222685	395.4649566	348.8769015	7.405105199	49.76687863
HC-062407-08 453	559.0186365	1234.964071	1.543070351	12.47057929	11.50593691	0.093868358	12.28863276	0.009908242	2.428096757	0.197588845	63.55827167	1.535673454	91.10053877	10.70788591	890.9720969	249.6668078	63.55827167	1.535673454	7.133587224
HC-062407-08 454	417.9096829	1368.384914	3.426021699	11.7665118	16.40000771	0.111973391	17.61520611	0.010865765	1.993178204	0.113151001	69.66741079	1.38111924	107.7689666	18.01289972	1062.413083	354.6984499	69.66741079	1.38111924	6.557469207
HC-062407-08 455	85.71335628	158.6553623	1.621037112	4.076249433	35.15199788	0.192653469	44.11817411	0.008386826	9.436024535	0.213880668	53.83949545	5.059152987	178.8908265	72.48478442	2524.500359	765.1533166	53.83949545	5.059152987	2.132679255
HC-062407-08 456	372.8044594	1255.88975	1.920641008	11.14799226	9.732859589	0.153026864	13.19507119	0.014122047	1.755854153	0.133068941	90.39974422	1.576210062	144.5809413	17.78337972	1162.678871	260.2731593	90.39974422	1.576210062	7.775125743
HC-062407-08 457	344.8639947	892.5657195	1.60007361	11.43034571	7.567644644	0.112239062	17.57268154	0.01139125	2.42569249	0.138037697	73.01762125	1.761189796	108.0115312	18.00774631	971.5104831	357.5612296	73.01762125	1.761189796	7.515886089
HC-062407-08 458	389.4826404	813.3165636	1.979022573	10.4091017	14.54469053	0.109990123	19.40494048	0.010140792	2.443106371	0.125901256	65.04251035	1.581068067	105.9563557	19.52676645	1164.557834	384.9425585	65.04251035	1.581068067	5.585167903
HC-062407-08 459	360.7916693	769.7659232	15.92923909	14.37426489	8.546398484	0.074117102	29.94595211	0.010648245	1.933123943	0.064553765	68.28010688	1.312973362	72.59889714	20.984405	218.246084NA		68.28010688	1.312973362	31.28583369
HC-062407-08 460	928.5031957	2434.873611	2.113967862	14.93987276	9.402070516	0.087157579	10.18008193	0.010362392	1.152197633	0.113181568	66.45653904	0.761777319	84.85207305	8.287117285	640.2593386	218.0537575	66.45653904	0.761777319	10.37962823
HC-062407-08 461	427.0819031	1091.320933	3.088093264	14.61641449	6.73715809	0.095590229	12.18516327	0.012595486	2.130898549	0.174876487	80.68862536	1.708676876	92.6976088	10.7955054	414.8960125	268.9896222	80.68862536	1.708676876	19.44791536
HC-062407-08 462	525.9553677	2172.930627	1.873996678	14.71137938	7.260506112	0.140056177	9.55387396	0.016566697	0.928450239	0.097180499	105.9208171	0.975386867	133.0939116	11.91805475	651.208751	204.5413421	105.9208171	0.975386867	16.26526316
HC-062407-08 463	185.6540416	1664.033502	1.187831736	14.78719811	7.168938153	0.268178593	8.56833939	0.033010653	2.018012066	0.235519623	209.3634314	4.157108247	241.236424	18.39999882	565.0983549	181.6393225	209.3634314	4.157108247	37.04902512
HC-062407-08 464	571.8276938	1129.132136	1.768482159	15.14111953	7.053369203	0.070686135	13.66061123	0.009657636	1.710441211	0.125209713	61.95841487	1.054685702	69.35034817	9.157646464	333.3584828	308.5081132	61.95841487	1.054685702	18.58612217
HC-062407-08 466	69.15820308	4708.028733	0.808926588	8.742306251	1.707181157	4.868783458	2.248608918	0.316512836	0.90448009	0.402239839	1772.676549	14.01793785	1796.869945	18.94377812	1825.837608	37.33983134	1825.837608	37.33983134	97.08840158
HC-062407-08 468	885.4438572	1263.451081	1.276107788	17.78135816	4.851018879	0.057442448	23.07473135	0.009357051	0.995076726	0.043124087	60.0389687	0.594660309	56.71240057	12.72815661NA	NA		60.0389687	0.594660309	
HC-062407-08 469	1118.751245	1916.99428	0.922741934	16.97433372	5.526535375	0.065252635	14.61686551	0.009230317	1.103120744	0.075469036	59.22950924	0.650380589	64.18438071	9.091618561	254.0720611NA		59.22950924	0.650380589	23.31209066
HC-062407-08 470	605.5471678	1211.431857	2.229515793	12.25858982	11.27590447	0.095306613	13.00405824	0.00990802	1.326013091	0.101969175	63.55685454	0.838631282	92.43472195	11.48985846	922.3446654	266.9244876	63.55685454	0.838631282	6.890792231
HC-062407-08 471	350.8039497	764.9682869	1.869745352	9.611297757	16.44466545	0.116839842	19.61893359	0.00988613	3.420864483	0.174365465	63.41713016	2.158778174	112.2030026	20.84329444	1332.617115	377.196324	63.41713016	2.158778174	4.75884104
HC-062407-08 472	68.66539224	842.8488726	0.879870832	9.48869191	20.89760844	0.398259488	26.99921359	0.032510207	5.342892058	0.197890655	206.2396868	10.84477123	340.3850742	78.23798889	1401.689598	516.2456596	206.2396868	10.84477123	14.71364895
HC-062407-08 473	886.4286229	10894.18707	0.529154605	18.1708205	1.958785687	0.400397168	2.933377577	0.054033462	0.704859161	0.240289271	339.2373701	2.329318988	341.9362218	8.516238892	361.2818175	64.24186829	339.2373701	2.329318988	93.89826823
HC-062407-08 474	283.0295334	819.5778002	1.246060776	10.64146696	10.40807436	0.150639355	12.12310526	0.014242519	1.802488516	0.148682081	91.16549304	1.631682716	142.4762644	16.11682466	1114.503476	240.1311604	91.16549304	1.631682716	8.179920025
HC-062407-08 475	392.5843675	3377.106119	2.28048747	18.33304174	3.497352534	0.215697005	7.348405496	0.03113062	1.138269987	0.154900269	197.6205589	2.215325716	198.3221599	13.23934206	207.6779362	168.5310154	197.6205589	2.215325716	95.15722396
HC-062407-08 476	865.9046105	2747.578893	1.969064109	17.89006894	3.371814773	0.10475615	9.19558402	0.015014315	0.819782088	0.08914954	96.06907571	0.781717753	101.1571626	8.853873941	223.7516729	212.1597579	96.06907571	0.781717753	42.93557874
HC-062407-08 477	574.8817409	1237.418753	1.416790597	13.63677822	12.09514848	0.093897022	15.1972299	0.011040701	1.318813417	0.086779856	70.78290322	0.92838816	91.12714611	13.24629306	664.0324779	326.0196438	70.78290322	0.92838816	10.6595544
HC-062407-08 478	2422.528561	7695.404645	2.494359512	18.64441335	2.931430454	0.071595187	4.404555913	0.010018035	0.797502639	0.181063121	64.25906348	0.509922007	70.21208045	2.98803972	279.0354215	99.20476991	64.25906348	0.509922007	23.02899866
HC-062407-08 479	861.6405867	1970.66992	1.493408594	15.97949994	8.64351982	0.072572822	11.17397244	0.009516933	1.259797353	0.112743911	61.05999916	0.765600674	71.13800921	7.677025833	425.5821702	248.3371223	61.05999916	0.765600674	14.34740537
HC-062407-08 480	1589.852083	3381.894365	1.94878692	18.25594446	4.793957482	0.068054253	6.115378871	0.009762013	1.160831427	0.18982167	62.62480136	0.723448655	66.85133534	3.956557054	221.8898099	138.9627949	62.62480136	0.723448655	28.2233787
HC-062407-08 481	628.0307529	906.9679639	1.525063443	13.86009021	6.094123955	0.086832081	28.26725642	0.011206652	1.450924975	0.051328822	71.84092153	1.036571211	84.54801924	22.93533989	461.0515921NA		71.84092153	1.036571211	15.58197017
HC-062407-08 482	618.8288124	2199.974498	1.577518422	16.04051397	7.41542897	0.095515728	9.979479205	0.012403799	1.586401559	0.158966368	79.46818308	1.252945798	92.62855956	8.834968825	447.3347377	219.4139967	79.46818308	1.252945798	17.76481377
HC-062407-08 483	175.3194228	301.932388	1.108043534	4.599411839	52.79243717	0.129043535	55.76974123	0.005292306	6.148039508	0.110239699	34.02643876	2.086447626	123.2378991	64.81019419	2624.203501	1018.0974	34.02643876	2.086447626	1.296638723
HC-062407-08 484	52.56848501	447.5119972	1.565799433	8.652986292	11.16108245	0.366778658	28.85937183	0.03154144	4.27205625	0.148030119	200.1884085	8.420739789	317.2631633	78.7940049	1301.180138	566.1888706	200.1884085	8.420739789	15.38514175
HC-062407-08 485	725.4160774	5967.373782	0.975761977	19.17567753	2.845161406	0.194838212	4.713349283	0.028372707	0.796345429	0.168955318	180.3555629	1.416347871	180.7491381	7.804284968	186.8888139	108.212539	180.3555629	1.416347871	96.50420436
HC-062407-08 486	768.711764	16888.99101	0.722120665	17.68849285	1.922907006	0.451371662	2.451301438	0.058662101	0.656089405	0.267649419	367.4839161	2.343589262	378.23941	7.740886411	445.5770396	52.50795526	367.4839161	2.343589262	82.47371016
HC-062407-08 487	116.1107607	14430.78239	0.764754653	6.839513755	0.897189607	8.687076619	1.179377871	0.432512595	0.665190192	0.564017868	2317.034403	12.94687444	2305.724415	10.73939946	2296.455593	16.74014626	2296.455593	16.74014626	100.8961118
HC-062407-08 488	335.0850518	2118.492998	1.017887773	15.5053934	8.56005716	0.210532801	9.80401576	0.026459148	1.315185788	0.134147662	168.3491356	2.185443187	193.9996898	17.31486908	519.6603409	213.6545265	168.3491356	2.185443187	32.39599453
HC-062407-08 489	270.598551	5667.673463	2.410353044	16.22674858	2.52308	0.456984182	3.370521505	0.056041396	0.865064037	0.256655843	351.5061112	2.959337502	382.1583701	10.73469041	573.2699283	70.88574545	351.5061112	2.959337502	61.31598639
HC-062407-08 490	458.7780579	1167.100337	0.783136313	11.06007101	10.8125612	0.103104588	12.04850967	0.009543648	2.333851606	0.193704588	61.23059132	1.422265847	99.63807392	11.43517727	1156.714556	235.2901882	61.23059132	1.422265847	5.2934919
HC-062407-08 491	587.9877185	1483.173944	2.154447661	13.87914836	8.431130762	0.087814912	12.97930918	0.010213162	1.73535339	0.133701522	65.50433593	1.130975868	85.46582331	10.63924092	687.4138169	275.524168	65.50433593	1.130975868	9.529097948
HC-062407-08 492	1268.737409	471.8664324	3.594762369	15.07593617	5.666921522	0.046940643	53.54337071	0.009848268	1.365008354	0.025493508	63.17543991	0.858138253	46.5778931	24.38069306NA	NA		63.17543991	0.858138253	
HC-062407-08 493	105.9917196	275.8871196	1.616543911	6.645887338	28.58139243	0.152924081	32.78476476	0.011017781	4.569566989	0.139380808	70.63676155	3.210714497	144.4904245	44.18258573	1637.201622	620.0286634	70.63676155	3.210714497	4.314481528
HC-062407-08 494	341.1567736	1466.389407	1.521356492	13.81776466	12.40216129	0.09814807	13.03794265	0.011369946	2.179188437	0.167142048	72.88182957	1.57928806	95.06542909	11.83258124	695.8328729	274.9860711	72.88182957	1.57928806	10.47404232
HC-062407-08 495	639.7007639	2086.619319	1.630645703	14.76240605	7.87479891	0.087975127	8.23608859	0.010498466	1.203847768	0.146167414	67.324672	0.806269005	85.61535984	6.762359852	632.2770293	175.7410452	67.324672	0.806269005	10.64797057
HC-062407-08 496	549.405994	1381.492185	1.47962912	14.32082001	9.613408817	0.083677445	13.49650695	0.010235272	1.620444686	0.120064006	65.64542282	1.058349911	81.59648577	10.58218609	578.817274	292.3377738	65.64542282	1.058349911	11.34130334
HC-062407-08 497	859.8356764	1545.379997	1.72172106	15.62172222	6.547538907	0.074989945	11.23664012	0.009972455	1.351988526	0.120319643	63.96814479	0.860565202	73.42367696	7.959282358	394.2884447	250.8830373	63.96814479	0.860565202	16.22369249
HC-062407-08 498	276.6952425	701.0154561	1.732102946	8.756571939	18.45986185	0.125522268	23.08290567	0.009646416	4.67032076	0.202328114	61.88677864	2.876481789	120.0661684	26.14466223	1516.420518	432.0756798	61.88677864	2.876481789	4.08110929
HC-062407-08 499	224.6528294	589.4824326	2.050384329	8.884385719	17.4163438	0.142115065	26.05889223	0.011634114	2.968344279	0.113909074	74.56539972	2.200606168	134.9259921	32.93581346	1396.218849	504.9740497	74.56539972	2.200606168	5.340523785
HC-062407-08 500	101.2951475	1990.653843	3.814180725	8.731873363	1.423671419	4.033149329	4.821810298	0.271858996	0.696413073	0.144429795	1550.231144	9.59599876	1640.905617	39.25190834	1759.891224	87.28810105	1759.891224	87.28810105	88.08675917
HC-062407-08 501	43.28314992	3729.700894	2.663463901	8.272970852	3.655384396	4.96617498	4.566669416	0.307371702	1.013895409	0.222020759	1727.760111	15.36657167	1813.581779	38.61578111	1914.430963	79.93799804	1914.430963	79.93799804	90.24927744
HC-062407-08 502	190.0352018	496.9459433	1.466479305	9.767025968	12.79506856	0.112778584	21.613785	0.01113296	3.43144	0.158761642	71.37111683	2.435549762	108.503951	22.24580337	1027.829456	436.3382732	71.37111683	2.435549762	6.943867627
HC-062407-08 503	1283.305205	3186.745402	3.034665639	14.99803969	5.912919756	0.08794602	6.420852417	0.010274615	0.740193491	0.11527963	65.89646783	0.485276845	85.58819443	5.270300051	677.7811194	136.4461202	65.89646783	0.485276845	9.722381746
HC-062407-08 504	356.166877	768.4448096	1.297273396	10.62866561	10.53970348	0.101331403	12.82265427	0.0097351	3.011825753	0.234883175	62.45298347	1.871892984	98.00458356	11.97992301	1082.494997	250.9088193	62.45298347	1.871892984	5.769355392
HC-062407-08 505	197.2706652	1237.998263	1.299383451	13.50357612	9.228052354	0.252188599	14.24425896	0.029349996	1.471074297	0.103274891	186.4788504	2.70394482	228.3524387	29.13698808	686.0014248	303.8036108	186.4788504	2.70394482	27.18344943
HC-062407-08 506	421.9406335	1649.295786	3.264598323	13.39375212	6.969080443	0.129885211	14.69889123	0.01430135	1.280464625	0.087113008	91.53940441	1.163846806	123.9945622	17.15857449	803.108531	308.1990914	91.53940441	1.163846806	11.39813623
HC-062407-08 507	106.7694642	750.8545006	2.344005268	9.130204147	10.31556083	0.359321924	11.75534124	0.028668381	2.78400287	0.236828758	182.2087493	5.00167829	311.7083722	31.56213613	1445.386655	218.2223386	182.2087493	5.00167829	12.60622883
HC-062407-08 508	482.4890986	1186.70087	2.834442907	10.87793681	12.28088679	0.111623362	13.87233052	0.010105392	1.318950184	0.095077765	64.8165922	0.850615073	107.4492923	14.14506235	1200.635698	273.462807	64.8165922	0.850615073	5.398522824
HC-062407-08 509	67.04561824	529.7573808	2.150856317	9.010653254	18.32212283	0.380138561	23.54681483	0.032604093	5.363096638	0.227763147	206.825834	10.91622624	327.1400726	65.94644001	1306.311186	451.0786305	206.825834	10.91622624	15.83281505
HC-062407-08 510	820.5550024	3270.153061	2.074492006	16.18716474	5.438345465	0.082426402	6.286625805	0.010414723	1.279846009	0.203582343	66.7904145	0.850401406	80.42360738	4.860923717	507.9407985	135.4909447	66.7904145	0.850401406	13.14925178
HC-062407-08 511	944.2771335	3878.024868	1.944266372	17.04840511	3.386286416	0.116411013	4.153929874	0.015360504	1.177994887	0.283585646	98.26737031	1.14880632	111.8130548	4.398065999	411.7573048	89.10683176	98.26737031	1.14880632	23.86536175
HC-062407-08 512	1406.946094	2802.137394	1.6734262	16.44034681	5.898410613	0.086119646	7.471726044	0.011185188	1.388910225	0.185888805	71.70408783	0.990387118	83.88220164	6.015621407	447.0213956	163.3242206	71.70408783	0.990387118	16.04041519
HC-062407-08 513	638.2294663	1369.455771	1.91384099	12.64656193	6.905276222	0.095711734	8.578719637	0.010059223	1.942139717	0.226390394	64.52194157	1.24685599	92.81021188	7.609031556	899.857896	172.6013085	64.52194157	1.24685599	7.170236752
HC-062407-08 514	232.7076369	1018.659465	1.490590643	14.19790864	7.836187916	0.302414995	15.04084035	0.038836873	0.937456405	0.062327395	245.6193106	2.259259921	268.2847436	35.47583359	472.0623585	333.8571992	245.6193106	2.259259921	52.03111542
HC-062407-08 515	320.2690048	546.9521128	1.783806554	10.09226712	12.36622615	0.098475417	13.81734544	0.009728441	2.097857033	0.151827791	62.4104697	1.30296499	95.36806008	12.57807634	1026.284571	277.4847399	62.4104697	1.30296499	6.081205102
HC-062407-08 516	267.529358	469.4909951	1.974915277	10.94613031	12.96105674	0.076475176	26.82748276	0.009123131	3.23780689	0.120689925	58.54482808	1.886986974	74.82558485	19.35436341	632.9827222	583.0424919	58.54482808	1.886986974	9.249040459
HC-062407-08 518	314.5360669	600.110416	1.487404884	9.959654206	18.01401777	0.10558842	25.85673234	0.009923853	2.78930098	0.107875231	63.65791951	1.766872782	101.9218154	25.07925678	1126.395147	520.6875849	63.65791951	1.766872782	5.651473168
HC-062407-08 519	568.5470365	1039.53194	1.403702347	14.10076118	7.676187821	0.077107421	14.51877329	0.009762402	1.655815197	0.114046494	62.62728559	1.031971175	75.42177373	10.55389166	503.4689243	318.944175	62.62728559	1.031971175	12.43915614
HC-062407-08 520	70.91932094	689.1980185	1.533765582	9.78660315	10.07440905	0.615400519	14.97910545	0.05423184	2.672605463	0.178422234	340.4505295	8.862812165	486.9603752	58.00500867	1253.509025	289.8705396	340.4505295	8.862812165	27.15979883
HC-062407-08 523	2266.584871	14233.14671	7.519979405	18.32348956	1.127410781	0.397557732	2.199793525	0.053525322	0.58975808	0.268097016	336.1288628	1.931552099	339.8753478	6.354010766	366.5399792	47.76879631	336.1288628	1.931552099	91.70319252
HC-062407-08 524	277.5498108	1650.455997	0.748756947	14.4172654	10.82111976	0.239079573	17.66704832	0.028424495	1.145458599	0.064835879	180.6801922	2.040882325	217.6664709	34.62625203	640.2819568	381.8438073	180.6801922	2.040882325	28.21884801
HC-062407-08 525	284.9843204	650.901175	2.287187926	12.0592453	9.224096738	0.103979965	13.36512729	0.012353115	2.647254597	0.198071783	79.14544936	2.082372364	100.4435198	12.78245958	641.8848489	282.7674744	79.14544936	2.082372364	12.33016319
HC-062407-08 526	1123.739104	2365.78143	1.450246923	16.58364724	4.735636927	0.073548828	10.34806393	0.009788695	1.100385491	0.10633733	62.79514195	0.687634042	72.06155446	7.198636483	392.4815337	231.4091329	62.79514195	0.687634042	15.99951502
HC-062407-08 527	653.3506223	1016.237005	2.562536857	15.14767485	5.841046056	0.074650852	26.224756	0.010426558	1.396665004	0.053257502	66.86592437	0.929066236	73.10333572	18.49936402	283.2106517NA		66.86592437	0.929066236	23.60996098
HC-062407-08 528	376.3680609	630.8026939	1.892758211	12.39717404	12.54058121	0.083707866	22.88537093	0.010463383	2.206266091	0.096405083	67.1008557	1.472745237	81.62498912	17.95093832	531.5683281	504.9027886	67.1008557	1.472745237	12.62318542
HC-062407-08 529	157.1720248	1049.744198	1.238689572	14.14758636	6.065728062	0.217453843	9.897510469	0.027570983	2.560070143	0.258657988	175.3279522	4.428030084	199.788459	17.95211869	500.3212701	210.9520213	175.3279522	4.428030084	35.04307387
HC-062407-08 530	249.2234206	2091.092018	1.243674807	14.60743257	8.094279481	0.251751506	11.57405597	0.029465251	2.239067478	0.193455733	187.2006039	4.131273058	227.997944	23.64002342	673.9226804	243.5768848	187.2006039	4.131273058	27.77775691
HC-062407-08 531	513.6036377	1070.59209	0.883986562	14.87783562	11.14505797	0.072889499	18.83276588	0.009806857	1.587474209	0.084293206	62.91108495	0.993839886	71.43775675	12.99205009	368.0670573NA		62.91108495	0.993839886	17.09228895
HC-062407-08 532	499.8865894	1763.074645	2.558627086	15.43991651	6.051135379	0.080532151	8.333186089	0.010267203	2.325571165	0.279073471	65.84917603	1.523574685	78.64512617	6.306351626	488.1517127	176.8360013	65.84917603	1.523574685	13.48948991
HC-062407-08 533	985.5781446	2588.275384	2.554601077	16.00602309	5.111045108	0.078839244	6.010929645	0.010002543	1.285285651	0.21382477	64.16018166	0.820551427	77.05304314	4.46025888	498.844555	129.4514294	64.16018166	0.820551427	12.86175844
HC-062407-08 534	1075.640499	2200.440221	0.700779099	15.62909576	4.964044845	0.076757968	8.638770741	0.009650056	1.462240564	0.169264888	61.91001889	0.900940269	75.09229356	6.253061881	518.9022173	187.1748823	61.91001889	0.900940269	11.93096056
HC-062407-08 535	2258.495399	4200.387961	1.742582736	19.81989956	2.589244504	0.065437375	6.507099109	0.010053137	1.162021999	0.178577578	64.48309534	0.745572581	64.36045632	4.058051788	60.84035003NA		64.48309534	0.745572581	105.9873839
HC-062407-08 536	1418.470382	2898.013968	2.847630568	17.91950872	2.844651502	0.082352395	3.597560692	0.01170538	1.050739687	0.292070038	75.01951011	0.783690863	80.35418145	2.779371978	242.9738097	79.32169103	75.01951011	0.783690863	30.87555412
HC-062407-08 537	560.2719355	1270.309209	1.211942459	16.07510165	4.560436355	0.070630813	7.462946532	0.010059396	1.737894029	0.232869688	64.5230412	1.115748935	69.29788252	4.999173584	238.38318	167.5594228	64.5230412	1.115748935	27.06694373
HC-062407-08 538	411.3956533	4880.11191	0.710537626	16.6466211	4.889927718	0.308393384	6.389550638	0.038997708	0.801443363	0.125430317	246.6172845	1.939168512	272.9349239	15.29324965	506.125689	139.5928267	246.6172845	1.939168512	48.72649025
HC-062407-08 539	1221.0888	5065.647434	3.050859503	18.57864084	4.168565793	0.108126499	5.742968522	0.015358164	0.978913949	0.170454347	98.25251167	0.954514989	104.2501398	5.690018678	244.6080284	130.4262044	98.25251167	0.954514989	40.16732906
HC-062407-08 540	381.6030234	274.8741791	1.480909662	9.67413845	17.07040975	0.067809199	71.22467402	0.00984752	1.445712257	0.020297913	63.17066639	0.908805947	66.61833992	45.95700863	193.3000877NA		63.17066639	0.908805947	32.68010229
HC-062407-08 541	808.0132819	1963.993702	2.327407632	16.41507892	5.690689085	0.072815953	12.4932231	0.009852526	1.126030383	0.090131295	63.20261979	0.70820331	71.36815098	8.610257341	355.3281252	281.9669527	63.20261979	0.70820331	17.7871143
HC-062407-08 542	430.4837552	1229.119128	2.244645388	13.47031178	5.345741276	0.087570647	8.271383043	0.010142648	2.049683365	0.247804189	65.05435077	1.326702718	85.23779753	6.762628765	696.2302536	170.9956023	65.05435077	1.326702718	9.343798325
HC-062407-08 543	594.2139031	1901.196341	1.235149966	18.07769911	5.165502463	0.070391964	12.10641815	0.010707663	1.281302832	0.105836658	68.65909255	0.875062598	69.07133404	8.084161904	84.3809934NA		68.65909255	0.875062598	81.36795952
HC-062407-08 545	390.5031315	1061.841123	1.084089313	16.19985406	5.725966763	0.070743387	11.11306302	0.010713808	1.830653015	0.164729833	68.69828831	1.250949888	69.40464151	7.455416983	94.83762779NA		68.69828831	1.250949888	72.43779701
HC-062407-08 546	65.53013691	397.8056429	1.869494974	8.723882636	12.40022403	0.236488904	29.56578975	0.021680178	9.595050496	0.32453219	138.2659509	13.1254424	215.5412847	57.47824224	1175.836772	564.1736513	138.2659509	13.1254424	11.75894089
HC-062407-08 548	886.9461986	2933.820699	1.87894362	13.33521932	5.946409026	0.060690712	7.317476973	0.006271427	1.394016809	0.190505117	40.30197117	0.560063714	59.82668497	4.25135408	934.6929537	147.5470691	40.30197117	0.560063714	4.311787203
HC-062407-08 549	67.81122866	4434.3437	0.890594544	6.287692244	0.977186575	8.898771286	1.672048969	0.412830568	0.806881799	0.482570675	2227.849716	15.19884877	2327.674912	15.26371926	2417.131381	24.86052971	2417.131381	24.86052971	92.16916109
HC-062407-08 550	799.9140995	2987.286516	1.576721698	15.80146731	3.618920827	0.083409433	4.679671619	0.010354054	1.174625684	0.251006006	66.40333928	0.775987169	81.34533265	3.658219194	546.6898513	99.02661644	66.40333928	0.775987169	12.14643717
HC-062407-08 552	120.4085484	1064.310371	5.074306675	11.17934747	11.11903387	0.316805257	15.08993843	0.030201784	2.772441818	0.183727842	191.8110517	5.239514362	279.442091	36.87899828	1097.973791	298.3876014	191.8110517	5.239514362	17.46954739
HC-062407-08 553	85.80497041	1099.562522	1.867210967	13.16351265	10.0420789	0.583098374	16.74503039	0.067283851	2.138829969	0.127729238	419.7709193	8.69211833	466.4506504	62.70488455	704.2064153	355.6953308	419.7709193	8.69211833	59.60907345
HC-062407-08 554	468.1823794	1526.179227	3.058559144	11.87256648	12.86727321	0.104722308	13.55621328	0.010139501	1.871122232	0.13802691	65.03427123	1.210753146	101.1260582	13.0490319	1066.896231	271.1009883	65.03427123	1.210753146	6.095651043
HC-062407-08 555	80.40419413	201.3538706	1.46942191	5.422154014	14.11586385	0.169820086	19.95181069	0.010471185	9.242499528	0.46324114	67.15063488	6.17418573	159.2627959	29.41735999	1921.184402	319.6507886	67.15063488	6.17418573	3.495272749
HC-062407-08 556	1199.498274	2922.997026	1.682922923	16.28632208	6.980700352	0.078019577	10.29590356	0.010029102	0.95314848	0.092575506	64.32969433	0.610108263	76.28129463	7.566226879	469.9134377	227.4634216	64.32969433	0.610108263	13.68969031
HC-062407-08 557	284.163614	661.9125924	1.943661793	8.991128057	13.59756418	0.126179144	17.87790745	0.010157454	2.961137634	0.165631109	65.14883974	1.91943144	120.6585927	20.34158488	1428.360128	339.2335526	65.14883974	1.91943144	4.561093414
HC-062407-08 558	989.8023142	2573.146765	3.014859973	15.6745893	4.707685827	0.079944487	6.825394376	0.009969971	1.463271204	0.214386323	63.95229048	0.931168944	78.09274436	5.130367162	536.5959906	146.0596587	63.95229048	0.931168944	11.91814542
HC-062407-08 559	730.6877011	1964.288286	1.313344319	12.56402441	11.3090755	0.103221948	14.12553376	0.010349503	0.927366388	0.065144476	66.3742993	0.612374932	99.74609566	13.52503846	996.2969786	290.0449686	66.3742993	0.612374932	6.662099828
HC-062407-08 560	140.1570636	237.6034342	1.555705492	5.65685502	28.7495174	0.134411224	35.72895229	0.00809747	6.360894618	0.178031938	51.98943552	3.293694049	128.0537859	43.01053585	1962.749392	649.1548997	51.98943552	3.293694049	2.648806605
HC-062407-08 561	436.5860629	1636.335366	1.377622705	12.33180721	9.117962854	0.096686551	10.84240926	0.009688944	2.223122381	0.205039519	62.15830703	1.375214481	93.71316794	9.706273291	997.3690303	216.195577	62.15830703	1.375214481	6.232227505
HC-062407-08 563	468.6939813	705.798293	2.145675477	11.92100151	14.3967724	0.087380289	30.68517067	0.009994105	1.824457035	0.059457288	64.10632625	1.163796119	85.06005851	25.04254813	722.9651419	664.581894	64.10632625	1.163796119	8.867139305
HC-062407-08 564	1067.463267	5213.512638	1.306677973	18.29050824	2.820245111	0.168812085	3.174098482	0.023598769	0.980025756	0.308757199	150.3601754	1.456516095	158.3874912	4.654919664	281.2116466	69.12138513	150.3601754	1.456516095	53.4686871
HC-062407-08 565	239.8114721	3036.996748	0.812554938	18.68171172	2.858195643	0.427940357	4.380467668	0.063717973	1.061737746	0.242379997	398.1968931	4.099878412	361.713049	13.33056388	134.9116648	99.93253201	398.1968931	4.099878412	295.1537909
HC-062407-08 566	1090.156414	1710.390346	2.219083783	14.5649573	7.910882094	0.095494315	12.27650697	0.011506811	1.285445004	0.104707716	73.75414281	0.942666094	92.60871289	10.86647526	611.3170979	264.7413726	73.75414281	0.942666094	12.06479306
HC-062407-08 567	875.4637938	283.7310061	1.242238648	15.23481801	6.339278856	0.015418412	245.051949	0.009968159	1.081677842	0.004410676	63.9407222	0.688213855	15.53612805	37.79925373NA	NA		63.9407222	0.688213855	
HC-062407-08 568	101.114081	15511.61521	0.941952308	5.285136526	0.987636866	13.25121582	1.354556844	0.50930323	0.869610488	0.641988922	2653.654196	18.91664659	2697.712569	12.78951049	2731.594067	17.09674466	2731.594067	17.09674466	97.1467257
HC-062407-08 569	92.28668807	8832.648086	1.157705717	11.94489342	2.895928844	2.443341211	3.554025255	0.215281954	0.779818029	0.219418258	1256.896767	8.905172397	1255.46254	25.6121817	1253.83665	67.82969363	1253.83665	67.82969363	100.2440602
HC-062407-08 570	283.835539	23668.91323	0.78682907	8.816071795	0.687405964	4.839149212	1.04590076	0.310265973	0.703997096	0.673101237	1742.015467	10.7464287	1791.72981	8.801378669	1850.88136	13.98506967	1850.88136	13.98506967	94.11815934
HC-062407-08 572	1077.871199	2759.793302	1.509114889	16.62894521	6.173265507	0.071617154	7.021453252	0.009450579	1.198778434	0.170730815	60.63626955	0.723486561	70.23289469	4.764721361	411.603182	154.8609424	60.63626955	0.723486561	14.73173002
HC-062407-08 573	539.9179025	1920.11525	4.279716897	12.35825818	13.65625552	0.106917791	14.49376746	0.010527797	1.771830309	0.122247739	67.51178301	1.189952325	103.1419894	14.21589428	1032.933183	292.1262322	67.51178301	1.189952325	6.535929344
HC-062407-08 574	124.0052235	1494.924702	0.785122911	13.73678735	10.23176037	0.537159152	12.15872165	0.061525851	1.196131201	0.098376395	384.8983439	4.469141981	436.5497348	43.16815792	719.914342	257.6937431	384.8983439	4.469141981	53.46446396
HC-062407-08 575	1195.314831	13725.66726	0.816991331	18.58538925	1.782445201	0.386810006	1.934654331	0.053042825	0.625912159	0.322031667	333.1758395	2.03241421	332.0365032	5.504649944	325.0439634	41.76025671	333.1758395	2.03241421	102.5017775
HC-062407-08 576	634.1865314	1645.096225	4.253182013	14.33347102	6.710495634	0.084831966	15.93131263	0.01006702	1.689479117	0.106047703	64.57170139	1.085479889	82.67767147	12.65030503	644.2878623	342.4026458	64.57170139	1.085479889	10.02218188
HC-062407-08 577	284.5811246	903.6001231	3.86110881	8.674129624	14.52380416	0.137775422	20.35904165	0.009961306	2.506291563	0.123104594	63.89697849	1.593533997	131.0605389	25.03747055	1630.672386	379.4794561	63.89697849	1.593533997	3.918443645
HC-062407-08 579	142.1585582	6346.954427	1.16648068	8.848181593	1.180519521	4.207727666	1.655762566	0.27448227	0.88464076	0.53427995	1563.513509	12.28191748	1675.527859	13.58480003	1819.58819	25.4046913	1819.58819	25.4046913	85.92677824
HC-062407-08 580	252.7783726	1215.727986	1.169479775	8.722870565	12.82619853	0.139878454	15.80293547	0.009789231	4.3695186	0.276500439	62.79856374	2.730672894	132.9356118	19.69311447	1690.980086	281.7542573	62.79856374	2.730672894	3.713737628
HC-062407-08 581	707.5279832	941.7399846	1.529466646	14.98664532	7.936342174	0.102074941	22.21940496	0.014441475	1.210006645	0.054457203	92.42991066	1.110428282	98.68986441	20.89929654	253.6823901NA		92.42991066	1.110428282	36.43528848
HC-062407-08 582	590.5980441	1825.19286	2.538133564	15.87303757	6.329344268	0.07956096	6.913583064	0.010465531	1.171738518	0.169483538	67.1145625	0.782327654	77.73208095	5.173562473	418.7043395	152.3348558	67.1145625	0.782327654	16.02910602
HC-062407-08 583	684.7263185	2430.374691	1.885989536	16.70276066	4.654818682	0.121475799	11.66045511	0.01623228	0.964547297	0.082719524	103.7998089	0.993180729	116.4090391	12.82532457	383.4820565	261.8998728	103.7998089	0.993180729	27.06770946
HC-062407-08 584	336.8733901	1567.166296	1.070849897	12.73582291	10.94991862	0.12205842	13.48032396	0.012647221	2.809376551	0.208405715	81.01797241	2.26185683	116.936461	14.89064972	929.1266346	271.813857	81.01797241	2.26185683	8.719798722
HC-062407-08 585	1913.57623	4340.80113	1.719333814	18.00841328	4.213495261	0.07253989	4.72416036	0.009996944	1.038131606	0.219749443	64.12444658	0.662396159	71.1068332	3.244288443	313.7414097	104.8850077	64.12444658	0.662396159	20.43863022
HC-062407-08 586	111.7055443	2806.927854	1.149525006	15.16603238	6.904729492	0.559476203	9.481730352	0.066152999	1.224831102	0.129178015	412.9369319	4.899192435	451.1854572	34.55317608	652.0479476	202.2067339	412.9369319	4.899192435	63.32922808
HC-062407-08 587	464.8944103	926.5678496	0.873153287	13.5370545	8.634687436	0.075991635	12.11000686	0.009391886	1.669776448	0.137884022	60.26144506	1.001542892	74.369384	8.684439318	556.3111027	262.455399	60.26144506	1.001542892	10.83232831
HC-062407-08 588	584.7468982	115.5643121	2.301252295	8.258421841	16.09735058	-0.020968127	800.8657411	0.008781936	2.987408485	0.003730224	56.36485991	1.676508605NA		-175.9003672NA	NA		56.36485991	1.676508605	
HC-062407-08 589	709.8864747	1507.187786	1.813815629	15.74975382	12.95661328	0.078118314	13.72770559	0.01038767	1.436222902	0.10462221	66.61781921	0.951853642	76.37428993	10.10016869	394.46272	307.4581365	66.61781921	0.951853642	16.88824212
HC-062407-08 590	905.6511922	2937.528221	1.647814151	16.97920934	6.40768055	0.082112794	7.761016806	0.01091752	1.082261454	0.13944841	69.99744571	0.753457321	80.12938084	5.979871519	394.7318719	172.5793571	69.99744571	0.753457321	17.73290952
HC-062407-08 591	551.3129628	938.5740226	2.368945376	13.06553001	9.373055462	0.083301366	18.85869722	0.009751445	1.457543699	0.077287613	62.55733339	0.907390603	81.24404604	14.72566364	673.5042445	405.4624986	62.55733339	0.907390603	9.288335433
HC-062407-08 592	1680.79617	2204.220906	3.338648523	19.05150621	2.47638705	0.105369071	6.288022014	0.016480196	0.771700334	0.12272545	105.37226	0.806548261	101.7203431	6.08632315	17.99305177NA		105.37226	0.806548261	585.6275042
HC-062407-08 595	213.9134104	488.480173	2.545305114	7.684979848	33.02806795	0.152126095	37.36469219	0.010697802	6.681921843	0.178829838	68.59619926	4.559244738	143.7873929	50.13577836	1682.085979	704.1452967	68.59619926	4.559244738	4.078043578
HC-062407-08 596	839.0009662	2954.32073	0.783760302	17.9535826	8.537988675	0.068762412	10.07124715	0.009721999	1.007968225	0.100083734	62.36934268	0.62563177	67.52434825	6.579443641	255.2151803	230.8908815	62.36934268	0.62563177	24.43794394
HC-062407-08 597	303.5420409	880.8936189	1.228354445	12.40680364	18.31371544	0.098811962	26.90261001	0.011038619	2.742246537	0.10193236	70.76962262	1.930063946	95.67909972	24.56943778	772.7132585	572.8852879	70.76962262	1.930063946	9.158587851
HC-062407-08 598	339.7809841	759.3091861	1.334314297	10.93798236	14.6851318	0.093332627	21.85756355	0.009219998	2.502016986	0.114469162	59.1635959	1.473511141	90.60312517	18.9479945	1026.368792	444.2651263	59.1635959	1.473511141	5.764360368
HC-062407-08 599	273.731364	5498.228033	0.781520995	16.25017519	2.681951281	0.832654253	3.454169387	0.101229742	0.633284492	0.183339154	621.6116205	3.752729882	615.0838476	15.93651536	592.0611416	73.65615225	621.6116205	3.752729882	104.9911195
HC-062407-08 600	730.2050187	1577.803371	1.332881554	12.53693866	12.04485483	0.094940434	16.91487696	0.009618928	1.319786344	0.078025181	61.7112687	0.810570929	92.09520583	14.89328894	975.0662784	346.0996542	61.7112687	0.810570929	6.328930666

Sample 080719BK-01

Analysis	U (ppm)	206Pb/204Pb	U/Th	206Pb*/207Pb*	± (%)	207Pb*/235U	± (%)	206Pb*/238U	± (%)	error corr.	206Pb*/238U (Ma)	± (Ma)	207Pb*/235U (Ma)	± (Ma)	206Pb*/207Pb* (Ma)	± (Ma)	Best age (Ma)	± (Ma)	Conc (%)
080719BK-01 1	250.1095761	802.7531308	5.835203156	10.98022612	15.57276521	0.106636118	16.9584567	0.01046413	2.679456951	0.158001226	67.10562503	1.78874005	102.883576	16.59412612	1039.856007	340.3137206	67.10562503	1.78874005	6.453357445
080719BK-01 2	521.9137591	1025.453345	2.927650948	13.4905421	11.16977911	0.098645724	13.54633014	0.011831129	1.233716453	0.091073851	75.82071416	0.92993312	95.52547176	12.350757	621.4066158	292.2340558	75.82071416	0.92993312	12.20146555
080719BK-01 3	175.4043112	2908.215817	3.613476359	16.12040852	5.701679977	0.543663855	7.340036724	0.06863406	0.98533505	0.134241161	427.9210543	4.079555757	440.8374039	26.25443269	509.8251318	160.072757	427.9210543	4.079555757	83.93486855
080719BK-01 4	700.2581043	4105.149829	2.531738492	16.37929592	7.462809202	0.121149644	8.383860487	0.015169423	1.01631302	0.121222559	97.05410033	0.978985408	116.11375	9.199079967	527.8298205	182.6759094	97.05410033	0.978985408	18.38738483

080719BK-01 5	7106.014344	32149.49638	2.231731596	20.73475917	1.045410542	0.098925254	1.475881945	0.014910525	0.670358742	0.454208918	95.40987086	0.634878577	95.78378486	1.349027513	106.1094039	31.0764087	95.40987086	0.634878577	89.91650819
080719BK-01 6	1321.048426	1269.7504	4.226052785	13.51830843	5.063287526	0.051096553	6.060499483	0.005880499	1.142989906	0.188596651	37.79710885	0.430753093	50.60055352	2.991497023	709.8403874	126.620346	37.79710885	0.430753093	5.324733492
080719BK-01 7	855.0137885	3217.502663	3.666150935	16.7079935	4.22045998	0.119727723	6.072124501	0.015585793	1.384899736	0.22807499	99.6975445	1.37008913	114.825152	6.592634092	441.9362598	131.5922914	99.6975445	1.37008913	22.55925878
080719BK-01 8	307.4205922	6751.091348	1.912359782	16.28051382	3.240096874	0.487640292	4.370601457	0.059198133	0.739687514	0.169241584	370.7470975	2.665000661	403.301181	14.54797289	595.2175605	93.36516255	370.7470975	2.665000661	62.28766121
080719BK-01 9	469.1363393	1813.252661	2.183908935	14.86218924	6.419024042	0.1320119	9.445110969	0.016028096	1.387288997	0.146879057	102.5044468	1.410786748	125.9039369	11.18450144	594.9165768	202.8494458	102.5044468	1.410786748	17.2300539
080719BK-01 10	446.2810447	986.0249695	4.213789516	10.42557055	13.51536816	0.103874825	15.68403224	0.009161481	2.514092456	0.160296308	58.78981098	1.471311022	100.3468121	14.98682538	1251.915305	304.694194	58.78981098	1.471311022	4.695989475
080719BK-01 11	527.1500831	2186.970306	3.551734838	15.72378359	6.070520695	0.123726106	8.60041316	0.015740324	1.406272393	0.16351219	100.6783561	1.404813397	118.4444773	9.615305339	492.837805	187.3838328	100.6783561	1.404813397	20.42829407
080719BK-01 12	633.1812994	3473.027469	3.869356987	16.74278128	7.189229847	0.11764187	8.099244535	0.015346337	1.893741502	0.233817055	98.17742383	1.845140472	112.9319114	8.656537238	437.2814337	175.5387674	98.17742383	1.845140472	22.45177048
080719BK-01 13	439.0980273	7485.714306	2.061343265	18.09638815	3.01574111	0.42326225	4.14481191	0.057380852	0.705678853	0.170255941	359.6773948	2.468657719	358.3810693	12.51645495	351.0019094	92.34127059	359.6773948	2.468657719	102.4716348
080719BK-01 14	1731.503079	1893.507402	4.51679211	18.58834172	4.670568657	0.064808858	11.75482931	0.010185215	0.848011145	0.072141511	65.32599515	0.551174288	63.76120912	7.264677823	6.47662225	NA	65.32599515	0.551174288	1008.642972
080719BK-01 15	1238.048912	6397.58762	4.201723053	18.48695828	3.113038003	0.108852362	3.518484062	0.01518697	0.789667283	0.224433952	97.16552945	0.76153078	104.9150351	3.507125903	285.6569613	78.41852508	97.16552945	0.76153078	34.01475988
080719BK-01 16	291.6977846	6429.521113	1.692269868	16.98085594	3.952927495	0.455124837	4.234894255	0.058084086	0.84576581	0.19971356	363.9632981	2.9929905	380.861751	13.45018211	485.8735237	91.6548847	363.9632981	2.9929905	74.90906178
080719BK-01 17	852.9729128	1358.538168	3.670664258	14.9089508	6.022762313	0.047547698	7.691131854	0.006100872	1.351918996	0.175776338	39.20926304	0.528468685	47.16647874	3.54468476	473.9690441	167.7120656	39.20926304	0.528468685	8.272536682
080719BK-01 18	424.8183926	1316.721182	1.966880004	14.74186653	12.88329611	0.124833477	17.62770374	0.015863877	1.130906938	0.064155091	101.4624362	1.138462901	119.4445901	19.8666162	495.2830943	390.3923778	101.4624362	1.138462901	20.4857459
080719BK-01 19	258.6224115	19887.45809	1.633007809	8.717906516	0.753009128	5.288281512	1.042046217	0.334343657	0.664744247	0.637922039	1859.400666	10.73738653	1866.972457	8.898372868	1876.181483	14.46492707	1876.181483	14.46492707	99.10558667
080719BK-01 20	478.0021795	8241.366499	4.651762112	18.20320236	2.320579599	0.420144692	3.993637591	0.0569766	0.755494654	0.189174565	357.2123651	2.625311125	356.1545096	11.99734252	350.2467871	88.65437364	357.2123651	2.625311125	101.9887629
080719BK-01 21	526.0070293	2543.991867	3.451205148	15.40522215	6.43679075	0.126073382	9.14337374	0.015353955	1.148503821	0.125610508	98.22578875	1.119575646	120.5632308	10.39461152	588.3129109	197.1466419	98.22578875	1.119575646	16.69618105
080719BK-01 22	1649.122131	1825.266279	2.773928279	17.4527642	4.151376767	0.040423782	11.57713922	0.005920658	1.230968305	0.106327503	38.05447052	0.467058545	40.23771373	4.567312874	173.4375092	NA	38.05447052	0.467058545	21.94131517
080719BK-01 23	427.153638	1798.442235	3.758165991	13.26270637	9.766613666	0.139169221	12.09449214	0.014884241	1.47346203	0.121829177	95.24292153	1.393052101	132.3036431	15.00389816	863.7771647	249.8492602	95.24292153	1.393052101	11.0263301
080719BK-01 24	309.1284829	499.5446199	2.7369462	8.416930203	19.4683988	0.076709101	33.2676502	0.006070099	4.330929492	0.130184412	39.01208743	1.68448386	75.04621057	24.07032129	1461.029613	645.0659475	39.01208743	1.68448386	2.670177736
080719BK-01 25	810.437902	2031.07331	5.047801977	16.54059384	4.814696207	0.068039578	7.460521721	0.009188802	1.200055991	0.160854165	58.96433306	0.704378683	66.83738383	4.825881371	359.5910984	166.3669598	58.96433306	0.704378683	16.39760642
080719BK-01 26	3068.496015	746.0166994	1.992091567	17.2635534	2.912851311	0.052789369	6.136891264	0.010016769	0.862200954	0.140494742	64.25097971	0.551221007	52.23453723	3.124529952	NA	NA	64.25097971	0.551221007	
080719BK-01 27	343.4162912	29756.67879	0.738466463	6.373613092	0.69043087	8.354387882	0.986261507	0.383900343	0.676445712	0.685868511	2094.477668	12.09665644	2270.239656	8.944014345	2433.287772	12.16201374	2433.287772	12.16201374	86.07603637
080719BK-01 28	588.9554097	2287.942301	4.213839436	17.13623806	4.704068539	0.109131928	7.240220202	0.015095628	1.090401498	0.150603361	96.58548286	1.045319091	105.1710035	7.233652712	305.2870201	163.2821548	96.58548286	1.045319091	31.63759888
080719BK-01 29	738.2804998	834.630667	1.486141179	17.29637604	3.793555872	0.10156771	6.455168283	0.01824046	0.666067142	0.103183544	116.526018	0.769168792	98.22242549	6.04347973	NA	NA	116.526018	0.769168792	
080719BK-01 30	1035.06306	2413.529817	5.512951171	17.27706433	4.875291699	0.065471225	7.558509567	0.009073216	0.869930784	0.1150929	58.2259547	0.504244832	64.3927154	4.716044997	301.0660978	171.4097973	58.2259547	0.504244832	19.33992407
080719BK-01 31	97.0309211	6072.619131	1.633065612	12.57846799	3.030381269	2.110653888	3.297207232	0.196321617	0.860227956	0.260895933	1155.529602	9.100226831	1152.290153	22.72029463	1147.068179	63.25110668	1147.068179	63.25110668	100.7376565
080719BK-01 32	708.532661	10822.74459	3.032379427	18.02236759	2.073474314	0.430930185	2.442835487	0.05713548	0.797294623	0.326380809	358.1812884	2.77787242	363.83684	7.469997163	400.9992849	51.72350217	358.1812884	2.77787242	89.32217635
080719BK-01 33	1922.70728	705.251023	1.881120627	16.824358	3.392943172	0.086483704	27.85665113	0.01622438	0.638609682	0.022924855	103.7496938	0.657252438	84.22249321	22.51858389	NA	NA	103.7496938	0.657252438	
080719BK-01 34	721.6342703	1295.537659	3.625895351	14.58152903	6.878344541	0.072198994	9.554690594	0.009046032	1.19147761	0.124700805	58.05229299	0.688574989	70.78405258	6.532934176	526.4157871	208.2331741	58.05229299	0.688574989	11.02784043
080719BK-01 35	1313.580979	5935.754544	3.029525938	18.59243282	2.254117698	0.109459069	3.304796146	0.015321396	0.783566895	0.237099918	98.01907315	0.762235352	105.470449	3.310675326	278.2559536	73.51920477	98.01907315	0.762235352	35.22622675
080719BK-01 36	373.9137826	5779.241379	1.381882633	17.54571681	2.728712929	0.446585274	3.297799669	0.058885927	0.812088094	0.246251493	368.8466897	2.911278245	374.885308	10.33783378	413.3232874	71.47521449	368.8466897	2.911278245	89.23927129
080719BK-01 37	1842.708182	10212.6896	2.366131777	19.3906816	2.384065427	0.106819281	2.856831155	0.01530383	0.659442868	0.230830186	97.90754368	0.640766051	103.051621	2.799551864	224.6991681	64.26570074	97.90754368	0.640766051	43.57272193
080719BK-01 38	957.5215795	3442.160058	2.893328988	18.41021894	3.29292769	0.104274691	7.820520492	0.014955047	0.72918665	0.093240169	95.69265151	0.692624553	100.7145567	7.498514865	222.2900215	180.3089658	95.69265151	0.692624553	43.0485592
080719BK-01 39	1746.637157	3025.270377	4.743132922	15.06392271	7.640913889	0.050146796	9.176948591	0.005839055	1.177790916	0.128342325	37.53150139	0.440758306	49.68265227	4.449632748	684.9371808	194.6637271	37.53150139	0.440758306	5.479553811
080719BK-01 40	1073.673726	2770.06299	4.891831274	17.81393059	4.884766084	0.064347608	7.842007279	0.009078884	1.272848782	0.162311604	58.26216467	0.738248118	63.32135557	4.814035919	259.9746479	177.9579131	58.26216467	0.738248118	22.4107101
080719BK-01 41	6065.930335	15749.91459	3.76927994	20.33483129	1.4710946	0.061457952	1.844437565	0.009136234	0.526100271	0.285236151	58.62853387	0.307046504	60.56088741	1.084349608	138.6676092	41.52137747	58.62853387	0.307046504	42.27990532
080719BK-01 42	2225.978409	4274.093578	6.675389563	18.8301033	2.640778906	0.064668336	4.600936101	0.009338423	0.692501544	0.150513185	59.91999737	0.413024385	63.62728215	2.837622307	206.3907463	105.5568195	59.91999737	0.413024385	29.03230811
080719BK-01 43	338.8263219	1755.074925	4.259834183	13.95881412	12.71278538	0.137680104	13.19932131	0.015573623	1.745005285	0.132204168	99.62029868	1.725016334	130.9754709	16.22069564	746.4255229	277.6091059	99.62029868	1.725016334	13.34631462
080719BK-01 44	2676.023778	2720.332254	2.156630144	18.37883728	4.329726108	0.040747485	6.209169868	0.005965716	0.652454618	0.105079203	38.34321678	0.249429551	40.55357686	2.468423895	174.3575221	144.202214	38.34321678	0.249429551	21.99114573
080719BK-01 45	1662.98845	5268.014695	4.035826536	16.70775803	6.695091621	0.072486542	7.2402705	0.009102819	0.677779517	0.093612458	58.41507206	0.394136933	71.05632661	4.968824972	521.3676334	158.3637531	58.41507206	0.394136933	11.20419994
080719BK-01 46	51.51309373	6529.788632	1.770013366	7.643715592	1.773142862	7.073762002	2.377952927	0.393655207	0.805087243	0.338563154	2139.757879	14.65961477	2120.748891	21.15780031	2103.119988	39.28719868	2103.119988	39.28719868	101.7420733
080719BK-01 47	406.0025843	1124.248805	5.746093331	11.3587212	13.32351722	0.095036353	15.76373099	0.009039495	2.098051628	0.133093595	58.01052613	1.211630963	92.18415126	13.89239896	1102.552865	314.2829047	58.01052613	1.211630963	5.261473438
080719BK-01 48	951.8446167	3522.898259	5.62304033	16.83012949	4.943729784	0.083834585	5.319524391	0.010873831	0.844399255	0.158735856	69.71884518	0.585533392	81.74371145	4.177970589	449.9969142	116.7393336	69.71884518	0.585533392	15.49318295
080719BK-01 49	1458.498601	2725.512895	1.95013567	14.83284717	7.784816761	0.05222542	8.997194242	0.006022754	1.146367786	0.12741392	38.70871624	0.442414643	51.69047977	4.534329193	705.4672533	190.2102154	38.70871624	0.442414643	5.486961451
080719BK-01 50	275.3064743	12832.25277	2.945149241	13.76206651	1.105114569	1.623423323	1.54747573	0.162643141	0.626180652	0.404646509	971.4487222	5.646863373	979.3167252	9.723675085	997.8670835	28.73016732	997.8670835	28.73016732	97.35251701
080719BK-01 51	142.7107089	590.9019935	2.845346084	9.036074792	13.49662193	0.165056445	17.50989951	0.013611176	4.570580049	0.261028343	87.15149877	3.956524383	155.1195987	25.19348189	1382.20987	327.0499106	87.15149877	3.956524383	6.305229089
080719BK-01 52	1884.121297	5264.658518	3.487244673	18.63968005	3.067088528	0.063928314	5.26493907	0.009014955	0.882372293	0.167594018	57.85374867	0.508201595	62.92127221	3.21222232	261.2267903	119.2666589	57.85374867	0.508201595	22.14694312
080719BK-01 53	336.2736554	781.9157219	3.363199965	11.21501062	12.40743066	0.088071465	16.88188376	0.008915024	3.018484169	0.178800199	57.21527532	1.719392531	85.70526596	13.8757239	976.8937828	340.7328485	57.21527532	1.719392531	5.85685735
080719BK-01 54	1176.517815	6499.868989	2.989894629	18.85113861	2.846971185	0.106870042	3.724860112	0.015089057	0.735708231	0.197512983	96.54375447	0.7049881	103.0981878	3.6517505	258.3806296	83.92636227	96.54375447	0.7049881	37.36493507
080719BK-01 55	1150.263167	2877.560645	3.173308311	17.04344806	4.773368751	0.070918392	7.205361287	0.009490609	0.835406041	0.115942284	60.89190344	0.506299659	69.5705847	4.844974209	380.140495	161.0987763	60.89190344	0.506299659	16.01826278
080719BK-01 57	1679.937112	3068.144379	4.392316789	16.52110187	6.012604991	0.045302037	6.879077039	0.005820179	1.103255869	0.160378473	37.41052304	0.411538495	44.98743359	3.02717342	471.1784432	150.4142716	37.41052304	0.411538495	7.939778141
080719BK-01 58	791.6169276	3547.644928	3.895617239	16.72181279	5.522492165	0.120141211	7.637040131	0.015451331	0.816724609	0.106942558	98.84399635	0.801125651	115.2000389	8.317329855	468.8331169	168.3468754	98.84399635	0.801125651	21.08298087
080719BK-01 59	1151.364868	7093.736544	1.652520783	17.93657724	4.26990263	0.110834962	5.318589085	0.014784729	0.728827616	0.137034015	94.61080239	0.684514235	106.7288931	5.388373124	387.3769299	118.3994579	94.61080239	0.684514235	24.42344783
080719BK-01 60	536.2771141	802.828953	4.677861035	16.05467721	5.203219698	0.100929038	8.640415337	0.016495231	1.133834888	0.131224582	105.4676051	1.186099373	97.63355165	8.043228755	NA	NA	105.4676051	1.186099373	
080719BK-01 61	1975.667335	7955.569823	5.101398909	17.82573187	3.076063576	0.069549438	3.864073904	0.009179877	0.936181769	0.242278433	58.90732151	0.548967553	68.27179128	2.551343941	411.0786224	83.8813839	58.90732151	0.548967553	14.32994038
080719BK-01 62	4790.132564	9133.002566	2.651992718	20.30308725	1.335014235	0.060565391	1.692448257	0.009108711	0.706548566	0.417471295	58.45270933	0.411130007	59.7067104	0.98136942	111.3406133	36.29354921	58.45270933	0.411130007	52.49900066
080719BK-01 63	439.4219224	2369.769721	3.04052876	14.77014813	6.596672715	0.139017663	10.45029341	0.016161832	5.839524056	0.55879044	103.3529074	5.987196159	132.1685454	12.95154182	688.2350953	185.2255311	103.3529074	5.987196159	15.01709345
080719BK-01 64	661.2966153	3483.198214	2.983782028	16.53362751	6.460039828	0.11871597	7.025306059	0.015099699	1.053192437	0.1499141	96.61133561	1.009916659	113.9072677	7.569941349	493.3510169	153.2975858	96.61133561	1.009916659	19.5826769
080719BK-01 65	1566.232738	3527.490992	3.560067048	17.67295582	6.34138362	0.04324629	8.344298474	0.005906661	1.160476855	0.139074226	37.96476764	0.439277557	42.98856123	3.512234324	334.0955267	187.5898078	37.96476764	0.439277557	11.36344686
080719BK-01 66	927.7067024	3224.845519	1.811546075	15.83131994	8.080260187	0.120935831	9.513477399	0.014762884	0.898869281	0.094483777	94.47202964	0.842987987	115.920089	10.42218298	583.1925437	206.0498215	94.47202964	0.842987987	16.1991148
080719BK-01 67	659.8051638	14487.01888	2.017227978	18.58804774	1.522580865	0.433363365	1.846685394	0.058778805	0.715692594	0.387555236	368.1945068	2.561298898	365.5619495	5.669218977	349.8729066	38.46477123	368.1945068	2.561298898	105.2366445
080719BK-01 69	858.167752	12400.68821	3.930488305	18.43138789	1.582023369	0.439719814	2.398187477	0.059383981	0.715771574	0.298463561	371.8780934	2.586476774	370.054852	7.437361001	359.6118954	51.6564564	371.8780934	2.586476774	103.4109545
080719BK-01 72	315.8516187	31979.96523	2.314786169	8.801279472	0.640233107	5.312219706	0.943210257	0.336379957	0.625091746	0.662727893	1869.230837	10.14290799	1870.830472	8.060119286	1873.376787	12.73781244	1873.376787	12.73781244	99.77869108
080719BK-01 73	291.2721411	11807.05355	2.712407345	15.89117689	2.819279626	0.953030898	3.498407703	0.110925341	0.85958294	0.245706908	678.1196358	5.532889518	679.6796187	17.33566047	685.8002955	72.40206277	678.1196358	5.532889518	98.88004427
080719BK-01 74	1020.270833	4231.209716	3.177532075	18.75921668	4.159522057	0.106812734	7.140979144	0.015393356	0.862975814	0.120848387	98.47593865	0.843365478	103.0456151	6.997508498	211.0559696	164.4400717	98.47593865	0.843365478	46.65868434
080719BK-01 75	5182.788512	12523.9181	3.839450203	19.76699122	1.847141393	0.063214373	2.789905094	0.009186856	0.630458208	0.225978371	58.95190069	0.369972834	62.23967847	1.684281728	191.6246347	63.2152647	58.95190069	0.369972834	30.76425992
080719BK-01 76	1798.033482	1240.423618	2.942305474	17.61223038	3.515796317	0.096850314	14.46148885	0.015510515	0.706864785	0.048879116	99.21970399	0.695979343	93.86477265	12.96642319	NA	NA	99.21970399	0.695979343	
080719BK-01 77	687.3254221	3105.053986	3.235326659	17.41940988	5.718017143	0.111738391	8.786881793	0.015230361	0.990713379	0.112749141	97.44105467	0.958102212	107.5543565	8.96759106	338.7135455	198.0677837	97.44105467	0.958102212	28.76798285
080719BK-01 78	17.7961254	1405.963072	0.58569627	8.013132349	6.741397858	5.29701848	10.34597282	0.32933468	1.459656826	0.141084541	1835.156014	23.31170251	1868.382255	88.59268313	1906.311254	184.4669894	1906.311254	184.4669894	96.26738607
080719BK-01 79	458.3981862	34898.59708	2.271170106	8.852312503	0.641202977	5.270967599	0.920873955	0.335368248	0.645354037	0.700806048	1864.34872	10.44810464	1864.172884	7.859493582	1864.745686	11.85692975	1864.745686	11.85692975	99.97871205
080719BK-01 80	157.5026593	19247.07007	0.409602716	8.622676929	0.893845657	5.040564106	1.190811645	0.313210704	0.608515057	0.511008655	1756.487075	9.356038943	1826.163784	10.08994789	1907.3391	18.3826534	1907.3391	18.3826534	92.09096985
080719BK-01 81	736.3235839	2540.036049	2.656212834	17.12733714	4.52037252	0.113035116	8.583985351	0.015388919	1.152090787	0.134213974	98.44776967	1.12559097	108.738003	8.851857157	341.4290225	192.8657483	98.44776967	1.12559097	28.8340367
080719BK-01 82	1283.889203	1186.850116	3.08410463	15.86219004	5.847599443	0.063300778	11.39663524	0.008951927	1.022949239	0.089758882	57.45106535	0.585084201	62.3221929	6.889157941	254.665598	261.7183588	57.45106535	0.585084201	22.55941352
080719BK-01 83	1112.757646	4266.49077	4.071052522	19.49096776	2.716414578	0.060343502	3.610405074	0.009054669	1.146939114	0.31767602	58.1074688	0.663462598	59.49425169	2.086269369	116.7167938	80.76355048	58.1074688	0.663462598	49.78501112
080719BK-01 84	78.47115548	4064.923264	2.569585496	8.534448748	1.243539507	5.403240496	1.767609943	0.341735243	0.727764931	0.411722583	1895.01198	11.94903323	1885.367508	15.14617746	1875.52997	29.03969342	1875.52997	29.03969342	101.038747
080719BK-01 85	165.6833113	14178.44946	2.839667308	8.805820934	0.929388443	5.236606782	1.407651779	0.334877734	0.660215421	0.469018994	1861.980357	10.67699528	1858.593948	12.00181617	1855.576248	22.46679568	1855.576248	22.46679568	100.3451278
080719BK-01 86	3551.434465	5921.709653	2.645645315	19.90920452	2.087890677	0.060246023	3.026437094	0.009088771	0.725663004	0.239774686	58.32532655	0.421336377	59.40090169	1.746158728	103.9999738	69.46301136	58.32532655	0.421336377	56.08205889
080719BK-01 87	156.3344438	1729.363956	3.168934459	5.231604559	0.817558873	13.37797005	3.238659492	0.522991712	0.807357725	0.249287622	2711.855808	17.87238824	2706.703739	30.60690053	2703.564329	51.78279781	2703.564329	51.78279781	100.3066869
080719BK-01 88	760.2871298	5057.949664	2.88956322	15.86095622	5.899561736	0.125375943	6.59968401	0.015026442	1.158498202	0.175538435	96.14609873	1.105585623	119.9341534	7.465819114	622.9269722	140.2498705	96.14609873	1.105585623	15.43456986
080719BK-01 89	164.7058148	13098.00168	1.787519901	8.772023292	1.018003496	5.153797236	1.25953583	0.329959508	0.726341501	0.576673949	1838.185314	11.61667298	1845.021402	10.71126323	1853.511579	18.59975637	1853.511579	18.59975637	99.17312277
080719BK-01 90	497.2740621	31964.73418	4.248213288	9.267487922	0.677057652	3.932245091	0.983896789	0.264615563	0.670288583	0.681259041	1513.412879	9.041431006	1620.342466	7.964972695	1762.941489	13.16531155	1762.941489	13.16531155	85.84589384
080719BK-01 91	1769.466332	9569.611916	2.738183573	19.03973761	2.209945474	0.107837245	2.665289578	0.015297115	0.733042675	0.275033032	97.8649105	0.711973547	103.9850603	2.634317446	247.6105342	59.00383477	97.8649105	0.711973547	39.52372657
080719BK-01 92	181.61322	2253.814844	4.220888342	13.58616188	9.432873177	0.331592447	11.528486	0.035674722	1.522684013	0.132080137	225.9669276	3.381156356	290.7808852	29.15780626	851.4571351	238.2238409	225.9669276	3.381156356	26.5388495
080719BK-01 93	836.5087216	1773.988289	4.929378599	15.03161116	5.88169288	0.072255798	12.51991646	0.008961473	1.458932962	0.116528969	57.51205321	0.835330541	70.83784536	8.566747107	548.6852316	272.5083826	57.51205321	0.835330541	10.48179355
080719BK-01 94	1411.600624	2111.918172	4.680090406	16.025127	6.501124702	0.044525985	8.783604642	0.005808223	0.843006005	0.095974949	37.33389588	0.313817383	44.23331415	3.801885253	437.3482368	194.9701406	37.33389588	0.313817383	8.536423093
080719BK-01 95	881.8993835	5341.974788	1.95184361	18.11153477	3.576797596	0.116922653	4.639816356	0.015978483	0.803236951	0.173118264	102.1896556	0.814353391	112.2782883	4.931847949	332.8250555	103.6584492	102.1896556	0.814353391	30.70371474
080719BK-01 96	983.4887771	1311.504257	2.424929024	12.93463633	13.87170047	0.053904379	18.96969146	0.005828139	1.466438248	0.077304275	37.46154123	0.547757259	53.30936093	9.852050865	841.1833721	397.0327361	37.46154123	0.547757259	4.453433398
080719BK-01 97	1336.436041	16089.8233	0.877588481	18.27523863	1.163579838	0.433386158	1.475483656	0.057747645	0.606446832	0.411015622	361.9131961	2.134337853	365.5780961	4.529799974	389.8449491	30.1927564	361.9131961	2.134337853	92.83516355
080719BK-01 98	809.3304515	4274.783329	3.641635953	14.89490267	6.599272888	0.132523113	7.357142023	0.014904184	0.941672014	0.127994269	95.36959308	0.891458305	126.3623771	8.741668543	758.588916	154.1154827	95.36959308	0.891458305	12.57192792
080719BK-01 99	913.4685202	3300.027107	4.351703143	16.87056532	2.909227509	0.116434965	3.869418352	0.015143413	0.768814529	0.198689948	96.88893527	0.739326299	111.8348392	4.097584724	443.9543841	84.36947796	96.88893527	0.739326299	21.82407444
080719BK-01 100	190.1420762	7291.48693	1.589617195	15.16053039	3.75906009	0.993555244	4.087946969	0.111337549	0.684973849	0.167559378	680.5111322	4.423723102	700.5326695	20.68992944	766.1957223	84.95336564	680.5111322	4.423723102	88.8168796
080719BK-01 101	1022.528881	1189.472879	3.257298369	13.51325136	6.602373479	0.04984885	14.13510753	0.005782867	1.18058015	0.08352113	37.17138282	0.43757518	49.3945289	6.814969534	692.8109377	301.6824883	37.17138282	0.43757518	5.36529965
080719BK-01 102	1892.580618	5599.461306	4.013154744	18.14188306	3.539637423	0.0653408	4.846342864	0.009006866	0.736562619	0.151983184	57.80206848	0.423845376	64.2684143	3.018152726	313.2094934	109.0209312	57.80206848	0.423845376	18.45476261
080719BK-01 103	221.261262	2802.562663	2.060910375	16.82735961	6.089070099	0.442697746	6.922174462	0.058954655	0.775905639	0.11208987	369.2650902	2.784632451	372.152912	21.57097306	391.1282044	154.542279	369.2650902	2.784632451	94.4102435
080719BK-01 104	1027.382707	653.9468664	3.787052772	16.75237323	4.668955423	0.045216426	13.73167942	0.008870245	1.277226873	0.093013158	56.92915622	0.723913292	44.90426977	6.031824259	NA	NA	56.92915622	0.723913292	
080719BK-01 105	158.1009387	2555.051296	1.267344913	15.34216176	6.816602882	0.690156625	7.895059576	0.083738442	0.753093526	0.095387947	518.3986074	3.751177071	532.8945549	32.74587182	596.3900177	170.4968361	518.3986074	3.751177071	86.92275055
080719BK-01 106	512.08422	5380.484612	2.591608758	13.01230008	2.782650038	0.741427734	3.080612342	0.072142023	0.929334593	0.301672035	449.047789	4.031125924	563.2383748	13.31849763	1056.971733	59.16599379	449.047789	4.031125924	42.4843707
080719BK-01 107	516.5981356	2761.04283	1.73384003	12.72275428	8.197049676	0.165823132	8.685027963	0.016295676	1.229875556	0.141608704	104.201941	1.271252072	155.78757	12.54398915	1036.932976	173.9463253	104.201941	1.271252072	10.04905269
080719BK-01 108	192.001696	390.4962355	4.046473801	8.603850976	14.62778676	0.094631969	22.9691652	0.008502578	5.325628616	0.231859912	54.57943317	2.894427785	91.80911377	20.16517351	1215.532058	444.9609311	54.57943317	2.894427785	4.490168139
080719BK-01 109	139.5788557	14621.2181	1.603788596	9.129676818	0.898520234	4.780457253	1.250651608	0.316237018	0.714416075	0.571235082	1771.325842	11.06492449	1781.472091	10.50241049	1794.15515	18.68964495	1794.15515	18.68964495	98.72757336
080719BK-01 110	348.4263505	45068.01886	1.700624125	8.910974024	0.659575808	5.068500449	0.975616998	0.325355591	0.695470637	0.712852111	1815.831066	11.00584231	1830.848892	8.274027927	1848.742441	12.37375179	1848.742441	12.37375179	98.21979666
080719BK-01 111	600.8878081	2575.984859	2.361492618	16.1564007	5.521607095	0.120894399	11.13301757	0.015446957	1.596488897	0.143401273	98.81622837	1.565560357	115.8825583	12.19284806	483.3020952	244.0027238	98.81622837	1.565560357	20.44605835
080719BK-01 112	531.1676689	6813.299347	7.004133083	18.43147562	3.806536926	0.291134246	4.183233305	0.039974247	1.238835801	0.296143129	252.6733311	3.069655894	259.4517869	9.578042764	322.1535686	90.79695577	252.6733311	3.069655894	78.43257246
080719BK-01 113	2484.001474	4389.764154	5.164174297	18.51737825	3.031246017	0.041825049	4.811074976	0.005925942	0.777165796	0.161536829	38.088331	0.295136722	41.60433604	1.961165491	250.335241	109.2847636	38.088331	0.295136722	15.21492972
080719BK-01 114	2140.770933	8866.409815	2.8639587	19.52745122	1.719234448	0.105398134	2.964494465	0.015265405	0.686618895	0.23161416	97.66356561	0.665522416	101.7470399	2.870092578	199.4826689	66.97809209	97.66356561	0.665522416	48.95842138
080719BK-01 115	329.3937787	37508.49339	1.723629759	6.851721752	0.650538264	8.731588767	0.960681281	0.430354755	0.684968905	0.713003281	2307.31664	13.28533527	2310.379416	8.752447624	2313.819091	11.55630444	2313.819091	11.55630444	99.71897322
080719BK-01 116	467.8838141	19857.72714	3.697806135	8.815967208	0.685017358	5.140877649	1.036176798	0.327214135	0.646612941	0.624037271	1824.86453	10.27670816	1842.887416	8.808084875	1864.067316	14.61580823	1864.067316	14.61580823	97.89692218
080719BK-01 117	2083.378218	2718.462954	1.981913767	18.29714295	3.732898805	0.040189143	10.75985096	0.005858436	1.028488165	0.095585726	37.65570786	0.386155568	40.00869645	4.221191893	184.4967518	NA	37.65570786	0.386155568	20.40995708
080719BK-01 118	178.051842	1532.175989	1.819941185	14.46852213	11.50634214	0.263237365	12.59035728	0.031754995	1.893791383	0.150416016	201.5228434	3.757386421	237.2724404	26.64588894	608.8921413	270.0290993	201.5228434	3.757386421	33.09664056
080719BK-01 119	534.1472811	1379.178155	4.623301721	15.99778378	7.221051471	0.065772272	12.58322657	0.009155422	1.450755185	0.115292781	58.75110431	0.84846248	64.67956956	7.885134075	290.9077041	286.5068097	58.75110431	0.84846248	20.19578838
080719BK-01 120	1059.841153	1561.169578	2.217807842	14.37685308	7.951172054	0.048729148	12.26574729	0.005838813	1.164560942	0.094944149	37.52994811	0.435789341	48.31100801	5.787008338	623.4539888	264.2250146	37.52994811	0.435789341	6.019682091
080719BK-01 121	453.0227843	2362.581371	4.094871037	15.70727256	5.932082451	0.12086152	10.56261554	0.015174716	1.399054173	0.132453384	97.08771424	1.348132325	115.8527731	11.56528273	521.8009093	230.2572549	97.08771424	1.348132325	18.6062754
080719BK-01 122	1773.72203	7090.967001	1.56901589	19.35608955	2.145940974	0.106631318	3.150242114	0.015523342	0.667497237	0.211887599	99.30112554	0.657753221	102.8791718	3.08217291	187.5646465	71.67300255	99.30112554	0.657753221	52.94234674
080719BK-01 123	2311.924989	3589.89068	3.099384525	18.18136251	4.652525566	0.041796868	5.482122754	0.00593422	0.766139576	0.139752357	38.14138455	0.291353469	41.57686919	2.233263949	245.5682947	125.0975527	38.14138455	0.291353469	15.53188476
080719BK-01 124	1429.935764	3803.979812	4.769219575	17.24117171	4.528949001	0.068179079	5.451017634	0.009088958	0.811461698	0.148864258	58.32652315	0.471162665	66.9699993	3.532777738	388.7925528	121.1059657	58.32652315	0.471162665	15.00196512
080719BK-01 125	1136.635238	3961.812162	4.459466337	18.54037825	3.355129394	0.107060702	6.59599635	0.015388391	0.780002579	0.118253943	98.44441655	0.762035587	103.2730738	6.477014348	217.1688707	151.7573756	98.44441655	0.762035587	45.33081387
080719BK-01 126	2977.413031	3939.949466	4.414080186	17.80561774	3.956998518	0.042975664	4.557755465	0.005916461	0.723466569	0.158733081	38.02757135	0.274306898	42.72512864	1.906908529	316.0785928	102.3787402	38.02757135	0.274306898	12.03104931
080719BK-01 127	249.0504382	384.8563961	3.060934039	5.630025973	36.99233754	0.120532504	44.05899383	0.006045708	5.497914218	0.124785288	38.85579812	2.129833288	115.5546758	48.15813713	2283.709434	796.1092936	38.85579812	2.129833288	1.701433534
080719BK-01 128	424.9906629	928.6582308	5.146273937	12.70707864	12.58996705	0.079146071	15.10102312	0.009050735	1.708352201	0.113128242	58.08233547	0.987794158	77.34178092	11.2461317	723.3370697	319.9755235	58.08233547	0.987794158	8.029774486
080719BK-01 129	2002.979171	6578.548086	16.69436509	19.18469759	2.386951007	0.073689976	3.334382243	0.010674661	0.651723989	0.195455692	68.44859946	0.44373596	72.19504612	2.323675977	199.141872	75.96922733	68.44859946	0.44373596	34.37177665
080719BK-01 130	419.3087033	1941.940102	2.607294414	15.21658459	9.171562727	0.120157953	14.38588597	0.014914767	1.536749361	0.106823408	95.43681182	1.455821577	115.2152151	15.67018974	546.8476049	313.9187725	95.43681182	1.455821577	17.45217698
080719BK-01 131	746.6197956	1644.943855	3.146374106	15.92332542	6.626530733	0.07084928	9.19432024	0.009499702	1.287552276	0.140037789	60.94996484	0.781064416	69.50505486	6.176777909	375.7941113	205.2243013	60.94996484	0.781064416	16.21897816
080719BK-01 132	492.3442405	46829.98939	1.287223409	8.740492386	0.56521811	5.288130292	0.852447475	0.334861487	0.598438074	0.702023399	1861.901896	9.677579477	1866.948038	7.279232558	1873.339529	10.94781598	1873.339529	10.94781598	99.38945219
080719BK-01 133	1927.912133	2740.093992	2.961780944	15.74438287	4.898629984	0.047257361	5.950363471	0.005866369	1.025862562	0.172403344	37.70654872	0.385688278	46.88501764	2.726405773	546.6671899	128.166937	37.70654872	0.385688278	6.897532798
080719BK-01 134	2133.973152	10104.71532	3.26077146	19.18657592	2.765418424	0.063834639	3.347890428	0.009108301	0.725804211	0.216794494	58.45009015	0.42231574	62.8318671	2.039783197	234.1431536	75.44903069	58.45009015	0.42231574	24.96339921
080719BK-01 135	469.4028249	1128.825234	2.978336905	16.57991181	3.059443746	0.100522714	10.03014909	0.015384605	1.810722949	0.180528019	98.4203819	1.768585229	97.25873115	9.302820584	69.90257374	NA	98.4203819	1.768585229	140.7965067
080719BK-01 137	524.7108745	66487.75704	4.117776882	8.306859597	0.590118473	5.929085072	0.867710489	0.35664073	0.632871679	0.729358106	1966.231055	10.72507544	1965.505184	7.539187204	1965.499841	10.58689469	1965.499841	10.58689469	100.0372025
080719BK-01 138	480.2004087	9236.576195	4.814743541	18.1768714	2.128073408	0.434211703	3.467662203	0.058721498	1.213962099	0.350080841	367.8455816	4.340490306	366.162728	10.66033653	356.482051	73.33459454	367.8455816	4.340490306	103.1876866
080719BK-01 139	1631.171487	4706.888231	4.42307481	15.92473284	5.57680622	0.075158679	7.306087812	0.009098347	0.932400103	0.127619614	58.38650364	0.541937895	73.58304172	5.18591203	601.3264013	157.0411689	58.38650364	0.541937895	9.709619187
080719BK-01 140	149.3945697	12093.70031	1.455794573	10.04946765	1.449869396	3.786283675	1.633052056	0.278200508	0.579750446	0.355010389	1582.293218	8.134267682	1589.840341	13.11803589	1600.658251	28.48473008	1600.658251	28.48473008	98.85265748
080719BK-01 141	280.4179158	8324.122653	0.989090854	16.18160935	2.149909739	0.890790513	2.428089295	0.107200303	0.664688076	0.273749436	656.4678767	4.148642092	646.7939306	11.61570779	614.0877865	50.46884345	656.4678767	4.148642092	106.9013081
080719BK-01 142	338.3799203	9106.946959	1.751720958	17.02389051	2.733795938	0.583558894	2.863220402	0.0738097	0.650546712	0.227208046	459.0671521	2.882589737	466.7459799	10.71399108	505.6320098	61.3735764	459.0671521	2.882589737	90.7907615
080719BK-01 143	232.4011357	23720.35938	1.590676622	5.825934863	0.596691989	11.62759844	0.852451003	0.491103865	0.604094128	0.708655543	2575.450088	12.82592953	2574.894422	7.970352313	2575.171107	10.05101225	2575.171107	10.05101225	100.0108335
080719BK-01 144	142.9347948	5535.359289	1.935517289	8.9683822	0.866694386	4.944486648	1.809997494	0.327233327	0.637086467	0.351981961	1824.957744	10.12574979	1809.883918	15.2878901	1793.34572	30.84929904	1793.34572	30.84929904	101.7627401
080719BK-01 145	4215.880511	9608.63336	3.029026849	19.57351173	2.247613331	0.0626252	2.658159982	0.009136913	0.632371962	0.237898383	58.63287243	0.369096756	61.67685446	1.59067112	182.4726628	60.18082637	58.63287243	0.369096756	32.13241454
080719BK-01 146	1893.019035	3254.160808	3.742752214	17.54509769	3.989448161	0.043250639	7.357018733	0.005958075	1.098302398	0.14928634	38.29425404	0.419339955	42.99279359	3.09696991	314.6638423	165.6748004	38.29425404	0.419339955	12.16989336
080719BK-01 147	468.7637646	3208.804196	2.480489341	17.91662217	3.945689174	0.213788289	8.044219778	0.030166098	0.710583063	0.088334616	191.587749	1.341358759	196.7266954	14.38745142	259.7894743	184.324494	191.587749	1.341358759	73.74731001
080719BK-01 148	686.5426311	2201.232488	1.25609928	16.07394921	5.914469615	0.121452627	6.447347675	0.015800574	0.858653729	0.133179374	101.0607211	0.860995092	116.3881133	7.089964159	443.3113959	142.2243717	101.0607211	0.860995092	22.79677942
080719BK-01 149	118.356807	14290.96619	0.602158669	6.568921454	0.879546369	8.993499785	1.215707596	0.428898995	0.6242822	0.513513448	2300.752386	12.07961697	2337.345647	11.10932036	2370.176347	17.79317207	2370.176347	17.79317207	97.07093687
080719BK-01 150	464.379126	54376.39131	3.878168524	9.587310869	0.633672616	4.28200131	0.95537502	0.296912321	0.707359376	0.740399698	1675.979383	10.43941838	1689.907155	7.86431259	1708.015298	11.8172334	1708.015298	11.8172334	98.12437777
080719BK-01 151	2476.303975	5964.406885	2.746328735	17.52188691	4.700875841	0.046156975	5.11033408	0.006097406	0.707477198	0.138440499	39.18705266	0.276398513	45.81756208	2.289393377	409.200281	113.2682972	39.18705266	0.276398513	9.576497007
080719BK-01 152	172.9312951	1545.861145	1.492742552	8.493844485	1.941666717	4.37247694	6.125009747	0.289677102	0.715332517	0.116788796	1639.915416	10.35761406	1707.152416	50.65820364	1791.457303	110.8931756	1791.457303	110.8931756	91.54085965
080719BK-01 153	257.0515034	4237.692547	2.154628371	16.96813353	4.839548345	0.456346879	5.53857849	0.05933398	0.945437643	0.170700414	371.5738297	3.413671428	381.7141317	17.62390284	444.6298175	121.4267653	371.5738297	3.413671428	83.56925584
080719BK-01 154	1123.147091	2978.516544	12.10960766	17.7944535	4.255672255	0.076212715	9.726482507	0.010726989	0.906950354	0.093245462	68.78235918	0.62050561	74.57798958	6.993940049	265.5384867	222.6854783	68.78235918	0.62050561	25.90297174
080719BK-01 155	1282.715021	35927.62125	5.537269637	18.51338619	1.392184908	0.441733241	1.541405216	0.059454821	0.579068496	0.375675708	372.3091447	2.094849335	371.4738584	4.795403256	367.2257817	32.18644314	372.3091447	2.094849335	101.3842609
080719BK-01 156	63.9679986	7843.561162	1.379485268	7.685978147	1.831767726	6.691503635	2.199101374	0.375949126	1.009189502	0.45890995	2057.3329	17.77537341	2071.499513	19.42856058	2086.367486	34.36984299	2086.367486	34.36984299	98.60836668
080719BK-01 157	196.7688932	50777.4164	1.800474315	5.448860905	0.718724414	13.11790068	1.047877429	0.516327111	0.759549449	0.7248457	2683.584442	16.6727507	2688.169309	9.886631272	2692.322233	11.92638312	2692.322233	11.92638312	99.67545525
080719BK-01 158	570.5152932	1690.365031	2.524163828	17.78890331	3.707843655	0.103591936	8.128735607	0.015732483	1.361172848	0.167451977	100.6285941	1.359093789	100.0865677	7.74780654	88.25035274	NA	100.6285941	1.359093789	114.0262798
080719BK-01 159	179.5662847	17381.15366	2.481358306	8.741054748	0.925797586	5.33324683	1.211502091	0.338469108	0.713147975	0.588647746	1879.300592	11.62542972	1874.207272	10.35939556	1869.334422	17.66853527	1869.334422	17.66853527	100.53314
080719BK-01 160	151.9326844	449.7608558	3.804787711	4.158094642	33.48250431	0.299589628	33.88820504	0.010067472	4.33646298	0.127963785	64.57458623	2.78627466	266.0796504	79.48493956	2950.50253	561.1063709	64.57458623	2.78627466	2.188596199
080719BK-01 161	5266.724515	16281.73959	2.88612543	20.20802094	1.558908852	0.061675157	2.123442391	0.00915523	0.708186151	0.33350853	58.74987731	0.414168352	60.76864281	1.25253314	142.0698908	46.96741441	58.74987731	0.414168352	41.35279966
080719BK-01 163	2584.273227	6308.689953	3.208333452	18.53816072	2.018675284	0.064917831	4.061884705	0.009086191	0.807453593	0.198787915	58.30885013	0.468694005	63.8651999	2.514237456	278.4066644	91.17215057	58.30885013	0.468694005	20.94376952
080719BK-01 164	815.7232575	1311.58209	3.133575299	14.70260159	7.143576695	0.04618601	14.76142555	0.00586526	1.033587712	0.070019505	37.69944721	0.388519691	45.84574235	6.617072508	496.7714491	326.0296231	37.69944721	0.388519691	7.588891687
080719BK-01 165	757.611389	1512.733618	4.470079764	16.65026102	4.975749865	0.063308485	14.86333309	0.009086655	1.486315141	0.099998778	58.3118089	0.862789136	62.32955203	8.985869326	220.470355	NA	58.3118089	0.862789136	26.4488207
080719BK-01 166	902.0148878	12582.37842	1.917535118	18.44332399	1.967167096	0.434095493	2.759206321	0.059104275	0.583513954	0.211478913	370.1758431	2.099179821	366.0804505	8.480693958	341.1875909	61.04202173	370.1758431	2.099179821	108.4962798
080719BK-01 167	3018.871693	4223.09492	3.843954245	18.9792753	1.134214467	0.03986944	4.129718318	0.005854271	0.629544376	0.152442449	37.62901713	0.236201313	39.69657026	1.607725976	167.5254582	95.40377576	37.62901713	0.236201313	22.46167092
080719BK-01 168	227.891262	33776.5836	2.418305368	8.09266226	0.728913245	6.212255425	0.920769276	0.36457457	0.509767626	0.553632315	2003.820853	8.779702985	2006.175277	8.053191778	2009.356162	13.60598023	2009.356162	13.60598023	99.72452322
080719BK-01 169	1444.687021	3323.08045	3.044745216	18.46059714	3.348405911	0.06276417	4.727995942	0.009110463	0.981152289	0.207519698	58.46390402	0.571026639	61.80963762	2.835195567	194.4213545	107.5502724	58.46390402	0.571026639	30.07072149
080719BK-01 171	86.03404022	9212.92761	1.063684841	8.503240857	1.019952107	5.514766172	1.270475455	0.342801559	0.680696664	0.535781043	1900.133101	11.20219728	1902.900258	10.92046685	1906.684698	19.26683355	1906.684698	19.26683355	99.65638805
080719BK-01 172	1444.950723	1763.471625	4.348340705	14.91047838	10.06857731	0.047630148	15.09699927	0.00584717	1.016655231	0.067341543	37.58350952	0.380983044	47.24639379	6.969494889	570.9509709	329.4206989	37.58350952	0.380983044	6.582615923
080719BK-01 173	606.5089909	867.0336786	3.082989954	9.913048472	10.15084265	0.070915144	10.95068225	0.006063362	2.537514491	0.231722046	38.96892299	0.985859287	69.56750571	7.363132768	1312.369696	207.2383223	38.96892299	0.985859287	2.969355594
080719BK-01 174	564.0865372	9761.23889	2.55916909	18.31867941	2.629426285	0.428928068	3.645362718	0.058553392	0.6155555	0.168859877	366.8219284	2.194950497	362.4151501	11.11122885	335.2894397	81.45314744	366.8219284	2.194950497	109.4045577
080719BK-01 175	161.1407139	350.3531903	4.686165667	8.10248404	12.25294297	0.09948927	24.94443998	0.008669712	3.622525631	0.145223771	55.64767895	2.007175716	96.30478962	22.92253728	1275.402666	488.7195884	55.64767895	2.007175716	4.363145887
080719BK-01 176	482.9432033	1479.851833	4.582655521	16.97560489	8.721366675	0.072755566	20.51374095	0.010772477	1.636370921	0.079769503	69.07246892	1.124247968	71.31099474	14.12759534	148.042786	NA	69.07246892	1.124247968	46.65709878
080719BK-01 177	1883.517148	2472.029167	2.123682706	16.24526829	6.318376727	0.044952535	10.29202151	0.005855173	0.899024406	0.087351586	37.63479813	0.337360291	44.64787896	4.495635171	440.6489074	228.6374967	37.63479813	0.337360291	8.540767377
080719BK-01 178	837.8837975	4130.823686	3.163015627	18.31720767	3.278815299	0.106766111	6.91893987	0.015173598	0.83731729	0.121018148	97.08061394	0.806782598	103.0028423	6.777249681	243.3061846	158.3827689	97.08061394	0.806782598	39.90059444
080719BK-01 179	290.1682101	594.7123022	4.281168931	8.227354187	34.0829059	0.118129922	40.31317217	0.008732457	3.28429814	0.081469603	56.04866952	1.832826115	113.3752118	43.27203671	1589.342761	784.5865919	56.04866952	1.832826115	3.526531274
080719BK-01 180	2069.15402	3435.631684	3.130199998	18.24236143	3.294737024	0.06421413	5.927879433	0.009234281	0.677583439	0.114304524	59.25483082	0.399661283	63.19400984	3.631890166	216.0455862	136.4698772	59.25483082	0.399661283	27.42700365
080719BK-01 181	882.8385222	1895.713544	4.740160151	14.15054734	6.896762807	0.077793829	8.122810667	0.008969275	0.852438752	0.104943816	57.56190059	0.488495742	76.06864098	5.953202746	705.9334085	172.1253539	57.56190059	0.488495742	8.154012814
080719BK-01 182	1264.585369	2440.258898	3.321313006	17.04796487	4.398764785	0.065185306	8.131397407	0.008998227	0.93421601	0.114889971	57.74687526	0.537071425	64.12020166	5.052696664	309.9833676	184.1546599	57.74687526	0.537071425	18.62902378
080719BK-01 183	1030.56416	1624.256109	3.552934707	11.59912306	12.2372621	0.063826214	12.60919671	0.005978689	1.965653096	0.15589043	38.42634978	0.753081989	62.82382571	7.681641084	1133.072573	248.8700233	38.42634978	0.753081989	3.391340564
080719BK-01 184	592.6116101	5511.362736	2.711288134	18.13310261	2.769227804	0.212046507	3.263623819	0.029358383	0.788458328	0.241589831	186.5313741	1.449647762	195.2685776	5.797577489	303.1911282	72.2017659	186.5313741	1.449647762	61.52270193
080719BK-01 185	36.54536065	3522.907393	1.640594728	7.128412374	3.392424221	7.603135258	3.805147129	0.404518833	0.817749655	0.214906185	2189.813223	15.18275403	2185.232981	34.15868328	2181.680866	64.69961704	2181.680866	64.69961704	100.3727565
080719BK-01 186	558.5393516	1675.419571	4.893240167	14.85033964	7.722833127	0.08021342	9.042671211	0.009939295	1.680683926	0.185861444	63.75648502	1.066263521	78.34556777	6.818214215	550.6874291	194.3226177	63.75648502	1.066263521	11.57761766
080719BK-01 187	156.4168533	17669.59003	1.69410284	8.805609663	0.849971125	4.794992675	1.076080497	0.308924708	0.630886573	0.586281951	1735.41316	9.598597699	1784.022148	9.041098586	1842.134937	15.77836847	1842.134937	15.77836847	94.20662541
080719BK-01 188	3504.99131	7560.296959	3.141431745	19.42208869	2.532899721	0.061900836	3.733190156	0.009069596	0.955779956	0.256022307	58.20283102	0.553787239	60.98445821	2.209648836	172.5865608	84.24950016	58.20283102	0.553787239	33.72384892
080719BK-01 189	1388.007413	2161.963283	1.970906492	16.06506911	6.166417143	0.045566369	8.369206679	0.005952724	1.80264929	0.215390701	38.25995906	0.687650236	45.24416754	3.703470979	434.0595741	182.2815134	38.25995906	0.687650236	8.814448834
080719BK-01 190	648.9821635	3183.886766	1.416319921	16.84120967	6.520192004	0.121551026	7.084937737	0.016081618	1.068905073	0.150870073	102.8440223	1.09058245	116.4772012	7.796758369	405.783355	156.9383929	102.8440223	1.09058245	25.34456405
080719BK-01 191	379.3952669	9965.524094	1.043615368	16.66515	2.452058019	0.772833032	3.157934378	0.095673831	0.683358633	0.216394184	589.0059312	3.846615869	581.3868611	13.97907035	552.6764648	67.28852056	589.0059312	3.846615869	106.5733695
080719BK-01 192	570.242346	44073.82801	5.414990978	9.15189047	0.559479256	4.455185256	0.971197037	0.296372675	0.787418819	0.812133676	1673.296469	11.62416688	1722.664954	8.053833202	1783.964416	10.32916045	1783.964416	10.32916045	93.796516
080719BK-01 193	665.9329392	10954.92769	1.726231548	18.62851556	1.932467499	0.41543285	2.482156502	0.057525096	0.639155429	0.257500052	360.5567295	2.241255517	352.7800027	7.397386655	302.8821942	54.67344988	360.5567295	2.241255517	119.0419036
080719BK-01 194	373.775049	8028.033701	1.582855446	17.37358633	3.209751808	0.40451932	3.81656161	0.058474006	0.751288155	0.196849477	366.3384626	2.675515208	376.94268	12.01840468	443.5748594	83.25341375	366.3384626	2.675515208	82.58774248
080719BK-01 195	1811.7269	3306.855531	5.529348158	18.96146939	4.143959307	0.063895718	9.189854998	0.00958455	0.777927762	0.084650711	61.49176388	0.476087217	62.89016245	5.604226402	117.4868106	NA	61.49176388	0.476087217	52.33929117
080719BK-01 196	421.6643097	37485.14071	2.760222514	9.159983768	0.661510986	4.605117812	0.934218461	0.306494575	0.610562048	0.653553824	1723.433705	9.233439088	1750.195538	7.793685635	1783.08427	12.89073002	1783.08427	12.89073002	96.65464131
080719BK-01 197	1243.750859	3970.096266	2.462908855	16.91742013	5.813962314	0.068910983	6.605414068	0.009003289	0.947443697	0.143434414	57.77921733	0.544979579	67.66548908	4.323938281	433.8470006	145.7620288	57.77921733	0.544979579	13.31787871
080719BK-01 198	1959.089618	3796.556248	3.214224521	18.28682416	3.016083428	0.063580219	3.972719408	0.009061712	0.792409943	0.199462852	58.15246762	0.45873373	62.58900539	2.411406274	236.7151681	89.83685445	58.15246762	0.45873373	24.56643065



080719BK-01 395	850.8517117	1604.08242	4.440096026	12.21896142	9.286197382	0.057670472	9.731372242	0.005749321	1.707738906	0.175487985	36.9563685	0.629312682	56.93133118	5.38779665	1007.873422	194.7522163	36.9563685	0.629312682	3.666766848
080719BK-01 396	1886.768521	6900.232944	3.088402981	18.6841921	2.138311945	0.109596919	2.96818062	0.015504295	0.678578122	0.22861753	99.18021716	0.667864425	105.5966019	2.976833769	253.903304	66.48319736	99.18021716	0.667864425	39.06220029
080719BK-01 397	159.7103285	650.8284784	4.08176864	11.63044777	10.64231242	0.153779108	15.88969391	0.01753162	2.452828335	0.15436599	112.0368374	2.724328855	145.24317	21.50725836	729.8691137	334.6143214	112.0368374	2.724328855	15.35026422
080719BK-01 398	1307.493977	665.3516279	2.7735598	15.56510244	6.219353676	0.034384624	16.25462753	0.005968045	1.081272133	0.06652088	38.35814503	0.413524415	34.32673342	5.48647468	NA	NA	38.35814503	0.413524415	
080719BK-01 399	1852.930964	3891.723657	3.119581431	15.4144667	7.815840798	0.050408105	7.962188452	0.0059835	0.827013535	0.103867616	38.45717749	0.317099268	49.93527957	3.879777176	643.7248392	170.4729157	38.45717749	0.317099268	5.974163983
080719BK-01 400	2306.623713	6412.052932	1.900879934	18.37186733	4.361481843	0.065489676	5.470091122	0.009099659	0.718435444	0.131338844	58.39488789	0.417635142	64.41029965	3.413891443	295.0702282	123.8614352	58.39488789	0.417635142	19.79016597
080719BK-01 401	628.739031	2408.759412	3.489985249	17.47267746	4.490412805	0.110207527	5.666582081	0.015615158	1.016808578	0.179439486	99.88393959	1.00780063	106.1552103	5.711665485	250.2604325	128.3649617	99.88393959	1.00780063	39.91199831
080719BK-01 402	4284.250036	7401.869685	8.008846591	19.17790672	2.166767099	0.063224113	3.396250983	0.009124369	0.664921329	0.195780975	58.55273642	0.387566835	62.2489796	2.050634238	207.8114508	77.25254522	58.55273642	0.387566835	28.17589512
080719BK-01 403	1008.880824	3242.564847	4.81526469	15.36960752	8.053178234	0.076658749	8.409223409	0.009161248	0.867621672	0.103175006	58.7883214	0.507741515	74.99987251	6.079594954	629.1262922	180.5220202	58.7883214	0.507741515	9.344438808
080719BK-01 404	1756.358398	2594.042638	2.982536867	18.70444551	4.418475379	0.038676697	4.950191618	0.005861957	0.940934551	0.19008043	37.67827338	0.353493829	38.53124425	1.87163604	93.01086822	NA	37.67827338	0.353493829	40.5095384
080719BK-01 405	1758.227501	3925.057931	4.634831201	19.38563669	2.13999167	0.064740063	4.564492418	0.009801266	0.937335224	0.20535366	62.87538886	0.586488349	63.69568654	2.818078177	95.63885146	NA	62.87538886	0.586488349	65.74251771
080719BK-01 406	1913.253061	5831.765171	4.622209257	18.94186926	5.126028391	0.062935642	5.429195941	0.009064529	0.733620742	0.135125118	58.17046264	0.424830926	61.97345205	3.264048645	212.4397407	124.6950606	58.17046264	0.424830926	27.38210019
080719BK-01 407	1372.5968	1506.874756	2.166143213	15.21149243	7.632346627	0.045655822	9.617227405	0.005891373	0.989383515	0.102876169	37.86679786	0.37354965	45.33103473	4.263730599	461.4360629	212.4884386	37.86679786	0.37354965	8.206293548
080719BK-01 408	908.212355	1938.44372	4.894842467	15.96369673	4.821722236	0.072732074	10.5017247	0.009553773	1.076274278	0.102485478	61.29524016	0.656578446	71.28875886	7.229904883	421.8514809	233.7127788	61.29524016	0.656578446	14.53005215
080719BK-01 409	709.9011987	769.2789606	5.138412563	12.86652595	7.462666025	0.073656987	22.11768758	0.009066175	1.318642335	0.059619358	58.18097703	0.76374728	72.16384824	15.40818051	565.1972557	486.2324247	58.18097703	0.76374728	10.29392419
080719BK-01 410	323.130696	4377.342211	1.614417939	17.83824285	3.995768814	0.42266188	7.5175226	0.058024913	0.793881912	0.105604194	363.6027772	2.80667901	357.9526633	22.68131678	322.4953711	170.0155471	363.6027772	2.80667901	112.7466655
080719BK-01 411	1962.607798	2832.138437	3.348249873	16.25248069	4.125295341	0.046169999	4.667448527	0.005927575	1.242247861	0.266151379	38.09879701	0.471885678	45.83020257	2.091547163	472.6720912	99.59630094	38.09879701	0.471885678	8.060301784
080719BK-01 412	1991.971498	4928.303785	3.331187658	19.55802613	3.361861097	0.060966957	3.873807981	0.009159406	0.701888964	0.181188373	58.7765575	0.410671135	60.0910956	2.260275489	113.8367312	89.93734416	58.7765575	0.410671135	51.63233069
080719BK-01 413	373.6709441	4384.699253	2.296986107	18.04438081	3.411453891	0.40892476	4.012424697	0.056766666	0.688972646	0.171709801	356.0538739	2.386597901	348.1005554	11.8252967	296.3520293	90.21839709	356.0538739	2.386597901	120.1455832
080719BK-01 414	1210.427541	2908.859266	6.352408042	17.91293458	4.406403119	0.063918436	7.735989802	0.009105357	0.823175016	0.106408493	58.43128458	0.478818417	62.91184407	4.71918202	237.887864	177.6119418	58.43128458	0.478818417	24.56253278
080719BK-01 415	5129.779433	10838.57531	2.687354815	20.19504651	1.482726013	0.060294263	2.300414533	0.009055344	0.63079752	0.27421037	58.11178065	0.364920396	59.4471001	1.328268407	114.5734805	52.18475076	58.11178065	0.364920396	50.72009719
080719BK-01 416	1136.601908	2925.401408	5.736913866	18.02609922	4.039975784	0.064246166	4.943106182	0.009210805	0.790554239	0.159930661	59.10487826	0.4651206	63.22457515	3.029955557	223.1274834	112.8907295	59.10487826	0.4651206	26.48928646
080719BK-01 417	1734.586427	3288.694037	3.6465047	17.84139034	3.68759976	0.066485842	8.180807568	0.009321912	0.784164752	0.095854198	59.81454335	0.466875212	65.3591753	5.178499433	274.3657558	186.8378183	59.81454335	0.466875212	21.80102367
080719BK-01 418	798.9753798	1781.614441	4.281622888	15.85955445	7.672059295	0.070000109	10.8453018	0.009234573	1.307291817	0.12053992	59.2566991	0.771108462	68.69954866	7.204332289	412.2373999	241.3478365	59.2566991	0.771108462	14.37441123
080719BK-01 419	610.7449081	1334.419261	4.232634935	15.31026233	10.85182303	0.072222441	15.32611926	0.009621724	1.776652468	0.115923179	61.72912337	1.091477815	70.80625688	10.48249853	390.2504365	343.4063271	61.72912337	1.091477815	15.81782302
080719BK-01 420	2198.086889	4681.036855	3.301879749	18.53689457	2.817098854	0.064284285	3.174518407	0.009160997	0.698283264	0.219965102	58.78672093	0.408631787	63.26094381	1.946952974	237.004773	71.46887814	58.78672093	0.408631787	24.80402406
080719BK-01 421	3550.175873	7108.527686	6.429585732	19.93321048	1.623403258	0.063092942	2.047282904	0.009498481	0.66996875	0.327247763	60.9421703	0.406369632	62.12370322	1.23372262	108.9431966	45.68935612	60.9421703	0.406369632	55.9393998
080719BK-01 422	1179.366126	3763.511097	2.766161297	17.03846228	5.127929681	0.074669656	5.90563524	0.009864627	0.978194856	0.165637534	63.27986608	0.61597217	73.12110244	4.166468784	409.0520936	130.3691388	63.27986608	0.61597217	15.46987953
080719BK-01 423	2680.8049	4399.848554	5.428340171	17.6638262	2.863054441	0.045357974	3.374642882	0.006165378	0.754836178	0.223678832	39.62256348	0.298168167	45.04176882	1.486779818	344.9875022	74.4323628	39.62256348	0.298168167	11.48521707
080719BK-01 425	1160.952753	4170.395185	1.729114008	19.13159752	2.361842531	0.120041215	7.184217093	0.017845222	0.742051259	0.103289092	114.0233077	0.838672368	115.1093906	7.818335768	138.6594034	NA	114.0233077	0.838672368	82.23265422
080719BK-01 427	692.2316067	1836.119186	3.570614974	14.00732261	11.96294217	0.085100462	12.7615736	0.009707896	1.270234108	0.099535853	62.27930477	0.787283847	82.92894769	10.1627352	728.5575873	270.144493	62.27930477	0.787283847	8.54830227
080719BK-01 428	111.4603258	8252.625883	1.053975677	7.792911562	1.47442094	5.748719391	2.949880324	0.328996	2.546555838	0.863274289	1833.513426	40.63910233	1938.724442	25.51969489	2053.850523	26.28574833	2053.850523	26.28574833	89.27199935
080719BK-01 429	700.3411911	2522.03752	2.989953431	16.76424461	7.429881624	0.091849405	11.34823535	0.012374528	1.030531278	0.090809826	79.2818031	0.812020196	89.22471478	9.693598868	365.0180004	255.495007	79.2818031	0.812020196	21.7199708
080719BK-01 430	1644.049706	2161.844218	1.966325247	16.89873139	3.348601248	0.04266169	6.417187782	0.005907675	0.882803704	0.137568626	37.97127118	0.334226476	42.41941525	2.666062319	302.7823036	145.0050208	37.97127118	0.334226476	12.54078285
080719BK-01 431	141.2112235	5580.436305	1.208742754	9.497841788	1.095814618	4.20429436	1.637175315	0.296578321	1.124247679	0.686699628	1674.318992	16.57760582	1674.858225	13.43017544	1676.32089	21.99088065	1676.32089	21.99088065	99.88057784
080719BK-01 432	912.9247931	2134.589136	3.604311827	15.1841998	6.802617679	0.07916483	11.89898853	0.009726737	1.126805907	0.094697621	62.39959525	0.699730262	77.35943151	8.863300743	569.1261307	258.6068548	62.39959525	0.699730262	10.96410653
080719BK-01 433	2099.78231	4242.608891	5.541587918	19.25966702	2.660227966	0.0635432	5.89795601	0.009512914	0.794182126	0.134653789	61.03433377	0.482436325	62.55366336	3.578056413	122.0938718	NA	61.03433377	0.482436325	49.98967831
080719BK-01 434	36.97500894	4495.892733	0.764030584	8.900673186	3.197217725	5.055336094	3.697996768	0.335387909	1.545015336	0.417797914	1864.443631	25.01457578	1828.643836	31.35784847	1788.895516	61.2271495	1788.895516	61.2271495	104.2231709
080719BK-01 435	541.8347669	6704.869649	1.107757945	17.03095913	2.135151123	0.563387293	2.478058458	0.072273447	0.797875175	0.321975929	449.8379428	3.466781056	453.7288004	9.067623356	474.4340146	51.91832225	449.8379428	3.466781056	94.81570229
080719BK-01 437	1156.649053	6469.99138	1.588001767	17.89398499	5.189358423	0.119524465	5.708962705	0.01616959	0.908248709	0.159091722	103.4021246	0.931656489	114.6408189	6.188932058	355.7518142	127.371025	103.4021246	0.931656489	29.06580388
080719BK-01 438	108.5120841	10276.76883	0.634087631	8.701940784	1.086528228	5.237730166	1.401215972	0.334204949	0.758699818	0.541458157	1858.730511	12.2512115	1858.77683	11.9473495	1859.597415	21.27836497	1859.597415	21.27836497	99.95338217
080719BK-01 439	1043.139005	2832.621516	6.098796014	15.62153104	8.218066531	0.075863316	8.905357464	0.009347006	1.207730996	0.135618475	59.97481346	0.720975384	74.24828574	6.376196611	563.0381832	192.5571803	59.97481346	0.720975384	10.65199755
080719BK-01 440	292.4767658	14696.88916	1.968931013	13.06690353	1.461568743	1.921406335	1.922103239	0.184452174	0.757225909	0.393956939	1091.251363	7.601689419	1088.556757	12.83680693	1084.023972	35.42799293	1084.023972	35.42799293	100.6667187
080719BK-01 441	3159.947015	10850.50556	4.685144886	19.09809566	2.344657989	0.06645688	2.960294874	0.009451365	0.709688809	0.23973585	60.64129435	0.428346598	65.33160102	1.873104588	241.6918745	66.27078767	60.64129435	0.428346598	25.09033225
080719BK-01 442	857.2946796	3506.879859	2.380324033	18.22346171	3.222384134	0.106366446	7.510809743	0.015223911	1.013836813	0.13498369	97.40010051	0.980055516	102.6361106	7.332125195	226.9685979	172.1590436	97.40010051	0.980055516	42.91346971
080719BK-01 443	611.0428002	266.7726114	2.716852111	14.83249469	8.11021532	0.012290877	76.42590991	0.00948025	1.558618348	0.020393847	60.82574767	0.943582638	12.40387645	9.422378679	NA	NA	60.82574767	0.943582638	
080719BK-01 444	511.9873165	630.3051524	4.900941161	13.52408563	8.388387884	0.064409218	19.23437319	0.009239985	2.549491259	0.132548705	59.29126322	1.504695233	63.38012975	11.81862528	221.6367953	NA	59.29126322	1.504695233	26.75154328
080719BK-01 445	614.9673389	1277.660736	4.143274941	15.91870933	3.898871961	0.109367987	11.58677549	0.015462683	1.019039204	0.087948472	98.91606165	1.000299355	105.3870866	11.59914515	255.2464479	NA	98.91606165	1.000299355	38.75315895
080719BK-01 446	698.4781449	4970.971138	3.45657867	18.00884193	1.940248811	0.42859197	2.811216745	0.059140289	0.680609349	0.2421049	370.3950419	2.44988721	362.1762934	8.563875883	310.8599421	62.08152149	370.3950419	2.44988721	119.1517438
080719BK-01 447	953.9331158	1492.396391	2.86765449	14.9297286	10.38775592	0.046659203	13.90133495	0.005918557	1.591006944	0.11444994	38.04100841	0.603452815	46.30489974	6.292511231	499.2975863	305.4601497	38.04100841	0.603452815	7.618904928
080719BK-01 448	1240.594884	3068.819683	3.741859262	16.02828749	6.158199539	0.04647533	7.35763731	0.005850862	1.657361766	0.225257334	37.60716989	0.621472318	46.12650519	3.317900197	515.9142782	157.6206218	37.60716989	0.621472318	7.289422192
080719BK-01 450	517.9303962	830.5243334	2.121675847	15.1947376	8.074954778	0.102957926	35.98473328	0.015534102	1.266588355	0.035197936	99.36942808	1.248950799	99.50306606	34.12027023	103.7561411	NA	99.36942808	1.248950799	95.77209312
080719BK-01 451	4769.689687	2145.940667	1.495388145	19.57763441	2.000811725	0.037603286	4.075706329	0.006172894	0.704280694	0.172799667	39.67071374	0.278535258	37.4813632	1.499780026	NA	NA	39.67071374	0.278535258	
080719BK-01 452	771.4467102	2400.329286	4.426285718	17.5512893	4.686336543	0.087768026	9.952949726	0.012510667	1.255854063	0.126179082	80.14862212	1.000318343	85.42205804	8.154382836	236.435445	228.2284772	80.14862212	1.000318343	33.8987338
080719BK-01 453	187.0949592	475.99371	3.329894582	7.843730346	16.93667803	0.117894477	20.97949688	0.008675253	6.844209991	0.326233276	55.68308719	3.794655452	113.1613796	22.46924658	1597.891291	373.9096354	55.68308719	3.794655452	3.484785698
080719BK-01 454	416.468111	642.2409448	3.118284956	12.32003419	13.59649314	0.077521188	16.15310771	0.009602017	2.592611827	0.160502355	61.60329229	1.589527249	75.8117549	11.80049303	551.5129115	350.0444688	61.60329229	1.589527249	11.16987309
080719BK-01 455	1641.726412	4325.313522	2.180936559	15.31250717	0.926324495	0.956774354	3.433773564	0.111869235	0.645643057	0.188027266	683.5944859	4.187624256	681.6239834	17.04948065	676.0595914	72.11974256	683.5944859	4.187624256	101.1145311
080719BK-01 456	950.8039965	1780.1794	3.518301277	14.17603642	10.73020352	0.052974078	12.65291306	0.006150972	1.433514385	0.113295205	39.53025961	0.564938052	52.41266778	6.463563648	690.9217257	269.1032706	39.53025961	0.564938052	5.721380316
080719BK-01 457	1132.724862	2185.490054	1.741642609	16.27714663	7.098851608	0.047302002	10.78976348	0.006259966	1.281040438	0.118727388	40.22855264	0.513739377	46.92829936	4.948264025	405.1580624	240.4521889	40.22855264	0.513739377	9.929100856
080719BK-01 458	70.31292326	11155.55729	1.444502271	5.577156303	0.759430916	12.6521324	1.054267177	0.514515683	0.66348479	0.629332682	2675.878848	14.53030579	2654.105426	9.921050333	2638.263544	13.60563914	2638.263544	13.60563914	101.4257599
080719BK-01 459	127.385725	11559.33268	1.470872528	8.445247709	0.864743797	5.570727949	1.465001515	0.344334091	0.654857434	0.447001199	1907.486159	10.81280036	1911.58514	12.61213997	1916.80155	23.50956463	1916.80155	23.50956463	99.51401382
080719BK-01 460	555.6466014	2106.410996	3.821751622	12.9589349	8.690444197	0.135419788	11.57013132	0.013948642	2.372641203	0.205066056	89.2973703	2.104099371	128.9561251	14.01268758	941.312822	232.7831768	89.2973703	2.104099371	9.486471257
080719BK-01 461	1920.46724	4251.7615	3.367280202	18.49804543	3.443811033	0.063426077	4.681854627	0.009084449	0.776909462	0.165940535	58.29772013	0.450878686	62.44183794	2.835368493	225.3241502	106.7843378	58.29772013	0.450878686	25.87282369
080719BK-01 462	1045.507964	2165.334003	6.097346073	16.55263453	5.810954934	0.068789247	9.921167325	0.009298172	0.94277613	0.095026734	59.66291833	0.559892794	67.5498432	6.483762054	357.6169781	223.4194244	59.66291833	0.559892794	16.68346918
080719BK-01 463	1512.466773	7539.015737	1.969570934	18.95383579	3.237816647	0.112403243	4.159508288	0.016032813	0.855326995	0.205631756	102.5343759	0.870066375	108.1614043	4.267672247	234.9403867	93.95201551	102.5343759	0.870066375	43.64272034
080719BK-01 464	202.8314965	1755.845128	2.82294671	12.87139452	13.5578545	0.294907947	15.39800509	0.030741032	1.019679427	0.066221528	195.1844792	1.96042737	262.4151997	35.6221454	916.8160115	317.8182265	195.1844792	1.96042737	21.28938378
080719BK-01 465	1320.983076	3278.23063	5.457044532	17.40613526	4.36506543	0.067847632	6.509741138	0.009281644	1.05494898	0.162056978	59.55735493	0.625406249	66.65488477	4.199731342	330.4551226	145.8390275	59.55735493	0.625406249	18.02282696
080719BK-01 466	1701.900099	589.9771016	3.429778787	14.78448193	5.808533937	0.034764507	12.84193802	0.005936535	1.322391853	0.102974477	38.15621464	0.503084332	34.69956939	4.380843316	NA	NA	38.15621464	0.503084332	
080719BK-01 467	106.8078358	1908.232209	1.247274009	13.09946568	9.095568738	0.480557822	11.22659128	0.050603139	1.512774641	0.13474924	318.2234815	4.697115978	398.455525	37.01608053	895.9406319	230.2400611	318.2234815	4.697115978	35.51836697
080719BK-01 468	436.5737076	23671.00206	1.998446113	8.173793716	0.624741287	5.714036789	1.226523197	0.339721506	0.997923376	0.813619652	1885.329642	16.31266207	1933.492794	10.59938743	1986.270615	12.68917169	1986.270615	12.68917169	94.9180654
080719BK-01 469	922.5138913	1605.876569	2.836379735	13.21667462	6.221912532	0.055164921	8.195299318	0.005986872	1.430459859	0.174546384	38.47878446	0.548784086	54.52310273	4.350508711	833.3479794	168.4180397	38.47878446	0.548784086	4.617372983
080719BK-01 470	1862.332595	2468.37471	2.183666544	15.46169678	5.860656488	0.049213619	6.531915553	0.006059759	0.807565652	0.123633817	38.94583162	0.313565008	48.77996588	3.110951321	564.3954592	141.3306935	38.94583162	0.313565008	6.900450914
080719BK-01 471	896.6356196	2331.195847	4.377612702	15.47482688	8.422565293	0.076497082	9.160135076	0.008872927	1.206239632	0.131683607	56.94629379	0.683883676	74.84624741	6.609520173	693.1356587	193.9540899	56.94629379	0.683883676	8.215750131
080719BK-01 472	195.8409971	4495.349573	2.094532418	15.62530954	3.603042011	0.815364068	4.458744961	0.097086858	0.998937144	0.224039983	597.314137	5.698701544	605.458736	20.33707285	637.0210514	93.55217737	597.314137	5.698701544	93.76678144
080719BK-01 473	621.2504605	13909.86114	1.348628271	18.21236906	2.408660356	0.435540583	2.621938824	0.058467489	0.690941533	0.263523133	366.2987698	2.460347456	367.1031033	8.077459328	373.1439478	56.94628839	366.2987698	2.460347456	98.16553958
080719BK-01 474	357.8705676	751.6523411	3.429452678	12.26152309	13.342165	0.082267603	20.42729616	0.009540129	2.863942167	0.140201725	61.2081186	1.744669315	80.27463263	15.76775585	693.6500336	435.2515954	61.2081186	1.744669315	8.82406338
080719BK-01 475	2331.042575	4912.25666	3.78962832	17.49610161	4.413669515	0.045883069	5.384993393	0.006116697	1.194376261	0.221797164	39.31065776	0.468088497	45.55167866	2.398751285	388.7846087	117.9637943	39.31065776	0.468088497	10.11116615
080719BK-01 476	377.2053758	1715.933064	2.41694112	14.99733038	5.95885897	0.170458407	7.341759895	0.021153218	1.068182252	0.145494032	134.940177	1.426425566	159.8166959	10.85698102	547.3809587	158.8734548	134.940177	1.426425566	24.65196767
080719BK-01 477	308.281324	2415.886472	2.369965348	15.15721001	4.195549781	0.262124561	7.484637247	0.031567651	1.046944071	0.139879066	200.3522076	2.065314768	236.3775812	15.78487508	612.5256664	160.2971765	200.3522076	2.065314768	32.70919397
080719BK-01 478	2017.838439	3671.833063	3.692955269	17.08019186	4.620230484	0.046688074	5.628585155	0.006193204	1.09705317	0.194907448	39.80083595	0.435291184	46.33290733	2.549287085	399.9140372	123.7584068	39.80083595	0.435291184	9.952347817
080719BK-01 479	823.9710349	4374.060028	4.48461551	16.46702433	3.365318107	0.121047396	5.703378506	0.015262556	0.989501806	0.173493975	97.64547898	0.958922925	116.0211441	6.253153277	512.5259647	123.5330375	97.64547898	0.958922925	19.05181117
080719BK-01 480	245.5811768	490.1717525	2.873412312	8.138187061	23.25352416	0.087279321	26.90731657	0.006681149	5.546856877	0.206146788	42.92621316	2.373145641	84.96577148	21.9350223	1523.822468	505.2018845	42.92621316	2.373145641	2.81700881
080719BK-01 481	892.5587729	2219.578268	4.928293402	16.18417304	6.223969017	0.073511463	9.504700657	0.009637362	1.002338648	0.105457151	61.82897231	0.616773155	72.02621346	6.608803911	426.197735	211.2460729	61.82897231	0.616773155	14.50710955
080719BK-01 482	4014.437328	6122.109762	2.924244234	18.53065582	2.769864844	0.043123068	3.889223081	0.006052124	0.739461087	0.190130798	38.89690981	0.2867615	42.86862274	1.632552811	272.1373758	87.54604709	38.89690981	0.2867615	14.29311564
080719BK-01 483	385.5954677	858.7298006	5.85768643	10.03546549	20.38060483	0.103113774	28.20339666	0.008966561	2.268629691	0.080438173	57.54456392	1.299663661	99.64652941	26.77493008	1279.527811	558.9957218	57.54456392	1.299663661	4.497328111
080719BK-01 484	762.46773	7504.835713	1.549557549	17.81557038	1.665214398	0.440390994	2.173535662	0.058693344	0.686917126	0.31603674	367.6741564	2.454942037	370.5281014	6.747782976	389.3739295	46.28394165	367.6741564	2.454942037	94.42700923
080719BK-01 485	564.1508465	2577.227957	5.774942073	13.65849881	4.120056341	0.146808154	8.303073003	0.015675596	1.425283742	0.171657378	100.2675425	1.418040315	139.0897752	10.79305844	867.1661826	169.8190208	100.2675425	1.418040315	11.56266752
080719BK-01 486	704.6815698	1990.687184	3.465389836	14.76390852	7.040926751	0.076561773	13.0265151	0.009148499	1.857617981	0.142602835	58.70687842	1.085598815	74.90726415	9.40683678	629.3993304	278.8596375	58.70687842	1.085598815	9.327445326
080719BK-01 487	1570.780513	2421.422396	4.84253437	16.10880783	4.529308342	0.046619827	8.012658668	0.006007281	1.151769661	0.143743757	38.60956601	0.44336422	46.26669943	3.624015921	464.5885847	175.9450988	38.60956601	0.44336422	8.310485295
080719BK-01 489	1527.722202	2227.1124	3.139804259	16.99590125	3.803430419	0.045042447	6.809348854	0.006247925	1.399639013	0.205546675	40.15141283	0.560228341	44.73524261	2.980058483	298.9052381	152.1616577	40.15141283	0.560228341	13.43282342
080719BK-01 490	4672.093606	8705.128653	3.316119231	20.43948334	1.592085728	0.062602132	2.169304235	0.009606148	0.990727267	0.456702777	61.62966993	0.607672551	61.65481154	1.2976843	63.64783082	45.97628059	61.62966993	0.607672551	96.82917569
080719BK-01 491	1001.022811	1926.310261	3.535867833	14.17697564	9.652465391	0.049736613	11.80181103	0.005719573	2.217998139	0.1879371	36.76569665	0.813141482	49.28597057	5.677785184	711.4545082	247.1410464	36.76569665	0.813141482	5.167680607
080719BK-01 492	521.6180126	1300.13567	5.295502321	14.66277115	6.142062608	0.07282965	8.941931962	0.009263213	3.381495424	0.378161614	59.43963066	2.000710433	71.38111444	6.163736458	493.3693901	182.773339	59.43963066	2.000710433	12.04769324
080719BK-01 493	180.6269153	13909.74563	11.34390008	8.803852984	1.057157043	5.202109576	1.698121435	0.334761077	1.038642833	0.611642261	1861.416966	16.7925573	1852.961861	14.46332305	1844.257189	24.31159211	1844.257189	24.31159211	100.9304439
080719BK-01 494	152.1239816	749.1138185	2.666515314	13.00305762	7.10363876	0.445172737	13.95152871	0.056221547	2.403301797	0.172260822	352.6057168	8.246592299	373.89334	43.66446055	508.9773195	303.4707073	352.6057168	8.246592299	69.27729455
080719BK-01 495	395.5045103	4092.284741	2.440334281	17.65670662	2.471357138	0.438994497	6.380699256	0.059924606	0.951724295	0.149156739	375.1669861	3.468643073	369.543183	19.76755661	335.4109827	143.0892716	375.1669861	3.468643073	111.8529224
080719BK-01 496	1644.317823	4984.772584	4.075246345	17.47963935	4.556414371	0.069188753	6.397558051	0.009234187	1.04794951	0.163804611	59.25422855	0.618109276	67.93931575	4.203661642	386.2061786	141.8851191	59.25422855	0.618109276	15.34264127
080719BK-01 497	405.0483725	1500.855281	1.3686007	15.17389025	6.432103476	0.117832087	13.35124044	0.015193369	1.369214752	0.102553374	97.20616084	1.32097651	113.1047092	14.29115079	463.163236	295.4826788	97.20616084	1.32097651	20.98745178
080719BK-01 498	4187.247343	10600.65427	4.134542737	19.34714458	2.001134513	0.062579706	2.377430649	0.009011872	1.019560145	0.428849581	57.83405453	0.587015826	61.63338205	1.421706838	212.79681	49.78650883	57.83405453	0.587015826	27.17806462
080719BK-01 499	1023.155015	2047.247355	4.962974054	14.60313281	6.048812852	0.075560723	7.917951425	0.008937072	1.294962921	0.163547722	57.35614992	0.739446434	73.96266271	5.648178243	651.3797303	167.9323472	57.35614992	0.739446434	8.805332319
080719BK-01 500	363.5244844	2742.070909	2.498525168	15.58694058	6.325398502	0.251910268	6.800384131	0.030968567	1.046383177	0.153871187	196.6073598	2.02621093	228.1267186	13.89514658	567.9213721	146.4173635	196.6073598	2.02621093	34.61876406
080719BK-01 502	1119.875701	495.333444	6.130695683	12.87084112	7.675514014	0.038814987	29.70458792	0.005844873	1.232816458	0.041502561	37.56878374	0.46180717	38.66642419	11.27022314	108.3823231	NA	37.56878374	0.46180717	34.66320212
080719BK-01 503	1063.784807	9756.846281	4.97515473	16.84407332	4.566873712	0.130407941	5.413307478	0.016171165	1.474778067	0.272435673	103.412115	1.512931696	124.4642097	6.341136318	549.0344215	113.8330943	103.412115	1.512931696	18.83526987
080719BK-01 504	828.4700811	1853.253756	4.242137484	15.07858876	10.52518078	0.048651897	14.98594748	0.005972779	1.793109953	0.119652758	38.38847837	0.686302132	48.23621005	7.059753632	570.907988	325.3313638	38.38847837	0.686302132	6.72410952
080719BK-01 505	452.417858	1814.462923	4.017818633	14.8355993	12.35501946	0.127282959	13.37929412	0.015380301	1.430009394	0.106882275	98.39305563	1.396346479	121.653324	15.34028657	605.2578659	288.9103551	98.39305563	1.396346479	16.25638611
080719BK-01 506	451.6464838	2375.013936	2.303141609	15.95449797	6.646421718	0.156562339	6.92162352	0.019874121	1.253573612	0.181109765	126.8603282	1.574741972	147.6896023	9.514124925	497.6635311	150.1182038	126.8603282	1.574741972	25.49118436
080719BK-01 507	583.8245623	1398.622508	4.622189564	12.82854995	16.08587671	0.087896204	17.45741478	0.009282986	2.075242835	0.118874579	59.56592253	1.230444048	85.54169985	14.32258147	889.7901472	360.6320672	59.56592253	1.230444048	6.69437875
080719BK-01 508	359.5373573	789.7555913	2.817178833	10.24900469	4.868690152	0.113557119	14.16020994	0.010175191	2.238131777	0.15805781	65.26202662	1.453281424	109.2140964	14.66329789	1220.878	276.1296908	65.26202662	1.453281424	5.345499436
080719BK-01 509	839.501671	4079.843458	4.142155993	16.67480222	3.465661404	0.107709801	5.809798036	0.015389105	1.11717478	0.1922915	98.44895328	1.091491105	103.8682453	5.736206676	231.029932	131.7466516	98.44895328	1.091491105	42.61307288
080719BK-01 510	708.7311216	1189.985403	3.798649684	15.62792211	6.085514892	0.099275714	24.45507643	0.013715379	1.344068672	0.054960723	87.81417942	1.172280257	96.1075507	22.42879534	308.0847675	NA	87.81417942	1.172280257	28.50325257
080719BK-01 511	803.3260227	4017.38243	1.637850351	16.88348622	4.019579209	0.122875046	5.515914692	0.015771125	1.09793278	0.19904818	100.8738327	1.098906589	117.6751807	6.128934634	473.2729301	119.6592125	100.8738327	1.098906589	21.31409305
080719BK-01 512	625.9257671	1262.560966	2.942847463	15.04630516	5.851558721	0.120859845	9.081706459	0.015660464	0.981515516	0.108076111	100.1715034	0.975599256	115.8512559	9.943561764	452.2299935	200.8161106	100.1715034	0.975599256	22.15056606
080719BK-01 513	2211.534428	6858.590242	4.058951934	18.45348189	2.513651174	0.072967344	4.567521362	0.009999272	0.784135885	0.171676457	64.13931052	0.500445604	71.51142691	3.153943638	326.5376932	102.1598038	64.13931052	0.500445604	19.6422379
080719BK-01 514	229.8919193	29747.05984	1.385810713	5.887564235	0.652277882	11.76490932	0.936166916	0.495269558	0.64204448	0.685822655	2593.434306	13.70901083	2585.875968	8.761224882	2580.673145	11.37947782	2580.673145	11.37947782	100.4944896
080719BK-01 515	2056.989841	2601.888565	2.524856428	16.25751719	7.875611997	0.049962149	10.29342691	0.006375874	0.890267942	0.086488975	40.97105103	0.36359547	49.50410256	4.973485315	486.0279088	226.8995834	40.97105103	0.36359547	8.42977333
080719BK-01 516	515.5680231	1756.648104	5.59690711	14.23960272	9.232826963	0.08141384	11.24641158	0.009370144	1.914864085	0.17026445	60.12259068	1.145913909	79.4733167	8.597270216	709.7155022	236.2666906	60.12259068	1.145913909	8.471365004
080719BK-01 517	1191.87668	20634.91597	2.017062707	18.43571531	1.123637723	0.462799485	1.752853827	0.061661924	0.617100789	0.352054906	385.7246268	2.310495636	386.2030314	5.631033781	390.0259648	36.8158933	385.7246268	2.310495636	98.89716624
080719BK-01 518	5249.025991	101197.4989	0.917944403	18.47156057	0.637600866	0.438391059	0.909016132	0.058017849	0.636594388	0.700311431	363.5597326	2.250347856	369.1172961	2.813113961	405.1196589	14.52623285	363.5597326	2.250347856	89.74132078
080719BK-01 519	346.9598642	4145.714099	1.925728072	17.84307625	3.322931847	0.399735686	5.457393183	0.054486702	0.841023753	0.154107231	342.0087662	2.801405045	341.4564892	15.82622035	338.6634064	122.2158406	342.0087662	2.801405045	100.9878126
080719BK-01 521	216.9863257	15108.90441	2.492007983	6.713520986	0.675707076	8.320310847	1.023145775	0.40213673	0.700569335	0.684720938	2178.870643	12.9524907	2266.53397	9.274460552	2347.336112	12.74820885	2347.336112	12.74820885	92.82312113
080719BK-01 522	1100.010139	1185.181829	2.101338614	14.43102271	5.95070604	0.049611438	14.21998218	0.006232261	1.81047132	0.127318818	40.05105757	0.722865037	49.16488437	6.824781648	520.6323177	310.8740588	40.05105757	0.722865037	7.692772079
080719BK-01 523	746.0954171	16519.4919	1.148686572	18.30083136	2.150942008	0.492575805	2.383727701	0.065815237	0.641419619	0.269082588	410.8943559	2.553318497	406.6643203	7.987892138	383.6702508	51.57363593	410.8943559	2.553318497	107.095704
080719BK-01 524	568.1068372	2554.811189	1.509467242	17.44154211	9.550984858	0.128272382	11.80193829	0.017859165	1.106546324	0.093759711	114.1116144	1.251587679	122.5441409	13.62474917	290.4395339	269.2509045	114.1116144	1.251587679	39.28928437
080719BK-01 525	728.3269119	2016.173914	24.85583526	15.36810143	5.868346187	0.0858892	12.57060916	0.010665275	1.273764782	0.101328803	68.38873185	0.866507158	83.66674163	10.09609876	545.9944625	274.1844899	68.38873185	0.866507158	12.5255358
080719BK-01 526	669.2124771	21641.85821	4.462866268	7.710002939	0.585183241	6.452252691	0.939045492	0.358996618	0.607038614	0.646442179	1977.415933	10.3372942	2039.413745	8.25562405	2103.469958	12.57696925	2103.469958	12.57696925	94.00732943
080719BK-01 527	1974.402103	3372.193049	3.638565499	17.35460877	2.367676735	0.044323929	4.063575606	0.005975946	0.927820884	0.228326227	38.40877306	0.355305085	44.0368764	1.75122401	363.3777756	89.26866991	38.40877306	0.355305085	10.56992905
080719BK-01 528	64.0206332	6787.31861	0.791759461	9.018099696	1.724013791	4.985045013	1.984216966	0.329353962	0.743792821	0.374854582	1835.249519	11.8793571	1816.788201	16.78263997	1796.458469	33.48421967	1796.458469	33.48421967	102.1593068
080719BK-01 529	1415.493914	5672.794842	4.668571627	16.55564775	6.965445135	0.072879373	7.542611364	0.009099661	1.233457093	0.163531837	58.39483566	0.717022767	71.4285051	5.202488371	534.0029097	163.1143162	58.39483566	0.717022767	10.93530185
080719BK-01 530	1089.593761	3515.513991	4.891967408	17.29259502	6.684369174	0.06792537	8.684400795	0.00914058	0.868067366	0.099957082	58.65629378	0.506866644	66.72880117	5.608739831	367.6673487	195.0533009	58.65629378	0.506866644	15.95363145
080719BK-01 531	503.985112	849.3004189	1.922585248	9.474100786	12.64670805	0.074773369	17.82123884	0.006061658	3.258035087	0.182817542	38.95800266	1.265437812	73.21908934	12.58983708	1414.95308	337.6972234	38.95800266	1.265437812	2.753307031
080719BK-01 532	217.4066787	982.8303103	2.832658307	9.447513008	17.41213276	0.19903975	18.03132946	0.015679152	2.461447316	0.136509475	100.2901144	2.449485107	184.3133759	30.40140423	1469.629278	341.846609	100.2901144	2.449485107	6.824177767
080719BK-01 534	566.0261209	2111.927993	1.117778955	16.52848415	2.534858345	0.443788541	7.576497097	0.05987389	0.734283606	0.096915975	374.8585267	2.674024249	372.9203329	23.65099398	361.8563669	170.2879064	374.8585267	2.674024249	103.5931825
080719BK-01 537	204.7366839	527.872848	4.256471268	6.645982744	18.76601032	0.151242095	21.64572623	0.008730226	6.154343612	0.28432142	56.03441012	3.433605816	143.0080131	28.88186265	2038.659531	371.2737142	56.03441012	3.433605816	2.748590888
080719BK-01 538	413.2009778	11377.00035	2.467873345	13.85978276	1.918439834	0.755217782	2.465674277	0.076869065	0.654778508	0.265557586	477.4073636	3.013015404	571.2473387	10.77266381	965.6644131	48.51858237	477.4073636	3.013015404	49.4382269
080719BK-01 539	3595.993482	11911.09345	6.366034133	18.63497141	3.786402228	0.068021574	3.998781744	0.009379084	0.660496711	0.165174484	60.17968152	0.395635243	66.82026746	2.585980229	312.5900266	89.77395683	60.17968152	0.395635243	19.25195188
080719BK-01 540	2237.610766	4419.33643	3.204571345	19.23770461	2.136832631	0.063389003	4.82009603	0.009420559	0.838150217	0.173886622	60.44455927	0.504248478	62.40643847	2.917484481	139.3596946	111.5302371	60.44455927	0.504248478	43.37305663
080719BK-01 542	1328.934535	2122.636334	3.41574126	13.20808337	11.24016704	0.055972151	11.68698745	0.005869378	0.946092687	0.080952657	37.725836	0.355879019	55.2996017	6.290100373	904.5070735	240.8311981	37.725836	0.355879019	4.170872413
080719BK-01 543	852.4438968	15022.50154	2.078360507	18.3691919	1.787452642	0.444803484	2.413604419	0.060143046	0.714072959	0.295853352	376.4953961	2.611450323	373.6338678	7.545072132	356.8883932	52.04921822	376.4953961	2.611450323	105.4938752
080719BK-01 544	726.0669411	1904.184352	3.568590302	14.49249929	9.823867363	0.078264544	14.97851135	0.009199866	1.441732972	0.096254222	59.03500337	0.847241755	76.51200157	11.03965265	664.6645992	320.9728846	59.03500337	0.847241755	8.88192382
080719BK-01 545	934.9462933	1606.626263	4.131146757	17.02578691	5.544180788	0.068573043	8.551349597	0.010000901	1.08371043	0.12672975	64.14970649	0.691749478	67.34442186	5.572090235	183.355036	NA	64.14970649	0.691749478	34.98660734
080719BK-01 546	1617.526073	4318.308482	6.498733066	17.88967173	3.57928569	0.067978887	4.341505649	0.00936047	1.217321555	0.280391563	60.06080426	0.727737714	66.77968392	2.805968361	315.6372374	94.79101354	60.06080426	0.727737714	19.02842793
080719BK-01 547	991.3883893	4443.221565	2.560769267	18.62129184	3.190627065	0.115714021	4.311137712	0.016559831	0.902454811	0.20933101	106.1309232	0.949942456	111.1789385	4.540020301	221.710821	97.57145988	106.1309232	0.949942456	47.8690768
080719BK-01 548	4806.039155	1108.827134	4.377174129	18.04346229	2.34280874	0.033860581	3.508594081	0.005827124	0.843117095	0.240300552	37.45503015	0.314874134	33.81218685	1.166797944	NA	NA	37.45503015	0.314874134	
080719BK-01 549	2872.911899	3871.332688	7.026870091	17.38302158	4.143447965	0.044759291	4.685741376	0.006009362	1.033477706	0.220557991	38.62290021	0.397965692	44.4600853	2.03833594	372.8367724	102.9409653	38.62290021	0.397965692	10.3591982
080719BK-01 550	734.0865795	2273.964006	10.16004032	14.21387138	8.583597166	0.096261964	11.4092009	0.01087392	2.745636175	0.24065105	69.71941242	1.903927206	93.3199754	10.17278904	749.2833346	234.6150605	69.71941242	1.903927206	9.304812905
080719BK-01 551	776.146644	1991.902461	4.123748562	16.49172693	5.98285458	0.068253638	9.000318101	0.00926126	2.287055685	0.254108317	59.42715546	1.35288669	67.04087018	5.839074019	348.9890107	197.1372003	59.42715546	1.35288669	17.02837443
080719BK-01 552	469.0549	13795.18435	6.589746432	17.59998165	2.539229877	0.478138957	2.703446539	0.061984449	0.651378325	0.240943668	387.6827674	2.450846914	396.7952833	8.87968652	451.1763908	58.27790041	387.6827674	2.450846914	85.92709533
080719BK-01 553	1790.578935	2351.784642	3.897793054	17.71994261	3.239331771	0.063856923	9.936125546	0.009169791	1.006624446	0.101309554	58.8428942	0.589631785	62.85313569	6.055874857	219.365634	NA	58.8428942	0.589631785	26.82411694
080719BK-01 554	1008.799797	1065.147595	4.159235506	15.72452635	5.47670607	0.071336332	9.373969535	0.010326873	1.041456024	0.111100854	66.22991023	0.686224252	69.96677462	6.337880294	200.6383453	NA	66.22991023	0.686224252	33.0095975
080719BK-01 555	1836.889627	4935.572462	3.691935999	18.33804613	3.551822477	0.06952342	4.077376586	0.009716407	0.90801267	0.222695317	62.33364214	0.563269711	68.24709103	2.691240951	281.7973464	90.96114548	62.33364214	0.563269711	22.12002453
080719BK-01 556	2276.962418	2444.652926	4.636109263	17.28460567	3.812664932	0.043867584	7.127676801	0.006096406	1.029564908	0.144446071	39.18064631	0.402166783	43.59308092	3.041427785	294.6606506	161.1839387	39.18064631	0.402166783	13.2968709
080719BK-01 557	1260.142438	22487.70437	1.197713795	18.2517328	1.480154937	0.445146914	1.69549653	0.059258567	0.621883853	0.366785683	371.1148982	2.242728313	373.8751961	5.303006162	391.9717464	35.39326275	371.1148982	2.242728313	94.67899193
080719BK-01 558	857.8276882	1204.928854	3.371382703	14.24236871	10.29519463	0.048635699	18.86316313	0.006021281	1.914539651	0.101496215	38.69927551	0.738693487	48.22052635	8.88353952	552.5296117	412.8776577	38.69927551	0.738693487	7.004018371
080719BK-01 559	262.7176744	27432.1825	3.295120237	6.602851742	0.621558059	7.343430784	0.978295297	0.349968068	0.736757221	0.753103101	1934.446021	12.31255148	2154.109252	8.743089976	2371.342414	10.97815042	2371.342414	10.97815042	81.57598879
080719BK-01 561	694.0630679	6159.884074	2.959427171	17.57536082	2.754092842	0.37469536	3.184700561	0.049443539	1.022258988	0.320990614	311.1043381	3.104771505	323.127532	8.814166933	411.6552332	67.4513041	311.1043381	3.104771505	75.57400296
080719BK-01 562	835.1764476	4014.301699	4.176101467	18.52215262	3.300674846	0.107734404	5.882768241	0.015443394	0.786538888	0.133702171	98.79360515	0.771126142	103.8907974	5.809451858	223.4487968	134.9085054	98.79360515	0.771126142	44.21308441
080719BK-01 563	651.6460105	3519.863633	1.785532733	16.5011839	6.302463629	0.122298588	9.568534939	0.015663889	0.968629592	0.101230711	100.1932404	0.962998308	117.1537725	10.58776086	477.9625641	210.8674526	100.1932404	0.962998308	20.9625707
080719BK-01 564	856.5406383	14258.02303	2.902595544	18.50436774	1.817357248	0.443363674	1.987650611	0.060470144	0.655708966	0.329891462	378.4840726	2.410304457	372.6214901	6.199543195	337.31636	42.49134837	378.4840726	2.410304457	112.2044815
080719BK-01 566	64.9520286	1743.267387	1.067009474	12.88201849	5.87640681	1.47025078	8.275832129	0.153131234	2.836490422	0.342743833	918.4918906	24.2821215	918.2308736	50.05454903	918.51889	160.1143531	918.51889	160.1143531	99.99706055
080719BK-01 567	3036.985223	1373.45834	2.605084181	19.42651713	3.104501603	0.03414321	6.551031269	0.006076734	0.826425351	0.126151947	39.05459884	0.32178139	34.08972643	2.19615971	NA	NA	39.05459884	0.32178139	
080719BK-01 568	1752.856392	4254.776977	2.517591634	19.69007153	1.118552813	0.063477909	3.160560112	0.009700755	0.90046162	0.284905709	62.23371277	0.557694376	62.49132673	1.9155285	73.38153368	72.03507488	62.23371277	0.557694376	84.80841111
080719BK-01 569	1821.409735	1342.479912	3.832117617	17.98387599	1.746707149	0.095978489	21.9640277	0.015552394	0.592047421	0.026955321	99.48554404	0.584479948	93.05771422	19.53299439	NA	NA	99.48554404	0.584479948	
080719BK-01 570	432.6545128	917.7778575	3.837729558	10.47222809	15.69811778	0.10087718	16.18874749	0.009099852	1.74537764	0.107814248	58.3961173	1.01463023	97.5857224	15.06361074	1207.698437	318.9459954	58.3961173	1.01463023	4.835322751
080719BK-01 571	504.8438905	718.8606172	4.333506973	10.4809585	13.54879014	0.092216669	27.76672016	0.00880992	2.399304203	0.086409349	56.54368155	1.350722466	89.56620033	23.80864649	1093.76022	564.5048747	56.54368155	1.350722466	5.169659722
080719BK-01 572	1227.119274	2587.131933	4.250334152	12.96394431	6.889285564	0.056298417	10.44903434	0.00567866	1.958819622	0.187464177	36.50344532	0.713015986	55.61327835	5.654837266	984.078585	209.480247	36.50344532	0.713015986	3.709403485
080719BK-01 573	397.9487313	5414.216753	2.553159307	17.79424847	1.889716614	0.446572957	4.298365062	0.060376999	0.801075562	0.186367503	377.9178366	2.940376501	374.8766626	13.47444167	357.0872428	95.38512727	377.9178366	2.940376501	105.8334747
080719BK-01 574	1258.534718	1795.345648	2.851023678	16.03920094	7.324466273	0.043820877	11.35687371	0.005840369	1.288522092	0.113457464	37.53992103	0.482304493	43.54764825	4.841133825	389.3284707	254.0040063	37.53992103	0.482304493	9.642223433
080719BK-01 575	883.0944829	1187.554596	2.368677403	15.98256003	4.842271535	0.112813436	17.38754602	0.016236003	0.811523406	0.046672682	103.8234229	0.83580276	108.5357522	17.89994329	214.246547	NA	103.8234229	0.83580276	48.45978819
080719BK-01 576	1306.160227	2361.163545	3.683538759	14.29644677	6.334756235	0.054583106	7.22962426	0.006176861	1.485624772	0.205491284	39.69613373	0.587923564	53.96306904	3.79948819	745.4955031	149.7233918	39.69613373	0.587923564	5.324798549
080719BK-01 577	5231.769268	11507.40866	4.06585446	20.0783983	1.444318515	0.062212933	2.631498808	0.009259838	0.70939458	0.26957815	59.4180737	0.419571979	61.28283974	1.564957416	135.7862867	59.57709168	59.4180737	0.419571979	43.75852315
080719BK-01 578	191.4529133	1091.595761	3.539117405	12.53244967	12.15734318	0.172987496	16.20607729	0.018769211	1.974138562	0.121814707	119.872635	2.344585391	162.0083357	24.27235177	833.8667547	337.2845723	119.872635	2.344585391	14.37551435
080719BK-01 579	1210.49173	18560.86357	1.836261719	18.38090294	1.28681924	0.462533301	1.493920062	0.062494161	0.672166181	0.449934503	390.7759939	2.54863577	386.0182461	4.797309567	358.5559131	30.10576071	390.7759939	2.54863577	108.9860687
080719BK-01 580	1228.870717	2038.696915	2.718167768	16.24491588	5.295239379	0.044311386	13.16612729	0.005903587	1.209243219	0.09184502	37.94507009	0.457500391	44.02468124	5.672543025	390.1477383	295.3921055	37.94507009	0.457500391	9.725820856
080719BK-01 581	346.3481785	512.6320992	1.741634909	14.43869701	3.175801002	0.32486165	10.77066781	0.058412567	0.803122556	0.074565716	365.9642686	2.857270523	285.6354153	26.82263638	NA	NA	365.9642686	2.857270523	
080719BK-01 582	1088.557397	2286.669848	3.343236055	15.48893091	6.459509386	0.048682364	7.179185977	0.00606074	1.415803914	0.197209533	38.95211806	0.549822803	48.26571006	3.384031649	540.3885112	154.1028738	38.95211806	0.549822803	7.208169169
080719BK-01 583	2090.790258	6329.599455	4.984489207	16.87884635	5.374334728	0.048398927	5.814527322	0.006152056	1.139741306	0.196016158	39.53721054	0.449242862	47.99123608	2.725552386	494.7202517	125.7633733	39.53721054	0.449242862	7.991831829
080719BK-01 584	1593.746331	6253.513409	3.648783937	18.29869432	3.016885168	0.066489825	4.076697233	0.009209616	0.857374316	0.210311011	59.0972862	0.504369526	65.36296715	2.580701517	302.2208202	90.89081895	59.0972862	0.504369526	19.55433982
080719BK-01 585	1884.683523	7992.09289	2.156202034	19.40110575	2.642474224	0.105189005	3.543653494	0.015332031	0.746335648	0.210611915	98.08659386	0.726513999	101.5549222	3.424653178	184.7302248	80.67714358	98.08659386	0.726513999	53.09720915
080719BK-01 586	136.1380767	2423.118461	1.201447358	16.0596726	6.433630602	0.452202068	10.15791255	0.058230072	1.231213734	0.121207357	364.8526622	4.367359599	378.8201978	32.12808013	466.0568173	223.8439299	364.8526622	4.367359599	78.28501776
080719BK-01 587	1473.770313	3664.607491	2.383153857	18.98668147	4.578069857	0.06547268	5.279485435	0.009750455	0.950616352	0.180058455	62.55101314	0.591744602	64.39410244	3.294131983	134.4573368	122.1420764	62.55101314	0.591744602	46.52108591
080719BK-01 588	1084.17876	4839.058276	1.383217552	18.86497715	3.4022559	0.10754304	4.583975618	0.015577386	0.657845807	0.143509883	99.64418494	0.650464926	103.7153728	4.51956645	199.3018296	105.4143464	99.64418494	0.650464926	49.99662329
080719BK-01 589	1695.647654	2113.988379	6.150210141	16.05780029	6.427977225	0.045593764	10.03066926	0.005946534	0.938532723	0.093566311	38.22029661	0.357648707	45.27077143	4.441248291	437.7135484	222.7850346	38.22029661	0.357648707	8.731805709
080719BK-01 590	1160.072012	661.3005562	2.009953118	13.49657385	10.66353052	0.043497737	43.13365262	0.006058312	1.758021298	0.040757534	38.9365618	0.682449966	43.23326313	18.25862665	289.6141621	NA	38.9365618	0.682449966	13.44428792
080719BK-01 591	811.0631414	6937.114623	4.676739813	19.21715605	2.160482897	0.255740812	3.398486309	0.036896332	0.924067511	0.271905615	233.5661878	2.119677428	231.2288029	7.027848654	208.561044	75.84023807	233.5661878	2.119677428	111.9893645
080719BK-01 592	211.2895108	547.1323753	4.07816918	7.944852495	26.56740207	0.118929454	32.83753961	0.008510764	4.723159195	0.143834138	54.63175859	2.569441996	114.1010136	35.4538728	1649.759736	619.6986057	54.63175859	2.569441996	3.311497874
080719BK-01 593	165.9522588	13376.97698	0.991837224	6.161168749	0.615901431	10.30829854	0.874742853	0.460291611	0.570335054	0.652003102	2440.845441	11.58889979	2462.849002	8.096722237	2481.780424	11.18643086	2481.780424	11.18643086	98.35057999
080719BK-01 594	1265.153955	2572.42606	2.128897842	16.6809269	5.679753231	0.048023807	10.14671642	0.006374782	0.968923002	0.095491286	40.96405375	0.395651714	47.62786467	4.721108729	398.3684179	226.9046561	40.96405375	0.395651714	10.28295716

080719BK-01 595	3343.645863	5819.638667	5.130147908	18.32591099	4.999424999	0.042800211	5.828409812	0.005922848	0.748153302	0.128363194	38.0685076	0.283971492	42.55430344	2.428989418	304.3132951	131.8193758	38.0685076	0.283971492	12.50964326
080719BK-01 596	1145.419382	3031.402633	3.182434374	17.8284688	4.168262343	0.109264687	5.492611928	0.015356433	0.75587419	0.137616529	98.24152637	0.736952608	105.2925335	5.493608448	268.9043399	124.8273252	98.24152637	0.736952608	36.53400551
080719BK-01 597	2168.91533	3529.678666	3.57839472	19.27298164	2.173464408	0.059977375	4.283038369	0.009055093	0.697363449	0.1628198	58.11017676	0.403418128	59.14358922	2.460784525	102.2100634	99.96111782	58.11017676	0.403418128	56.85367452
080719BK-01 598	1126.811421	1836.942751	4.198834674	13.30224134	12.37274547	0.05589279	15.97966157	0.00597811	1.260050759	0.078853407	38.42263926	0.482704794	55.2232883	8.589023884	863.6603488	332.3900388	38.42263926	0.482704794	4.448813624
080719BK-01 599	375.2552349	1131.207154	3.701986491	11.06395114	17.63363233	0.097931844	18.59021194	0.009052269	2.801097926	0.150675954	58.09213852	1.619907824	94.86548009	16.83846934	1159.468076	367.4465886	58.09213852	1.619907824	5.010240448
080719BK-01 600	1021.215106	20624.75197	1.87258133	18.46164001	1.236676034	0.44355035	1.560377689	0.059691067	0.642781639	0.411939778	373.7464615	2.334058619	372.7528052	4.868262196	367.5395073	32.02988712	373.7464615	2.334058619	101.6887856

Sample 080919BK-01

Analysis	U (ppm)	206Pb 204Pb	U/Th	206Pb* 207Pb*	± (%)	207Pb* 235U	± (%)	206Pb* 238U	± (%)	error corr.	206Pb* 238U	± (Ma)	207Pb* 235U	± (Ma)	206Pb* 207Pb*	± (Ma)	Best age (Ma)	± (Ma)	Conc (%)
080919BK-1 1	203.321051	10851.29281	2.017687232	12.2298674	1.665119314	2.332408302	1.95580507	0.208358618	0.681663709	0.348533563	1220.0672	7.57712065	1222.211765	13.9004538	1226.836382	36.0033796	1226.836382	36.0033796	99.4482408
080919BK-1 2	1878.428814	8382.085138	2.692188627	19.01128146	2.964229371	0.1072688	4.479942171	0.015164847	0.632413074	0.141165455	97.02504218	0.609004491	103.4639214	4.406820961	255.4360442	101.9832659	97.02504218	0.609004491	37.98408423
080919BK-1 4	314.8940794	18391.99765	1.460666907	10.19217364	0.803863982	3.827282649	1.124934707	0.283306858	0.711157159	0.632176387	1607.995034	10.12070396	1598.501001	9.056419915	1586.803725	16.2917443	1586.803725	16.2917443	101.3354713
080919BK-1 5	975.2077542	32946.38217	2.136519883	19.13987493	1.430705568	0.513216561	1.648271557	0.071403334	0.695650135	0.422048255	444.6047799	2.988646907	420.6097964	5.676266477	292.0747915	34.122642	444.6047799	2.988646907	152.2229213
080919BK-1 6	238.0538964	20983.2701	1.470411736	9.657092208	0.921694521	3.940261949	1.397579209	0.275986898	0.889882208	0.636731144	1571.119528	12.40776375	1621.991527	11.31877554	1689.427251	19.87914889	1689.427251	19.87914889	92.99716975
080919BK-1 7	902.1469518	3239.200561	1.324517997	15.4443171	13.75059884	0.099631264	14.19272516	0.011915325	1.025700359	0.072269444	76.35710947	0.778574977	96.4359128	13.0577456	627.5507393	306.4704893	76.35710947	0.778574977	12.1674798
080919BK-1 8	785.7569158	1980.711782	1.745165764	13.23043982	5.30696023	0.151584424	7.194585471	0.015888373	1.785777562	0.248211321	101.6178826	1.800441505	143.309899	9.616288111	905.4334762	143.7997908	101.6178826	1.800441505	11.22311968
080919BK-1 9	305.9401058	19434.61682	1.135613981	9.286244924	0.982263934	4.78383656	1.231810807	0.320233226	0.690897052	0.560879194	1790.868057	10.80308227	1782.06552	10.34544723	1772.551713	18.61712526	1772.551713	18.61712526	101.033332
080919BK-1 10	1681.112267	8885.620753	2.672334976	20.08085834	2.338526465	0.101114869	3.379133573	0.015043166	0.905834174	0.268066992	96.25231203	0.865409488	97.80492874	3.150787119	136.8237279	76.51556959	96.25231203	0.865409488	70.34767544
080919BK-1 11	415.9723151	1594.392683	1.526978632	17.127196	3.016634978	0.514857794	5.457512801	0.075574767	0.833246486	0.152678796	469.6547006	3.774226469	421.7104829	18.83605341	168.2954212	126.0520177	469.6547006	3.774226469	279.0656437
080919BK-1 12	193.5327392	23111.04026	0.903147223	8.292593274	0.922668877	5.964491078	1.203651968	0.358774132	0.704955075	0.585680158	1976.360481	11.9992472	1970.680343	10.46719298	1965.481477	17.40084577	1965.481477	17.40084577	100.5535033
080919BK-1 13	699.3446118	4154.999942	3.914790284	15.01150617	8.252237788	0.13444963	8.740245079	0.015373576	1.242546197	0.142163771	98.35036074	1.212773755	128.0881616	10.51824904	723.5280456	183.8246715	98.35036074	1.212773755	13.59316496
080919BK-1 14	84.30576593	2923.632416	1.359936994	12.88628038	4.52444714	1.583258306	7.870808983	0.157147931	1.062742272	0.135023258	940.9076391	9.30392599	963.6508214	49.01967639	1016.771305	158.2029463	1016.771305	158.2029463	92.53876804
080919BK-1 15	1287.363765	1654.855057	1.373161052	18.69851868	3.303398498	0.077165452	11.51749887	0.012510835	1.050821628	0.091236964	80.14969163	0.837016114	75.47647804	8.377962903	NA	NA	80.14969163	0.837016114	
080919BK-1 16	336.3780532	813.4597049	1.290514351	14.51284872	3.133532778	0.592916171	5.747847475	0.084087648	0.75270354	0.130953986	520.4754636	3.763656893	472.7282391	21.72710168	248.1480203	131.2698998	520.4754636	3.763656893	209.7439516
080919BK-1 17	1821.492169	29396.94407	4.047685516	17.84686602	1.136291138	0.52424617	1.440346874	0.068144289	0.767122891	0.532595936	424.9658881	3.154879121	427.9839299	5.030147405	445.214335	27.1004449	424.9658881	3.154879121	95.45197778
080919BK-1 18	1395.252012	5311.220336	1.478596071	19.66697862	4.64786586	0.104634948	5.838737866	0.015713702	0.848519075	0.14532577	100.5093986	0.846227297	101.0457595	5.615795687	114.7204665	NA	100.5093986	0.846227297	87.61243895
080919BK-1 19	115.7334961	6238.238298	2.330290711	12.66379234	4.055406784	1.897923349	4.328554681	0.178645603	0.925844981	0.213892407	1059.571219	9.046193197	1080.361876	28.79260604	1123.41271	84.35043139	1123.41271	84.35043139	94.31718284
080919BK-1 20	894.0161559	3692.647705	3.031058718	15.62086706	5.144844911	0.128654567	6.606071129	0.015457707	1.021611444	0.154647358	98.8844745	1.002506507	122.8880279	7.646197794	617.570606	141.0279932	98.8844745	1.002506507	16.01184926
080919BK-1 21	391.1860267	38696.91643	1.906978384	8.950639414	0.795958856	4.678054307	1.240977003	0.303218312	0.941271223	0.758492076	1707.247897	14.11795957	1763.322965	10.38184391	1831.184524	14.65716149	1831.184524	14.65716149	93.23188758
080919BK-1 22	422.6022828	7431.805956	2.766658512	17.96733455	3.662896853	0.46259871	5.205706917	0.062197796	0.811017495	0.155793921	388.9776279	3.061385801	386.0636563	16.71968553	369.5929673	115.9029357	388.9776279	3.061385801	105.2448673
080919BK-1 23	1366.177591	5593.907914	2.22555819	17.0807439	3.910264445	0.129161386	4.254381768	0.016669438	0.919048852	0.216024067	106.5722981	0.971399761	123.3438808	4.941359789	461.0902451	92.14488872	106.5722981	0.971399761	23.11311054
080919BK-1 24	380.6348122	33787.7541	2.475457773	9.37325763	0.740816427	4.588040387	1.084302092	0.311626699	0.779243163	0.718658729	1748.706669	11.93482659	1747.097191	9.039811535	1745.951101	13.80926356	1745.951101	13.80926356	100.1578262
080919BK-1 25	1365.254384	3141.335142	1.344510337	16.70484334	7.38525186	0.076606522	11.19622338	0.010016988	1.200753905	0.107246333	64.25238148	0.767680833	74.94946954	8.089457405	432.0075001	248.7005293	64.25238148	0.767680833	14.87297824
080919BK-1 26	141.2437135	3158.008906	1.587494351	15.40400105	5.06661336	0.587300004	5.865751385	0.070272058	1.274485791	0.217275794	437.7945247	5.394383124	469.1419628	22.04056644	626.4973302	123.4954355	437.7945247	5.394383124	69.87971115
080919BK-1 27	819.720267	2291.948261	4.061838074	12.87413997	16.23794927	0.097163715	18.46285996	0.009820071	1.636649398	0.088645497	62.99543616	1.025993182	94.15485537	16.60352379	980.0370164	377.6663915	62.99543616	1.025993182	6.427862939
080919BK-1 28	1809.48552	2475.058662	2.602632364	17.55279254	2.662882169	0.106933391	11.9211722	0.015126086	0.962577452	0.080745202	96.77890444	0.924614018	103.1562988	11.69391471	254.1116205	NA	96.77890444	0.924614018	38.08519431
080919BK-1 29	773.4068365	3202.3667	5.410325481	11.67906023	0.929286384	1.040643797	1.785148563	0.092493892	0.971566825	0.544249843	570.2695068	5.302552997	724.2375437	9.243813391	1236.795351	29.35013896	1236.795351	29.35013896	46.10863925
080919BK-1 30	477.2598599	1342.042314	2.037788787	12.63971887	8.984567116	0.104871695	15.37476763	0.011067462	1.863506039	0.121205477	70.95352632	1.314973255	101.2633552	14.81889241	891.3872032	316.91628	70.95352632	1.314973255	7.959899589
080919BK-1 31	813.4768167	9507.850353	4.505829487	13.92501682	0.694230679	1.438746299	1.331842392	0.14771907	1.080012412	0.81091608	888.164743	8.960829208	905.1978429	7.978280086	947.8650838	15.95459196	947.8650838	15.95459196	93.70159933
080919BK-1 32	790.5154267	3326.20842	1.796336755	15.3277435	6.389223731	0.12692281	9.10521739	0.015050445	0.900006957	0.098845192	96.29853799	0.860252192	121.328874	10.41312221	645.9290031	195.0506426	96.29853799	0.860252192	14.90853291
080919BK-1 33	339.4664523	7736.48614	2.743210538	17.66562586	3.98615865	0.526623268	4.876502654	0.069472224	0.762507795	0.156363658	432.9752024	3.193038988	429.5662102	17.08234593	412.2732355	107.7268823	432.9752024	3.193038988	105.0214191
080919BK-1 34	341.232624	31729.65313	1.261086222	10.50568084	1.065016676	3.421867456	1.244464166	0.260708799	0.581722872	0.467448471	1493.467214	7.754886735	1509.429972	9.77874668	1532.702277	20.71000347	1532.702277	20.71000347	97.44013803
080919BK-1 35	2109.042846	8868.806248	2.452930255	19.06690243	3.387218877	0.106171422	4.410709364	0.01509062	0.715377101	0.162190941	96.5536772	0.685575843	102.4571087	4.298591201	243.0259929	100.3441534	96.5536772	0.685575843	39.72977377
080919BK-1 36	554.6384642	1651.576826	1.717341819	12.10144526	11.01792814	0.101230504	13.52443116	0.009876264	1.900219806	0.140502753	63.35414852	1.197971729	97.9115548	12.62421732	1051.583549	270.9837465	63.35414852	1.197971729	6.024642417
080919BK-1 37	732.3739986	2950.163823	4.501264174	16.55553772	5.703128658	0.119628885	9.705930797	0.015574298	1.177454574	0.121312896	99.62458324	1.164016549	114.735521	10.53039427	441.7403437	214.718782	99.62458324	1.164016549	22.55274726
080919BK-1 40	317.4431581	25800.92325	1.450466245	9.389859882	0.847747163	3.87584283	1.214885605	0.264035795	0.714156189	0.587838218	1510.456818	9.616458601	1608.664241	9.806076072	1740.515267	18.01328664	1740.515267	18.01328664	86.78216424
080919BK-1 42	506.8645037	14777.64513	4.8679754	14.21218601	0.87167284	1.347105791	1.713408394	0.140136655	1.276433319	0.744967354	845.4351547	10.11373415	866.3075501	9.985592512	920.9912397	23.49765427	845.4351547	10.11373415	91.7962211
080919BK-1 43	806.3758743	2782.978368	2.699321597	15.78833093	3.584154391	0.122650501	4.655875441	0.015237998	1.478295361	0.317511793	97.48954525	1.43034062	117.4721104	5.164874345	544.8820028	96.54306457	97.48954525	1.43034062	17.8918637
080919BK-1 44	1828.496231	5305.248747	9.968881935	19.6986255	2.60934247	0.071191847	3.753078377	0.010710558	0.869615908	0.231707367	68.67755653	0.594060895	69.82982593	2.532686562	110.4943376	86.20575148	68.67755653	0.594060895	62.15481987
080919BK-1 45	3644.709459	11855.9658	1.80831096	19.37961286	1.783952156	0.106969724	2.198464152	0.015333712	0.788140747	0.358496065	98.09726858	0.767291674	103.1896262	2.157123863	223.4548214	47.46222217	98.09726858	0.767291674	43.90026941
080919BK-1 46	265.9862284	4388.564751	1.269669479	10.48358423	1.074617453	2.876780666	2.799185738	0.225192164	2.154997526	0.769865857	1309.251896	25.53385082	1375.849199	21.09403289	1481.580836	33.8637481	1481.580836	33.8637481	88.3685766
080919BK-1 47	766.775484	2168.545344	1.908716487	14.9874776	6.676955942	0.083706338	11.02627088	0.010067691	1.548877545	0.140471567	64.57598316	0.995209906	81.62355733	8.64800235	615.3258394	236.3948713	64.57598316	0.995209906	10.49459961
080919BK-1 48	600.2716877	81226.22712	2.371065627	10.95679872	0.772218252	3.169297794	1.123115238	0.251151504	0.798487761	0.710957998	1444.411479	10.33267388	1449.710745	8.668918391	1458.298811	15.01748841	1458.298811	15.01748841	99.04770328
080919BK-1 49	529.5145056	1225.766729	1.746805781	9.681696797	22.10577706	0.123993234	22.44589651	0.009738126	3.253408272	0.144944457	62.47230237	2.022662463	118.6858219	25.1472175	1475.333324	426.6129805	62.47230237	2.022662463	4.23445342
080919BK-1 50	1340.424938	2604.639514	1.808178801	15.78715058	7.550969528	0.078816931	8.362913046	0.009852931	1.067906248	0.127695486	63.20520747	0.671674197	77.03204228	6.203898227	531.3649631	181.9422526	63.20520747	0.671674197	11.89487675
080919BK-1 51	1903.713451	1487.274456	1.214758904	17.81909631	2.871759664	0.113400946	5.272672628	0.017726629	0.90171775	0.171017208	113.2721645	1.012473907	109.0716826	5.452930788	19.36572593	NA	113.2721645	1.012473907	584.9105009
080919BK-1 52	157.8564271	17280.75946	0.585635846	8.174010455	0.818877051	6.516545679	1.33874442	0.386954833	0.907992591	0.678241924	2108.690257	16.33049678	2048.135941	11.78545162	1988.471288	17.49917906	1988.471288	17.49917906	106.0457986
080919BK-1 53	574.133536	1411.984888	2.143212078	11.34100255	9.01196739	0.103623044	12.72806141	0.009575368	1.831001551	0.143855493	61.43313439	1.119498874	100.1151893	12.13524187	1160.080401	250.6974753	61.43313439	1.119498874	5.295592818
080919BK-1 54	507.5921305	24390.58869	1.322591202	16.0327634	1.888032428	0.919107643	2.162227136	0.107396813	0.696163752	0.32196606	657.6119115	4.352289784	661.8879104	10.5151093	677.4144572	43.73914758	657.6119115	4.352289784	97.07674593
080919BK-1 55	275.923455	23243.06084	16.78309541	9.848084642	0.893591149	4.336126355	1.173603074	0.310066811	0.692925017	0.590425359	1741.03553	10.57223174	1700.258911	9.683673548	1651.150395	17.55792096	1651.150395	17.55792096	105.4437885
080919BK-1 56	424.1043071	706.5699752	1.947045346	7.948886259	23.06421479	0.093238147	24.89760966	0.006322464	2.709042784	0.108807344	40.62892114	1.09719367	90.51537741	21.56411842	1748.964824	460.516343	40.62892114	1.09719367	2.323026775
080919BK-1 57	763.8027304	19686.64601	2.071766824	18.08122339	1.952349317	0.437483486	2.119104294	0.057879311	0.667474039	0.314979325	362.7155796	2.354180909	368.4764233	6.548578882	405.8319602	45.02164015	362.7155796	2.354180909	89.37580456
080919BK-1 58	275.7124425	6061.642362	1.713720041	16.34057981	3.887192764	0.63078385	4.153595009	0.077436525	0.782117918	0.188299032	480.8034295	3.623636703	496.5840371	16.31456858	570.9460322	88.78402289	480.8034295	3.623636703	84.21171221
080919BK-1 59	238.2607712	3571.992913	2.220721359	6.122581144	0.679870894	9.700167101	1.798260281	0.438192199	0.61708115	0.343154524	2342.542514	12.12016997	2406.721184	16.55425325	2462.196273	28.54320277	2462.196273	28.54320277	95.14036468
080919BK-1 60	429.674768	1925.070956	3.779367683	13.05061727	7.028394736	0.141143967	11.58329005	0.014731221	1.955233176	0.168797739	94.27088036	1.829803655	134.0622824	14.54833992	914.2355063	235.653152	94.27088036	1.829803655	10.31144379
080919BK-1 61	451.9134642	17565.12839	1.80300253	13.44430247	1.025148605	1.741785376	1.578469385	0.1709075	0.687074849	0.435279173	1017.109356	6.464886946	1024.124796	10.1822045	1040.006197	28.70621877	1040.006197	28.70621877	97.7983938
080919BK-1 62	197.7080494	11952.88474	2.708174495	12.8466003	1.86052782	2.006376228	2.076918277	0.188946365	0.71044289	0.342065886	1115.664832	7.278197555	1117.668114	14.07492789	1122.433737	38.91620877	1122.433737	38.91620877	99.39694392
080919BK-1 63	152.5203996	4004.459657	0.723680986	13.69649091	3.807996489	1.56283179	5.560571176	0.162468727	0.979740433	0.176194208	970.4815919	8.82709923	955.5900036	34.44355606	922.3764127	112.5548794	922.3764127	112.5548794	105.2153523
080919BK-1 64	1430.11274	3572.115325	1.785623609	17.23703113	5.978244466	0.076139336	7.49035418	0.010194776	0.910818102	0.121598803	65.38700918	0.592546491	74.50875522	5.381172423	378.9331041	167.3960877	65.38700918	0.592546491	17.25555473
080919BK-1 65	364.2104003	572.8944597	1.249398347	7.076929214	28.22059232	0.105829229	29.61267159	0.006484476	5.065025029	0.171042488	41.66667151	2.103621668	102.1429526	28.78335235	1932.475351	534.6149335	41.66667151	2.103621668	2.15612952
080919BK-1 66	2380.272107	6568.344779	3.717713319	16.99180646	6.823853034	0.079092205	7.380826759	0.010082374	0.776471683	0.10520118	64.66969458	0.499631554	77.29109721	5.493059321	488.3825817	162.1606532	64.66969458	0.499631554	13.24160546
080919BK-1 67	1136.607037	2047.139084	1.891269225	17.65029188	5.578860048	0.118480982	6.410392714	0.017291037	0.762407117	0.118932981	110.5124799	0.835374045	113.6939619	6.895111006	181.8172041	148.4518972	110.5124799	0.835374045	60.78219077
080919BK-1 68	162.2872367	11530.81487	0.918689605	10.61443498	1.91192271	3.271540172	2.12041956	0.253924187	0.764013204	0.360312279	1458.681602	9.97360599	1474.310259	16.4914051	1497.688651	37.41303934	1497.688651	37.41303934	97.39551681
080919BK-1 69	1927.238005	5772.2044	3.785880379	19.11219712	3.097104565	0.104363608	3.674984097	0.015136666	0.690721455	0.18795223	96.8460908	0.663936997	100.7963125	3.526339465	196.2815758	83.90375631	96.8460908	0.663936997	49.34038787
080919BK-1 70	1031.64692	2200.079275	2.019873496	14.33022787	4.795634322	0.088362502	9.533237313	0.010092446	1.04250892	0.109355184	64.7339694	0.67148031	85.97682341	7.859110944	725.9043478	201.3540374	64.7339694	0.67148031	8.917699638
080919BK-1 71	389.4975752	4309.060354	2.695154576	16.51880129	3.869065406	0.548640149	4.138002795	0.069286236	0.786639978	0.190101365	431.854033	3.28584634	444.1054195	14.88637229	509.024284	89.36656089	431.854033	3.28584634	84.83957379
080919BK-1 72	779.966501	2197.119945	1.927811638	12.37447112	9.701521861	0.069433403	11.39107146	0.006744564	2.430594096	0.213377126	43.33228993	1.049700137	68.16162684	7.509605291	1060.374951	224.611176	43.33228993	1.049700137	4.086506372
080919BK-1 73	375.4348206	22492.66467	2.750835316	10.50305767	0.850345545	3.511977388	1.113837572	0.26801328	0.629128992	0.564830104	1530.709616	8.572167964	1529.913695	8.803339535	1529.61483	17.30961619	1529.61483	17.30961619	100.0715726
080919BK-1 74	895.6744475	43380.98273	7.716422288	13.16053416	0.896309128	2.067234492	1.090787976	0.197246653	0.592201384	0.542911544	1160.512263	6.289465987	1138.017301	7.464845789	1096.228663	18.32933663	1096.228663	18.32933663	105.8640686
080919BK-1 75	1515.975884	4966.917204	3.60143547	17.68797361	2.595875842	0.111130296	5.057233439	0.014970945	0.741377403	0.146597426	95.79362602	0.704941616	106.9988136	5.135870872	365.2021883	112.8317698	95.79362602	0.704941616	26.23029902
080919BK-1 76	2175.82414	10318.6219	5.115777285	19.24261211	1.642135718	0.126192255	1.981100276	0.018023626	0.75901596	0.383128491	115.1531086	0.866270295	120.6704139	2.254017319	231.8200855	42.25312394	115.1531086	0.866270295	49.67348207
080919BK-1 77	3016.207266	12830.91125	2.809190727	19.11075381	2.482278901	0.107142122	2.793071935	0.015111951	0.785516616	0.281237517	96.68914338	0.753841758	103.3477484	2.744542482	260.7581261	61.58404044	96.68914338	0.753841758	37.08001158
080919BK-1 78	1031.220383	2628.326187	1.686518045	17.73232399	4.937272195	0.073467497	6.024446148	0.010440175	1.156959168	0.192044072	66.9527966	0.770607808	71.98462694	4.186545741	243.5327188	136.2972437	66.9527966	0.770607808	27.49232092
080919BK-1 79	739.3506869	2356.11591	1.792525599	15.67819105	10.32419797	0.078203388	11.62515432	0.009801906	1.698894657	0.146139536	62.8794803	1.063063059	76.45441018	8.561774864	525.576894	252.8738202	62.8794803	1.063063059	11.96389739
080919BK-1 80	351.583411	511.5878967	3.017363389	7.359121059	27.14900082	0.092209351	30.68896871	0.006091822	6.553224617	0.213536814	39.15127971	2.557896083	89.55939694	26.31349192	1796.548748	559.0299269	39.15127971	2.557896083	2.179249506
080919BK-1 81	182.8731578	32060.14231	2.173861838	5.988206151	0.881318653	11.05984868	1.170612277	0.479210326	0.764736724	0.653279262	2523.825187	15.97082234	2528.183626	10.90101649	2532.40078	14.87337505	2532.40078	14.87337505	99.66136506
080919BK-1 82	375.4025671	29676.85854	4.409563182	8.882414776	0.768985201	5.080386508	1.077618277	0.327084825	0.729977735	0.677399178	1824.236425	11.59818415	1832.835726	9.142651449	1843.389656	14.34556771	1843.389656	14.34556771	98.96097761
080919BK-1 83	1127.239948	27213.72031	2.154560049	16.31500024	1.011267982	0.84954009	1.591852982	0.100931519	1.038490936	0.652378673	619.8656365	6.137444115	624.3966172	7.424389274	641.805319	25.95587366	619.8656365	6.137444115	96.58156736
080919BK-1 84	831.5208032	2912.966636	1.783933036	15.89051248	6.994465436	0.092152819	8.837765836	0.011483843	1.166154736	0.131951305	73.60776333	0.853498356	89.50683994	7.571913842	538.2292231	192.0066969	73.60776333	0.853498356	13.67591356
080919BK-1 85	112.5708885	2516.585173	2.288196168	12.94910605	9.310063032	0.65996501	11.97176872	0.066585595	1.390665392	0.116162066	415.5520606	5.596616281	514.5926017	48.36581278	983.5968482	242.921995	415.5520606	5.596616281	42.24820986
080919BK-1 86	503.7380047	33729.42087	2.291475848	13.25359425	0.903387781	1.867019302	1.155401168	0.179632933	0.65565491	0.567469489	1064.969004	6.436247567	1069.475473	7.639925077	1079.544019	19.08139415	1079.544019	19.08139415	98.64989148
080919BK-1 87	1949.495795	9298.407827	2.140253468	18.29706223	2.451864614	0.110991048	3.043628691	0.015095666	1.112778373	0.365609109	96.58572458	1.066773449	106.8715569	3.087452682	343.6497295	64.09713326	96.58572458	1.066773449	28.1058637
080919BK-1 88	2562.691391	10520.38491	2.254162705	19.13480129	1.979141026	0.105164409	2.418894728	0.014925685	0.573073454	0.236915417	95.50615966	0.543286014	101.5323248	2.337165893	246.4208919	54.12190601	95.50615966	0.543286014	38.75733057
080919BK-1 90	153.1165004	7102.838071	1.164339053	10.05592745	1.098397396	3.908027875	1.470214388	0.289337867	0.725808541	0.493675308	1638.219534	10.49975588	1615.344678	11.88724057	1586.454776	23.90025928	1586.454776	23.90025928	103.2629204
080919BK-1 91	428.5845626	21560.91797	2.536875312	9.779258444	0.818889539	4.0966049	1.067417072	0.291012735	0.652449974	0.61124184	1646.588082	9.480848465	1653.627062	8.711999156	1663.368556	15.63499419	1663.368556	15.63499419	98.99117521
080919BK-1 92	945.2514004	1937.613495	1.596674839	13.42326681	11.18059641	0.093523981	12.42864499	0.010066998	1.560683793	0.125571516	64.57155986	1.002727502	90.78082044	10.79356032	850.4209359	257.2245482	64.57155986	1.002727502	7.592893957
080919BK-1 93	339.1893535	22265.55075	2.780988258	11.72175862	0.995133557	2.597505993	1.23368441	0.221432465	0.593533065	0.481106076	1289.439624	6.936415933	1299.934839	9.044832035	1318.126842	20.96459932	1318.126842	20.96459932	97.82363757
080919BK-1 94	429.4413756	12230.81856	2.529069813	17.48659084	2.781959358	0.526672561	3.371498189	0.067897912	0.794436369	0.23563304	423.4787915	3.256147269	429.5989954	11.81047105	463.5449908	72.63385057	423.4787915	3.256147269	91.35656728
080919BK-1 95	413.615624	2669.001574	2.191993352	13.10440854	9.476953342	0.146480465	10.44822051	0.014905323	1.327866259	0.127090183	95.3768264	1.257153777	138.7995984	13.5553611	966.2175889	212.1145214	95.3768264	1.257153777	9.871154023
080919BK-1 96	502.0648939	1282.302726	2.547755461	12.49724053	10.98500687	0.141419477	11.26677264	0.014835133	1.278275489	0.113455337	94.9309833	1.204588251	134.3074005	14.17495215	903.737498	231.4140501	94.9309833	1.204588251	10.50426518
080919BK-1 97	1129.361583	3661.19504	1.296065053	17.9811094	3.840011993	0.103459633	6.561848065	0.01447334	1.097491421	0.167253403	92.63240013	1.009363212	99.96483268	6.247065294	279.5662679	148.2040282	92.63240013	1.009363212	33.13432655
080919BK-1 98	151.9614674	229.0907216	3.478520974	5.086098082	48.40749649	0.164738277	55.48671239	0.008515027	7.857276351	0.14160645	54.65900736	4.276553864	154.8422673	79.8507632	2231.849046	1044.866283	54.65900736	4.276553864	2.449045891
080919BK-1 99	884.7721061	16720.65573	1.888420889	17.70099658	1.718313078	0.527023057	1.912171304	0.068399185	0.771441036	0.4034372	426.5040443	3.183745614	429.8320815	6.701114418	448.6571485	38.87390789	426.5040443	3.183745614	95.06235346
080919BK-1 100	942.0917611	4257.601422	1.670989066	15.79752534	6.780518913	0.082657846	7.218126484	0.009963787	1.26827009	0.175706271	63.91281669	0.806582115	80.64069337	5.595664321	610.5061464	153.7495486	63.91281669	0.806582115	10.46882445
080919BK-1 101	1709.329004	7521.135847	2.62434563	18.02892364	4.706843241	0.111521917	5.056481274	0.015042752	0.857809116	0.169645465	96.24968112	0.819505412	107.3566258	5.151387699	362.3461476	112.4409331	96.24968112	0.819505412	26.56291001
080919BK-1 102	219.7829236	12484.73947	2.435057502	11.33159182	1.400808755	2.831391344	1.717177033	0.23459001	0.687223426	0.400205344	1358.510486	8.417888379	1363.89096	12.88580877	1373.151856	30.27343778	1373.151856	30.27343778	98.93373994
080919BK-1 103	2021.156769	10457.44644	2.302028963	19.25802618	2.611926785	0.105829285	2.943173322	0.015122214	0.707084231	0.240245529	96.75431571	0.67902601	102.1434637	2.86000327	230.7672671	66.00009823	96.75431571	0.67902601	41.92722692
080919BK-1 104	573.7826188	55183.5094	1.733964083	8.626894925	0.62844004	5.340976759	0.935228674	0.333320842	0.669446059	0.715810023	1854.4574	10.78852327	1875.445824	7.998733638	1899.542756	11.73842658	1899.542756	11.73842658	97.62651531
080919BK-1 105	700.1437839	3610.139674	3.091339325	16.17503304	6.638155129	0.121129176	8.371728133	0.015131539	0.832314882	0.099419722	96.8135321	0.799772833	116.0952124	9.184382833	532.9370553	182.6850567	96.8135321	0.799772833	18.16603502
080919BK-1 106	1571.218856	6301.027889	2.766024414	18.63893693	4.531794662	0.107935961	4.990673274	0.015182864	1.210063903	0.242465062	97.13945415	1.166637519	104.0755343	4.936782299	266.9529718	111.117251	97.13945415	1.166637519	36.38822729
080919BK-1 108	1004.614715	2001.594625	1.637249905	16.36240278	3.758326602	0.126313637	4.537129516	0.016948513	1.258034291	0.277275376	108.3415893	1.351584853	120.7798468	5.166610647	374.2041865	98.15676644	108.3415893	1.351584853	28.95253265
080919BK-1 109	514.1275472	2408.864068	5.057785449	15.79459621	6.026681865	0.12072932	6.617981808	0.01522048	1.468884491	0.22195354	97.37830885	1.419625607	115.7330066	7.238937997	512.8085648	141.9377892	97.37830885	1.419625607	18.98921265
080919BK-1 110	220.000646	5085.746999	0.785463136	15.49618168	5.563094742	0.559045089	6.135689863	0.065420488	1.262203165	0.205714955	408.5063386	4.996205503	450.9047181	22.34351839	674.2390293	128.4920114	408.5063386	4.996205503	60.58776203
080919BK-1 111	1424.073369	8648.424799	3.25064903	18.8842709	2.940628201	0.128375572	3.874626175	0.018080569	0.682294945	0.176093103	115.5136793	0.781124589	122.6370022	4.476012062	264.0916569	87.5762841	115.5136793	0.781124589	43.73999567
080919BK-1 114	427.7088414	40040.24891	1.576677778	7.763860387	0.588777638	6.699967318	0.861632538	0.376474585	0.614016339	0.712619722	2059.794242	10.82594977	2072.61622	7.612791603	2086.134099	10.63394412	2086.134099	10.63394412	98.73738426
080919BK-1 115	252.8501208	20091.81073	2.1111945	8.463918658	0.87961423	5.581989327	1.135962066	0.342998972	0.638798198	0.562341136	1901.080752	10.51718253	1913.323886	9.782255542	1927.38346	16.82906176	1927.38346	16.82906176	98.63531528
080919BK-1 117	2149.634079	4684.402322	6.162159437	18.02819878	4.783678495	0.070959345	5.767155989	0.009787816	0.817397699	0.141733239	62.78952657	0.510748705	69.60941373	3.879987598	311.7092175	130.0212775	62.78952657	0.510748705	20.14362202
080919BK-1 118	140.8522491	9511.950589	1.254907568	10.29405251	2.160650544	3.486223766	2.611848222	0.263003157	1.392953335	0.533320935	1505.188351	18.69874747	1524.101453	20.61160546	1551.262035	41.49403351	1551.262035	41.49403351	97.02992256
080919BK-1 119	671.7572151	3604.504303	2.216573508	16.53883064	5.676160015	0.116300804	6.131971375	0.014882059	1.104445878	0.180112693	95.2290609	1.044023094	111.7128145	6.486903208	479.9864975	133.3673378	95.2290609	1.044023094	19.83994579
080919BK-1 120	1356.021452	5571.420441	3.164430714	17.59067448	2.151295599	0.111826212	4.25228933	0.014888332	1.107953795	0.260554659	95.26890475	1.047774074	107.6345632	4.342722424	391.687787	92.15299132	95.26890475	1.047774074	24.3226641
080919BK-1 121	600.3209106	16962.60239	2.568126115	9.835242521	0.778176772	3.98900686	1.12800293	0.285491365	0.727569841	0.645007049	1618.959101	10.41638649	1631.961074	9.15804128	1649.550222	15.98142562	1649.550222	15.98142562	98.14548714
080919BK-1 122	462.9721581	36755.22349	3.490192709	13.53183389	1.090159197	1.735750099	1.338707001	0.170450471	0.73614895	0.549895496	1014.592701	6.910814471	1021.887249	8.624554376	1038.405228	22.59487647	1038.405228	22.59487647	97.70681751
080919BK-1 123	302.0327105	28119.64149	2.943397853	9.00413016	0.84068339	4.870632938	1.12394667	0.317971139	0.732646067	0.651851272	1779.813298	11.3944845	1797.189881	9.468663414	1818.185292	15.47230869	1818.185292	15.47230869	97.88954439
080919BK-1 124	88.53938811	5575.971427	0.582398313	8.994298684	2.24612397	4.463715215	2.61191847	0.296320937	0.823887865	0.31543399	1673.039189	12.14050154	1724.251409	21.67024801	1787.769029	45.16915196	1787.769029	45.16915196	93.58251329
080919BK-1 125	1638.773224	4229.146229	1.222467144	16.75522872	4.429529373	0.076720337	5.98301465	0.009849582	0.906074481	0.151441127	63.18382714	0.569696068	75.05680624	4.328726951	472.7451813	130.9461575	63.18382714	0.569696068	13.36530326
080919BK-1 126	565.9219906	2875.341775	3.47242285	16.46307802	5.234692755	0.117022458	7.177166663	0.015177064	1.403773147	0.195588763	97.10262099	1.35288567	112.3690164	7.634813606	450.2056646	156.4890064	97.10262099	1.35288567	21.56850272
080919BK-1 127	139.8386099	9942.688261	0.844157261	11.87156805	2.948295241	2.475474903	3.090638569	0.215770109	0.664140582	0.214887819	1259.485643	7.598331624	1264.894281	22.35592632	1274.934183	58.86303396	1274.934183	58.86303396	98.78828726
080919BK-1 128	1350.801037	37230.71235	2.826094977	17.48377422	1.112704258	0.585302734	1.288283488	0.074381648	0.630092099	0.489094291	462.49982	2.812091707	467.8635209	4.829620103	495.247771	24.74459363	462.49982	2.812091707	93.38756215
080919BK-1 129	658.6530335	1829.00779	2.038332102	15.57410461	7.143065896	0.078324746	7.848095947	0.010056444	1.498314418	0.190914386	64.50419974	0.961656438	76.5686918	5.788264182	472.5694314	170.6885379	64.50419974	0.961656438	13.64967674
080919BK-1 130	623.8571665	10927.51875	2.967598378	17.17654392	2.420469357	0.532508621	2.862766882	0.067574192	0.86298855	0.301452611	421.5243455	3.52132472	433.4731323	10.10075733	498.407791	60.15562121	421.5243455	3.52132472	84.57418868
080919BK-1 131	1842.760697	6693.334081	2.418002966	16.72125455	4.550276223	0.08015065	4.921827873	0.010040619	1.127588385	0.229099516	64.40320357	0.722587514	78.28656324	3.708352235	526.787603	105.0941812	64.40320357	0.722587514	12.22564905
080919BK-1 132	103.6992891	6244.902785	3.868477836	12.48112534	4.467672918	1.956432352	5.142393343	0.181405863	0.875283032	0.170209273	1074.650371	8.664014569	1100.658227	34.56685129	1153.286627	100.6402862	1153.286627	100.6402862	93.18155132
080919BK-1 133	187.9329455	9855.572273	2.013687021	11.86893707	1.83003869	2.494875864	2.05538984	0.217444743	0.648046074	0.315291076	1268.358999	7.461462111	1270.546638	14.89952669	1275.081409	38.02548153	1275.081409	38.02548153	99.4727858
080919BK-1 134	413.5163582	3238.970768	2.350022468	17.38433061	2.894534914	0.582553824	3.263354041	0.079328793	0.670765269	0.205544744	492.1151357	3.178087826	466.1013217	12.1981105	340.9111641	72.32383145	492.1151357	3.178087826	144.3528953
080919BK-1 135	1791.463871	5253.527376	5.450743279	18.33005702	2.005007531	0.095829526	4.415100789	0.013365208	0.724055165	0.163995161	85.5869877	0.615601393	92.91936323	3.920387854	286.496796	99.61086214	85.5869877	0.615601393	29.87362822
080919BK-1 136	1808.48684	7683.751087	2.091498591	18.33196355	3.035781078	0.112124455	3.216236462	0.015376209	0.672747001	0.209172121	98.36708081	0.656738198	107.9068987	3.292504349	324.9322675	71.40639858	98.36708081	0.656738198	30.27310324
080919BK-1 137	638.7315611	52759.93568	2.958546157	9.889854013	0.70425381	4.146475564	0.934024875	0.296797693	0.589446767	0.631082515	1675.40959	8.696637161	1663.514367	7.641273543	1649.323017	13.43471431	1649.323017	13.43471431	101.5816533
080919BK-1 138	1759.663548	3439.042379	1.87551791	18.91834746	3.032605868	0.112176045	7.902837365	0.016671595	0.688821842	0.087161333	106.5859763	0.728151219	107.9540002	8.09373052	139.2650127	NA	106.5859763	0.728151219	76.53464012
080919BK-1 139	474.7820398	900.6287199	1.832429585	10.27327372	22.28712084	0.070980167	25.34625725	0.00627574	2.731278912	0.107758668	40.32960497	1.098075573	69.62915476	17.05847461	1247.073488	501.3205961	40.32960497	1.098075573	3.233939729
080919BK-1 140	311.9755821	5729.215228	1.577483855	17.20746972	3.186051407	0.536997413	4.539651667	0.069757918	0.967989151	0.213229829	434.6970394	4.069084932	436.442891	16.10600831	446.6107689	98.60203851	434.6970394	4.069084932	97.3324133
080919BK-1 141	587.3224369	1027.780652	1.410142617	9.442125829	22.45460103	0.084208628	25.02292229	0.006582344	3.1367361	0.125354508	42.29347287	1.322292276	82.09407084	19.73632821	1484.297348	477.8546577	42.29347287	1.322292276	2.849393549
080919BK-1 142	300.4466874	10842.05159	0.752720924	15.84269449	3.188448019	0.762376128	3.316470712	0.089071613	0.635280764	0.191553256	550.0441715	3.349398553	575.3799782	14.56822241	677.68279	69.58836185	550.0441715	3.349398553	81.16543309
080919BK-1 144	544.2243649	1841.16513	2.059958894	12.2391988	8.935231297	0.101308561	9.796249574	0.009889312	1.323813273	0.135134703	63.43743924	0.835674676	97.98352453	9.150369703	1050.477058	196.0615513	63.43743924	0.835674676	6.038917151
080919BK-1 145	5718.608022	30474.89016	3.59502475	20.20965008	1.41258646	0.102473411	1.698571975	0.015097587	0.63574167	0.374280089	96.59792151	0.60953497	99.05692328	1.603087744	159.6819843	36.87449949	96.59792151	0.60953497	60.49393857
080919BK-1 146	563.2331583	12201.68403	2.851988862	18.10246086	2.766850083	0.547092869	2.964618137	0.073076691	0.761899438	0.256997496	454.6651711	3.344752683	443.0904215	10.64533305	384.3710785	64.36062051	454.6651711	3.344752683	118.2880806
080919BK-1 147	984.0009376	2586.867793	1.874954507	15.45646642	7.00574085	0.081044815	7.594295637	0.009903965	1.303738599	0.171673406	63.5309712	0.824209734	79.12676573	5.78100896	580.8822169	162.7097619	63.5309712	0.824209734	10.93697988
080919BK-1 148	1740.376553	1101.762972	3.94982243	16.04237203	4.736837369	0.102854537	26.50440168	0.015164472	0.706064527	0.02663952	97.02266538	0.679913226	99.40788193	25.10392404	158.0163847	NA	97.02266538	0.679913226	61.40038298
080919BK-1 149	884.6500621	8574.031001	3.973865863	19.210127	3.041363702	0.201640735	4.553457315	0.028914735	0.804423915	0.176662228	183.7524051	1.45728006	186.5135831	7.758598226	222.6129312	103.7098449	183.7524051	1.45728006	82.54345519
080919BK-1 150	164.7894253	4012.84121	1.456065683	17.14441671	5.180343694	0.573181913	5.597128854	0.075652415	1.263129438	0.225674533	470.1200658	5.726865934	460.0703302	20.70946898	411.1451817	122.0264417	470.1200658	5.726865934	114.3440533
080919BK-1 151	498.8467896	781.5776366	1.770325995	12.38744812	15.33093716	0.053295935	22.05432548	0.006187631	2.584453152	0.117185772	39.76513489	1.024548046	52.72298671	11.33144763	691.1682189	472.3398541	39.76513489	1.024548046	5.753322246
080919BK-1 152	920.2704421	1849.952465	1.873473455	15.11705132	9.423251364	0.079429916	10.23394114	0.009839199	0.853578824	0.083406658	63.11754327	0.536129053	77.60881987	7.646640783	551.3388081	223.1254712	63.11754327	0.536129053	11.44805016
080919BK-1 153	1365.984461	56685.49547	5.075458856	13.38589898	0.562558311	1.865810699	0.836597743	0.180904095	0.55276322	0.660727601	1071.911861	5.458725009	1069.047344	5.530583755	1064.102131	12.63098291	1064.102131	12.63098291	100.7339268
080919BK-1 154	485.887026	1398.706283	1.966446649	13.11742942	11.88055415	0.0911659	16.78405244	0.009983161	2.410518	0.143619547	64.03647778	1.535969325	88.58887916	14.23956906	814.6218905	349.4693294	64.03647778	1.535969325	7.860883501
080919BK-1 155	1782.101024	9188.094133	3.297143078	19.52402237	2.870547832	0.103362297	3.94891626	0.01503859	0.74447191	0.188525626	96.22324718	0.711035168	99.87526199	3.756244297	188.9341903	90.29326296	96.22324718	0.711035168	50.92950461
080919BK-1 157	919.2663735	3355.628532	4.174876815	16.55657693	7.158051332	0.117375835	7.626159584	0.015117986	0.722888381	0.094790618	96.72746877	0.694011844	112.6901884	8.134381027	465.580232	168.3885508	96.72746877	0.694011844	20.77568207
080919BK-1 159	409.7968257	1135.042343	4.054840089	11.72728231	12.13074388	0.099031597	17.78727245	0.009836914	2.674102257	0.15033796	63.10296	1.679205564	95.88203822	16.27571451	1015.239363	358.9569696	63.10296	1.679205564	6.215574601
080919BK-1 161	970.0669706	3406.501042	1.179296822	15.25511904	6.074043348	0.090469642	7.432383833	0.010655336	1.085138382	0.146001392	68.3253359	0.737509126	87.94077055	6.261131688	660.4783029	157.7990008	68.3253359	0.737509126	10.34482671
080919BK-1 162	814.7623569	1257.764469	1.507009772	15.84199676	1.79409306	0.476865419	2.671163675	0.066868293	0.761464856	0.285068588	417.2604567	3.076646031	395.9200704	8.757821477	274.1085755	58.67113489	417.2604567	3.076646031	152.2245176
080919BK-1 163	255.8459892	4378.886247	2.585807433	16.23569292	3.058847645	0.549225081	5.300001966	0.068034399	0.889389702	0.167809316	424.3026511	3.652192501	444.4888648	19.08063832	551.3299227	114.1302729	424.3026511	3.652192501	76.95984449
080919BK-1 164	276.860241	505.4693453	2.176030357	9.905572437	15.16322681	0.097085301	23.74523783	0.009644426	3.896796788	0.16410856	61.87407233	2.399572745	94.08228375	21.33946145	1015.063157	480.9694799	61.87407233	2.399572745	6.095588429
080919BK-1 165	386.1345901	10983.44952	0.664383137	10.2111111	0.868012554	3.603029119	1.163505096	0.269044014	0.621534382	0.53419137	1535.947603	8.494352177	1550.200123	9.247711194	1570.481098	18.42388234	1570.481098	18.42388234	97.80108816
080919BK-1 166	1000.977015	43110.34626	2.615298387	13.10133489	0.718809046	1.951495827	1.058899684	0.185367053	0.701502219	0.662482225	1096.228692	7.071753631	1098.961366	7.109143478	1105.266645	15.86259253	1105.266645	15.86259253	99.18228298
080919BK-1 167	337.9298258	1021.703996	2.335962171	10.8194539	17.50266273	0.115009804	19.1986016	0.0105709	2.926674923	0.152442088	67.78674354	1.973503395	110.5378457	20.11001813	1170.711128	378.9606087	67.78674354	1.973503395	5.790219458
080919BK-1 168	181.4147216	3969.239289	1.957667573	16.19606105	5.523507776	0.586548872	6.559960179	0.072897736	1.294486049	0.197331388	453.5900251	5.669847845	468.6613563	24.63014857	544.1237408	140.6901925	453.5900251	5.669847845	83.36155751
080919BK-1 170	301.6923921	903.8526716	2.621404368	9.718933138	14.42854983	0.110984087	17.64732931	0.009169278	7.926138489	0.449140963	58.83961671	4.642490924	106.8651809	17.90221534	1378.620393	304.957903	58.83961671	4.642490924	4.268007131
080919BK-1 171	2356.7449	798.8388514	1.795086668	16.66783919	4.10512049	0.091713447	6.688551334	0.01600052	0.782545223	0.116997715	102.3294825	0.794452286	89.09827073	5.705463138	NA	NA	102.3294825	0.794452286	
080919BK-1 172	1061.257732	5488.571287	2.371748078	16.82383834	4.195966412	0.126907926	4.892420226	0.016134387	1.019510305	0.208385678	103.178798	1.043544922	121.3154631	5.594462575	494.3009202	105.5280875	103.178798	1.043544922	20.87368114
080919BK-1 173	490.5433567	1082.848836	1.916070525	8.100903629	21.81352424	0.096414649	23.060632	0.006276221	4.096092294	0.177622725	40.33268499	1.646906641	93.46138593	20.59343773	1823.396774	417.3410803	40.33268499	1.646906641	2.211953292
080919BK-1 174	706.3338341	43259.88796	2.246724018	8.751492095	0.674327616	4.558308503	0.966076013	0.288767524	0.673602218	0.697259519	1635.367309	9.72961844	1741.680292	8.044727975	1872.585508	12.48963212	1872.585508	12.48963212	87.33204984
080919BK-1 175	1007.893932	2478.231433	1.787136515	13.28401183	10.49682584	0.097081133	11.47392301	0.010085872	1.248171748	0.108783347	64.69201832	0.80342941	94.07842529	10.30986206	923.6963236	235.0746867	64.69201832	0.80342941	7.003602447
080919BK-1 176	3118.777207	10764.14746	3.21518505	18.69313503	2.547799888	0.07299915	3.068696145	0.010108547	0.750880221	0.244690313	64.83672569	0.484406038	71.54152525	2.119838878	302.8059883	67.81526634	64.83672569	0.484406038	21.41196944
080919BK-1 177	335.4368431	821.0610284	2.621530212	8.725958325	18.81041766	0.138819489	20.17540412	0.01025106	4.890380872	0.242393205	65.74616603	3.198897885	131.9918666	24.9767131	1591.314127	369.2450376	65.74616603	3.198897885	4.131564279
080919BK-1 178	85.83981109	5954.6604	2.030805316	9.477920177	2.585987726	4.117934795	3.128290929	0.288024366	0.676158372	0.216143059	1631.648964	9.747025832	1657.867693	25.56309917	1692.033261	56.33538408	1692.033261	56.33538408	96.43125825
080919BK-1 179	233.8008407	26171.51855	2.190912496	8.064025175	0.969066957	6.201357015	1.199894597	0.362487561	0.66315565	0.552678254	1993.954024	11.37351468	2004.639775	10.49206222	2016.425487	17.73034508	2016.425487	17.73034508	98.8855793
080919BK-1 180	116.2972974	9264.05884	0.997620343	9.231411052	1.699906148	4.47745818	2.112183356	0.302485567	0.712188232	0.337181064	1703.622326	10.66215845	1726.802211	17.53303724	1755.790483	36.37902689	1755.790483	36.37902689	97.0287937
080919BK-1 181	109.4339586	10677.04745	1.52563912	10.76422837	1.810157735	3.223261068	2.102006347	0.254026214	0.777014697	0.36965383	1459.206102	10.14658081	1462.768538	16.29103776	1468.753631	37.08730614	1468.753631	37.08730614	99.34995711
080919BK-1 182	922.6424523	4675.595749	2.747378321	14.56787999	2.793317225	0.299656311	3.587805752	0.032994471	0.95515737	0.266223267	209.2624515	1.966691874	266.1317495	8.399697539	803.1065114	72.42944375	209.2624515	1.966691874	26.05662494
080919BK-1 183	769.8819196	4284.814768	5.459081524	14.02179567	6.030203371	0.144778588	6.640365774	0.015378488	1.158339659	0.174439135	98.38154576	1.130940633	137.2912073	8.527367157	877.9397829	135.4547105	98.38154576	1.130940633	11.205956
080919BK-1 184	697.9588442	1565.90418	1.635316437	15.02556331	8.534149004	0.051824151	10.13897538	0.006536282	1.822798825	0.179781364	41.99847393	0.763059323	51.30318665	5.072436845	511.8923513	219.6764005	41.99847393	0.763059323	8.204551957
080919BK-1 185	163.790348	12216.17304	1.977230406	12.60991787	2.762421768	2.13366296	2.91705475	0.1971051	0.787834271	0.270078671	1159.750042	8.362168179	1159.773158	20.16996492	1160.661999	55.69119997	1160.661999	55.69119997	99.92142783

080919BK-1 186	736.8496853	3624.028705	3.508511956	17.14739681	5.305300716	0.120637546	8.35770341	0.016044084	1.346457644	0.161103784	102.6058879	1.3706081	115.6498563	9.135785846	394.116125	185.2632689	102.6058879	1.3706081	26.03443031
080919BK-1 188	489.8208016	1675.295514	2.438538129	13.54313105	11.72668364	0.0938142	12.96290846	0.010383653	2.374284171	0.183159835	66.59218996	1.572949496	91.05026606	11.28951499	792.1807982	268.3756291	66.59218996	1.572949496	8.406185824
080919BK-1 189	429.8587069	40976.40865	1.996718964	9.864382414	0.814926161	4.047107645	1.111049186	0.289151113	0.732220163	0.659034877	1637.285738	10.58720496	1643.717658	9.046422676	1652.743409	15.48631718	1652.743409	15.48631718	99.06472647
080919BK-1 190	1101.039643	1464.305887	2.187331786	16.61380719	4.114190395	0.130821747	8.002616028	0.018832267	1.756943275	0.219546117	120.2716195	2.093513992	124.8358411	9.400697784	213.690014	181.0934871	120.2716195	2.093513992	56.28321944
080919BK-1 191	793.7703605	39602.51455	14.09629126	11.77640083	0.62458823	2.618120901	0.918242455	0.223506953	0.66682906	0.726201513	1300.378962	7.852673384	1305.736714	6.746838177	1315.375134	12.24135325	1315.375134	12.24135325	98.85993198
080919BK-1 192	3168.282129	14740.41927	2.435549557	19.29983828	3.794596815	0.105902633	3.902748809	0.015044354	0.629820937	0.161378804	96.25985693	0.601760714	102.210351	3.794830649	244.2706375	88.74869978	96.25985693	0.601760714	39.40705191
080919BK-1 194	313.8622492	511.0677901	2.859686265	9.967451642	28.13133372	0.062089761	47.56982704	0.006196673	6.390757782	0.134344777	39.82306155	2.537150777	61.16509084	28.24439262	1005.651523	1014.508092	39.82306155	2.537150777	3.95992654
080919BK-1 195	375.6325571	24612.38432	2.034606787	5.827349392	0.575330872	10.26901365	1.339584952	0.433266383	1.197021773	0.893576604	2320.425613	23.32653487	2459.315433	12.39551487	2576.929684	10.04765523	2576.929684	10.04765523	90.0461362
080919BK-1 196	1030.008078	11507.56487	1.592145308	18.57982482	1.335710204	0.473072596	2.398018543	0.064986234	0.655135435	0.273198653	405.8783118	2.577072841	393.3090526	7.819782509	321.0725734	52.41911991	405.8783118	2.577072841	126.4132615
080919BK-1 197	1353.387303	6537.525066	2.572253207	10.62787512	0.883407566	0.939414473	2.223210866	0.073741426	1.994786692	0.897254832	458.6572708	8.831343188	672.5756301	10.93487872	1476.307824	18.61872273	1476.307824	18.61872273	31.06786154
080919BK-1 198	2505.393314	10627.10492	3.322532321	19.23648823	2.895805694	0.106596023	3.996155184	0.0152074	0.755135281	0.188965454	97.29525737	0.729194139	102.8467864	3.908645629	234.4989771	90.59493274	97.29525737	0.729194139	41.49069586
080919BK-1 199	317.9620996	4601.421524	0.954548609	16.61426189	2.784356987	0.606557018	3.823249224	0.076779317	1.024321466	0.267919093	476.8700822	4.708386373	481.386395	14.65777917	503.8908267	81.1045039	476.8700822	4.708386373	94.6375796
080919BK-1 200	362.5392385	20468.16286	2.013575276	9.858547486	0.871671209	3.944157943	1.249368215	0.282567279	0.840908826	0.673067248	1604.278844	11.94288708	1622.791964	10.12037736	1647.674129	17.13549775	1647.674129	17.13549775	97.3662702
080919BK-1 201	476.5498411	1985.362715	3.570574781	13.53948546	7.305522577	0.136987979	8.013810521	0.014847905	1.29390234	0.161459063	95.01211464	1.220348689	130.3575596	9.804130048	836.0031807	164.9818333	95.01211464	1.220348689	11.36504224
080919BK-1 202	483.401763	20182.74426	2.250300691	9.641804127	0.873394373	3.377715487	1.866154689	0.236652009	1.545148103	0.827985007	1369.268237	19.06128928	1499.240504	14.62120274	1688.901533	19.30468372	1688.901533	19.30468372	81.07448601
080919BK-1 203	561.4560563	822.2277306	1.839103069	11.01078278	18.43446447	0.068389477	20.94667151	0.006721943	8.697204706	0.415207003	43.18743583	3.74354627	67.16997802	13.61540742	1036.569228	388.2264244	43.18743583	3.74354627	4.166382201
080919BK-1 204	2532.848898	9057.513901	2.813170214	18.61163317	2.388394846	0.108971122	3.895828703	0.015096159	0.776163412	0.199229348	96.58885215	0.744098867	105.0237786	3.887076346	301.8495132	87.06157799	96.58885215	0.744098867	31.99900875
080919BK-1 205	367.9296146	29468.88347	1.957446387	5.675552553	0.625986793	9.787805005	1.047223907	0.401983742	0.83878676	0.800962196	2178.167235	15.5037273	2415.003635	9.647943452	2621.850064	10.43063637	2621.850064	10.43063637	83.0774904
080919BK-1 206	176.4769408	22718.52031	1.209757189	6.537794932	0.901212675	9.303864672	1.21686967	0.440715453	0.807895332	0.663912785	2353.842595	15.9314114	2368.4003	11.15718655	2381.683717	15.50250785	2381.683717	15.50250785	98.83103196
080919BK-1 207	221.8713134	9258.47729	1.458048393	13.41365127	1.945157269	1.726655163	2.200793506	0.170716889	0.83220285	0.378137634	1016.059865	7.822980021	1018.506009	14.15183385	1024.629726	41.224394	1024.629726	41.224394	99.16361389
080919BK-1 208	1039.872689	2883.449368	2.279993516	15.83816068	6.195048171	0.090946395	6.674719006	0.011302721	1.286903659	0.192802672	72.45332736	0.927184305	88.38459833	5.650013129	544.1917085	143.2948001	72.45332736	0.927184305	13.31393445
080919BK-1 209	627.0791725	2820.368725	1.331825652	16.82881357	2.552719363	0.445819719	3.391355391	0.059328631	1.801429527	0.531182763	371.5412766	6.503830991	374.3478097	10.61852456	392.7087304	64.45891502	371.5412766	6.503830991	94.60988458
080919BK-1 210	614.126869	1528.821839	2.235781502	12.3316112	15.53959656	0.099804788	18.7538465	0.010044464	2.200963225	0.117360629	64.4277405	1.410968295	96.59612997	17.28215805	988.6496092	382.0335186	64.4277405	1.410968295	6.516741614
080919BK-1 211	514.3432659	1507.539371	1.607827845	15.35379956	10.51311605	0.077488902	14.40485355	0.010091094	1.881060136	0.130585162	64.72534514	1.211430805	75.78133041	10.51915844	441.0933818	319.1448655	64.72534514	1.211430805	14.67384182
080919BK-1 212	2511.671318	2601.230651	3.529289895	18.56006005	2.267493623	0.115202259	6.036206039	0.017249988	0.968908565	0.160516152	110.2523513	1.059161304	110.7130904	6.331504959	121.6515196	NA	110.2523513	1.059161304	90.62965395
080919BK-1 213	260.8968112	26299.67591	1.144259973	9.219733063	1.017573873	4.717407797	1.373614836	0.315477441	0.882317587	0.642332598	1767.604659	13.64044987	1770.336112	11.50847373	1774.338811	19.21468487	1774.338811	19.21468487	99.62046976
080919BK-1 214	1435.927975	4180.961511	1.413635655	16.91606909	5.699117103	0.075756363	6.616455609	0.00983249	1.141622463	0.172542904	63.07471771	0.716563835	74.14734003	4.731116588	448.5390917	144.9249123	63.07471771	0.716563835	14.06225653
080919BK-1 215	650.5468992	68653.26933	2.059429821	9.477502824	0.669768883	4.320267927	1.009045197	0.296139999	0.747254247	0.740555774	1672.139348	11.00606764	1697.236802	8.320078563	1729.155097	12.4465863	1729.155097	12.4465863	96.70268164
080919BK-1 216	1056.901533	2984.948984	3.229066807	16.09095381	5.582364557	0.11837078	7.460474537	0.014922663	1.086025756	0.1455706	95.48696224	1.02937046	113.593913	8.017963713	512.85698	162.3714618	95.48696224	1.02937046	18.61863365
080919BK-1 217	289.225127	6814.829255	1.590331868	16.72193812	2.70027338	0.567225688	4.604131881	0.071003945	0.906749175	0.196942485	442.2012881	3.87522421	456.2186917	16.92163091	528.43622	98.96653103	442.2012881	3.87522421	83.68110878
080919BK-1 218	582.1460242	1067.698007	1.240825023	13.10930551	10.91523394	0.056466767	15.92862058	0.006499844	2.898435275	0.181963985	41.76509949	1.206621434	55.77509407	8.644813947	709.3715124	334.9387628	41.76509949	1.206621434	5.887620064
080919BK-1 219	143.520202	4030.734815	1.13345385	14.02015804	4.987453925	0.834997519	5.427647821	0.0889479	1.269207122	0.233841097	549.3118497	6.683123071	616.3813061	25.08300721	872.0140668	109.4056622	549.3118497	6.683123071	62.99346199
080919BK-1 220	1630.47344	85777.06748	2.877764858	12.26155866	0.684602017	2.39249568	1.022692308	0.212200146	0.748041635	0.731443493	1240.528679	8.441421214	1240.357252	7.323425871	1240.913043	13.66755718	1240.913043	13.66755718	99.96902571
080919BK-1 221	2853.400013	7282.139783	4.863659701	18.63549863	3.76437592	0.068601361	5.083488315	0.009589324	0.805024814	0.158360709	61.52224466	0.492913501	67.37132968	3.313677891	281.3712648	114.9195946	61.52224466	0.492913501	21.86514842
080919BK-1 222	212.1307395	4455.504482	1.037485368	16.16392534	4.705859417	0.710844247	5.158687905	0.087553384	1.169110651	0.226629459	541.0512262	6.067311649	545.2474596	21.76705452	563.7514508	109.5009694	541.0512262	6.067311649	95.97336299
080919BK-1 223	760.6017771	2150.643314	2.540102693	15.1098316	5.348201756	0.097068398	6.1492765	0.011792758	1.697518735	0.276051782	75.57624806	1.275429957	94.06663903	5.524619539	593.6175069	128.1952287	75.57624806	1.275429957	12.73147223
080919BK-1 224	360.2914345	22295.79153	2.133864978	10.8271396	0.935454449	3.173309988	1.242367997	0.24971248	0.755205022	0.607875463	1436.992806	9.727775638	1450.687397	9.592348303	1471.618012	18.72351991	1471.618012	18.72351991	97.64713358
080919BK-1 225	94.96083391	7065.21444	1.027757378	11.35401677	2.59268364	2.773333336	2.86196844	0.232543732	0.773171566	0.270153771	1347.816975	9.403655	1348.386845	21.36169534	1350.113601	53.18542942	1350.113601	53.18542942	99.8298939
080919BK-1 226	721.7753429	2737.002529	2.444496953	15.47931222	6.133957581	0.123512064	7.935546903	0.015038469	1.02440454	0.129090604	96.22248137	0.978387355	118.251054	8.858280553	588.8288403	170.9337811	96.22248137	0.978387355	16.34133296
080919BK-1 227	908.3457181	14006.76885	2.233016498	11.34666406	0.720606405	2.699805804	1.192932509	0.223677206	0.845816306	0.709022765	1301.27593	9.966655881	1328.405679	8.839146911	1373.242256	16.18243048	1373.242256	16.18243048	94.75938599
080919BK-1 228	1301.43642	24138.08745	2.659813428	17.17730028	1.136688299	0.682112415	1.495098577	0.085466675	0.716548945	0.479265352	528.6704901	3.637009426	528.0503562	6.156104705	526.3459918	28.76704779	528.6704901	3.637009426	100.4416293
080919BK-1 229	671.1360702	1344.35486	1.817850523	13.54649914	6.646065572	0.086267249	9.667641631	0.009876948	1.893972015	0.19590838	63.35851443	1.194114761	84.0201829	7.795935765	720.7835117	201.6168277	63.35851443	1.194114761	8.790228051
080919BK-1 230	1098.91451	3561.871	1.567274352	15.43392251	8.060763454	0.083075926	9.135765387	0.00987749	1.020776876	0.111734139	63.36197494	0.643616149	81.03271816	7.115382392	640.1776507	195.6327605	63.36197494	0.643616149	9.897561227
080919BK-1 231	1828.195083	8400.318669	2.235932246	18.53760976	3.380320428	0.109072195	4.52690172	0.015084688	0.655122166	0.144717559	96.51600496	0.627587883	105.1163173	4.520516723	305.7148161	102.0736852	96.51600496	0.627587883	31.57060106
080919BK-1 232	1533.461645	8370.822038	2.428319168	17.74700663	3.257901936	0.119761988	3.840721606	0.015834304	0.76725782	0.199769184	101.274775	0.770966738	114.8562241	4.170983376	407.2831734	84.24537254	101.274775	0.770966738	24.86593642
080919BK-1 233	179.3078111	4836.702125	2.342882748	15.47547565	4.278703445	0.59625673	4.884012715	0.069842834	1.01021771	0.206841744	435.2087282	4.251430853	474.8554037	18.52616115	672.19665	102.2757038	435.2087282	4.251430853	64.74425724
080919BK-1 234	2238.377696	2877.996557	5.751298836	19.29864422	1.85700641	0.114518555	4.149469958	0.017708353	0.874136306	0.21066216	113.1564017	0.980510382	110.0903916	4.329260535	45.33178416	NA	113.1564017	0.980510382	249.6182398
080919BK-1 235	2737.122879	6914.128541	3.99844915	18.51544947	3.611573617	0.06995891	5.234955137	0.00973362	0.780657267	0.149123965	62.44353478	0.485116646	68.66045134	3.475525693	292.0198047	118.2937626	62.44353478	0.485116646	21.38332188
080919BK-1 236	2280.601755	12126.86373	2.988165956	18.60235054	2.152931631	0.109383438	2.475432123	0.015027105	1.0284204	0.415450858	96.1503084	0.98149157	105.4012285	2.478287506	320.9145588	51.16801018	96.1503084	0.98149157	29.96134198
080919BK-1 237	309.5254266	6481.228016	3.187617782	17.17353318	4.41133929	0.533562318	5.458787157	0.068802901	0.746722185	0.136792691	428.9394892	3.098749152	434.1710327	19.28688186	463.0031897	119.9258301	428.9394892	3.098749152	92.64287995
080919BK-1 239	544.0333334	39851.06195	0.841351945	9.309846386	0.675492479	4.834196118	0.921390399	0.325927403	0.60033245	0.65155058	1818.611708	9.512867973	1790.86814	7.752205434	1759.481945	12.78179308	1759.481945	12.78179308	103.3606349
080919BK-1 240	198.0838051	4118.907678	1.695007799	15.37184323	5.857373705	0.671802342	6.692388413	0.078800313	1.035290856	0.154696768	488.9579535	4.874920594	521.8076777	27.31318615	669.2448707	141.653681	488.9579535	4.874920594	73.06114323
080919BK-1 241	330.1618778	1167.669993	1.936618626	11.53663558	14.69541343	0.111916098	20.58363721	0.010849439	4.952783724	0.240617519	69.56329685	3.426797419	107.7166487	21.03946633	1064.407704	405.7138532	69.56329685	3.426797419	6.535399599
080919BK-1 242	629.7586325	1841.158895	2.088359656	14.31590019	14.49616756	0.085148727	18.81348295	0.009917614	2.140018266	0.11374918	63.6180963	1.354743091	82.97411062	14.99061875	684.299072	402.2981422	63.6180963	1.354743091	9.29682633
080919BK-1 243	1524.348519	7780.193176	2.159781913	12.76814152	0.632629332	1.636099864	0.943712488	0.154395843	0.652533651	0.691453869	925.5576283	5.626030424	984.2113017	5.947336736	1118.320471	13.59764697	1118.320471	13.59764697	82.76318392
080919BK-1 244	266.0163306	17329.7665	3.080414746	11.84558089	1.570074433	2.514394146	1.805448754	0.217096299	0.661962859	0.366647271	1266.513709	7.611662233	1276.201602	13.11662562	1293.383897	32.66723301	1293.383897	32.66723301	97.92248941
080919BK-1 245	2411.52348	11031.75585	2.27468735	19.22921758	1.372276966	0.106017723	1.72097606	0.015103851	0.613523706	0.356497525	96.63770416	0.588473326	102.3160152	1.675025877	237.6861192	37.07978104	96.63770416	0.588473326	40.65769784
080919BK-1 246	299.7000701	4996.880344	1.272788291	18.09855609	3.713007466	0.515258487	4.980686326	0.071085513	0.76124892	0.152840165	442.6922319	3.256880993	421.9790248	17.19883626	311.2848564	112.0730272	442.6922319	3.256880993	142.2145096
080919BK-1 247	795.7021349	95069.5201	2.173771163	9.887473998	0.696568499	4.024177546	1.000146071	0.287644669	0.71477271	0.714668318	1629.748341	10.29311518	1639.094043	8.134198936	1651.893751	12.96569544	1651.893751	12.96569544	98.65939261
080919BK-1 248	435.6908226	27462.48928	2.54638617	10.63152075	0.904997127	3.368692934	1.27652981	0.259936277	0.728505051	0.570691766	1489.515847	9.688787116	1497.145621	9.995046163	1508.769813	19.79572557	1508.769813	19.79572557	98.7238633
080919BK-1 249	1960.255613	9339.016644	3.041881981	19.25815474	3.75537356	0.118418932	3.939290824	0.016977842	0.760869899	0.193148953	108.5275052	0.818841054	113.6376304	4.235133497	223.0387392	89.39892164	108.5275052	0.818841054	48.65858982
080919BK-1 250	1251.102486	2349.674638	0.783841611	13.33752474	3.370775764	0.069273907	4.195383545	0.007262293	1.250879741	0.29815623	46.6465727	0.581386522	68.01018125	2.759836581	905.0561796	82.54985492	46.6465727	0.581386522	5.153997482
080919BK-1 251	801.6219696	3011.971345	1.736689905	14.10197393	11.56496927	0.091787542	11.86348457	0.010020567	1.533341689	0.129248846	64.27522637	0.980661786	89.16718226	10.12749845	821.008054	246.4787451	64.27522637	0.980661786	7.828818006
080919BK-1 252	665.9813867	30134.54183	6.931721377	14.004479	0.842217849	1.546630865	1.114807832	0.157404702	0.707769301	0.634880094	942.3379408	6.205010505	949.1508923	6.874755112	965.8908347	17.58396859	965.8908347	17.58396859	97.56153666
080919BK-1 253	905.764299	43362.9209	4.361511569	10.11836199	0.663729285	4.079576278	0.987762792	0.298947163	0.715529492	0.72469777	1686.085811	10.62016186	1650.228815	8.055254301	1605.663598	12.69183931	1605.663598	12.69183931	105.0086589
080919BK-1 254	280.6825796	12111.90544	3.685616563	13.77522869	1.970189735	1.780191075	2.223405946	0.179945153	0.7093399	0.319033014	1066.674986	6.973504694	1038.249132	14.45672741	979.7409518	42.93068004	979.7409518	42.93068004	108.8731653
080919BK-1 255	891.9963044	3506.746286	4.896607617	16.92527532	5.490822661	0.115269537	7.636726203	0.01515335	1.321543123	0.173051002	96.95203897	1.271676245	110.7743444	8.014581683	420.0776011	168.1403057	96.95203897	1.271676245	23.07955452
080919BK-1 256	1000.089281	13701.15997	1.257084347	17.65426876	1.293874222	0.518646146	1.649006615	0.067363555	0.702752903	0.426167425	420.252315	2.85912741	424.2465804	5.718359602	446.9560257	33.15369971	420.252315	2.85912741	94.02542775
080919BK-1 257	905.4849289	2660.320177	1.831711509	15.59606449	5.897322475	0.117818014	7.116359807	0.014502075	1.096496269	0.154081061	92.81499072	1.010421477	113.0919257	7.616168539	565.1559446	153.3011587	92.81499072	1.010421477	16.42289913
080919BK-1 258	1798.276468	2512.759681	4.473715237	18.30523393	1.994041326	0.114730759	9.731103116	0.016984058	0.834119936	0.085716894	108.5669094	0.897995249	110.2837025	10.16989316	148.5260805	NA	108.5669094	0.897995249	73.09619228
080919BK-1 259	776.2923423	3215.290391	3.059604345	14.28407809	7.868241431	0.135661856	9.129350325	0.014946735	1.274488508	0.139603418	95.63986157	1.209921587	129.1725783	11.07377553	801.8003582	189.7177796	95.63986157	1.209921587	11.92813904
080919BK-1 261	617.0015192	1334.927555	2.44910151	13.00341915	13.06111388	0.09111707	14.73038177	0.009950911	1.802581671	0.122371687	63.83062986	1.144921542	88.54343955	12.49091395	820.2648442	306.8561798	63.83062986	1.144921542	7.78170981
080919BK-1 262	758.7952369	18474.35573	27.2578797	15.97990952	1.29222395	0.884771925	2.036591459	0.103356916	1.097734378	0.539005687	634.0517295	6.628864543	643.5567029	9.707772505	677.965933	36.66448354	634.0517295	6.628864543	93.52265336
080919BK-1 263	388.3283984	9926.845553	1.394108695	16.40888195	3.836512644	0.587442186	4.103014811	0.071293762	0.987768206	0.240742052	443.9454742	4.237563981	469.2329115	15.41819685	595.8510121	86.31159949	443.9454742	4.237563981	74.50612069
080919BK-1 264	1934.568116	4819.156291	10.5568844	19.09023913	3.178827391	0.071708059	4.740890726	0.010494617	1.051253253	0.221741718	67.30011895	0.703814413	70.31902534	3.220941082	175.233872	107.8950625	67.30011895	0.703814413	38.40588477
080919BK-1 265	500.3089922	1016.290401	2.678418153	11.67546401	20.17984984	0.097443457	20.46997171	0.009829806	2.149691227	0.105016815	63.05758169	1.348935054	94.41371266	18.45718704	983.9093771	418.5763696	63.05758169	1.348935054	6.408881058
080919BK-1 266	334.194729	669.0849078	1.968291435	6.878509956	36.34196192	0.111024157	36.80024	0.006387139	3.827940543	0.104019445	41.04320697	1.566118696	106.9018165	37.35686579	2044.61952	671.6490793	41.04320697	1.566118696	2.007376266
080919BK-1 267	357.8683159	34146.85596	2.06084992	11.32395962	0.97794117	3.155110804	1.308216731	0.259119782	0.85157128	0.650940521	1485.336931	11.29726143	1446.24978	10.08685788	1390.067132	19.05847471	1390.067132	19.05847471	106.8536114
080919BK-1 268	1363.471645	3071.859854	3.120621915	15.61399578	7.604179257	0.06086118	8.413980307	0.007407885	1.910328798	0.227042224	47.57828754	0.905555859	59.98985878	4.901359831	589.5423047	177.9945366	47.57828754	0.905555859	8.070377165
080919BK-1 269	2416.255636	8549.793836	1.667990754	18.01513096	3.829461906	0.074714282	4.505314161	0.010026078	1.112968845	0.247034681	64.31039539	0.712196273	73.16326568	3.180292162	373.9655709	98.29687411	64.31039539	0.712196273	17.19687597
080919BK-1 270	724.3737519	14700.0408	1.393744244	18.51082765	1.935342846	0.499199489	2.389123811	0.067958029	0.915650613	0.383257916	423.8416849	3.756078295	411.1603711	8.077787714	341.5424517	49.95055167	423.8416849	3.756078295	124.0963408
080919BK-1 271	372.8843568	46941.09831	1.205846397	9.949623146	0.847353833	3.95864644	1.103103481	0.285162979	0.66331827	0.601320077	1617.312119	9.488016152	1625.76312	8.942129701	1637.508798	16.36807724	1637.508798	16.36807724	98.76662161
080919BK-1 272	1273.645453	77577.13264	3.573930884	13.08255838	0.66559524	1.860024904	0.980502491	0.176086003	0.713483746	0.727671528	1045.556669	6.88633598	1066.995311	6.474905629	1111.93828	13.42123071	1111.93828	13.42123071	94.03009931
080919BK-1 273	2052.976122	9466.748762	2.54749567	18.75300801	2.931969715	0.107387649	3.531300143	0.014973254	0.819009609	0.231928631	95.80829239	0.778876852	103.5729015	3.477129767	287.085907	78.54245907	95.80829239	0.778876852	33.37269092
080919BK-1 274	2506.109072	7482.130287	2.584929079	19.78243153	2.552684337	0.100799414	2.792106773	0.014978745	0.75790923	0.27144708	95.84316592	0.721030897	97.51399266	2.596047868	139.5870938	63.13410099	95.84316592	0.721030897	68.66191086
080919BK-1 275	4615.889802	17787.07234	6.148464046	20.07401548	1.725133325	0.105237725	1.992171576	0.015508176	0.672251513	0.337446594	99.20485751	0.66180082	101.5996827	1.926073792	159.1915191	43.87081452	99.20485751	0.66180082	62.31792879
080919BK-1 276	954.3599098	3695.548395	2.441218438	14.07802938	7.513007695	0.093769611	7.856632991	0.010082761	1.110395792	0.141332272	64.67216143	0.714526807	91.0088726	6.839261422	852.5916603	161.8322931	64.67216143	0.714526807	7.58536172
080919BK-1 277	482.6315229	1764.998855	3.065602701	13.66837929	13.35646769	0.13389914	15.90294094	0.014874781	1.518032219	0.095456068	95.18282799	1.434291138	127.5953285	19.07048679	784.4901024	334.4834485	95.18282799	1.434291138	12.13308207
080919BK-1 278	614.673927	1058.342596	3.340265238	8.855675246	31.07521846	0.086574413	31.35893268	0.006256601	2.797800653	0.089218619	40.20699446	1.121410749	84.30726217	25.37532798	1631.509413	595.658773	40.20699446	1.121410749	2.464404689
080919BK-1 279	639.0651945	2666.942745	2.305823079	13.55236868	7.399429711	0.093872999	8.153678838	0.00990777	1.86627817	0.228887869	63.55525947	1.18029014	91.10484704	7.10500504	891.1727931	164.16661	63.55525947	1.18029014	7.131642703
080919BK-1 280	211.6519089	12381.52584	2.550904568	11.54039749	1.37205653	2.657180593	1.879564016	0.224297024	0.734324299	0.390688635	1304.540349	8.672475571	1316.639611	13.86719741	1337.21576	33.45219024	1337.21576	33.45219024	97.55645933
080919BK-1 281	2909.766035	14537.44328	4.225873488	19.10484279	2.469839844	0.106649019	2.761854841	0.014998215	0.772793164	0.279809479	95.96682885	0.736132155	102.8954131	2.702581176	267.4672175	60.82754775	95.96682885	0.736132155	35.87984717
080919BK-1 282	368.8399704	19276.13476	1.786242304	13.2245791	1.377734845	1.85069689	1.734442691	0.178419739	0.800940713	0.461785631	1058.335772	7.817388212	1063.678212	11.43384958	1075.546287	30.89138939	1075.546287	30.89138939	98.39983502
080919BK-1 283	147.5801722	9629.756048	1.108854161	11.68047877	1.476054117	2.61917717	1.832680457	0.224674681	0.827081705	0.451296188	1306.528557	9.781384879	1306.0331	13.46781554	1306.047271	31.73895432	1306.047271	31.73895432	100.0368506
080919BK-1 284	218.1697863	13986.45143	2.459500256	13.87447069	1.656431869	1.561362167	1.857593056	0.158630177	0.703252997	0.378582917	949.1598721	6.20684505	955.0075784	11.49824913	969.3981276	35.07379309	969.3981276	35.07379309	97.9122865
080919BK-1 285	535.8224204	44965.3975	1.769210398	12.68481347	0.892271909	2.067945359	1.186555913	0.190121974	0.70250358	0.592052656	1122.035782	7.234487486	1138.2526	8.121174049	1170.143569	18.94139011	1170.143569	18.94139011	95.88872787
080919BK-1 286	314.3937699	47973.73005	2.089773463	7.784859545	0.763418299	6.634017946	1.04195761	0.373621483	0.703492837	0.675164546	2046.418503	12.33511437	2063.882119	9.194228578	2082.114046	13.52547493	2082.114046	13.52547493	98.28561059
080919BK-1 287	151.9977238	28188.24024	0.532800945	5.51363337	0.703841084	12.47070547	0.992089444	0.497548041	0.676022326	0.681412679	2603.249841	14.47885544	2640.52126	9.325961814	2669.918763	12.02450706	2669.918763	12.02450706	97.50296067
080919BK-1 288	1088.891063	2454.246757	2.852665036	15.90450556	4.424590896	0.121529929	6.299803278	0.015409689	0.876082287	0.139065023	98.57962968	0.857068759	116.4581015	6.931640361	500.1928694	137.5166941	98.57962968	0.857068759	19.70832367
080919BK-1 289	439.0271602	626.0520562	1.871096346	7.66969942	14.68989741	0.091674401	21.89873351	0.006093058	3.79332337	0.17322113	39.15919407	1.480932319	89.06195425	18.67466541	1785.581243	397.9216907	39.15919407	1.480932319	2.193078261
080919BK-1 290	431.4333197	22610.72691	3.001112092	12.22165828	0.964304548	2.250831129	1.166993583	0.200109083	0.597387697	0.511903155	1175.906237	6.421266615	1197.045942	8.204579612	1236.284093	19.66772795	1236.284093	19.66772795	95.11618276
080919BK-1 292	1263.283352	3539.467525	2.347416753	16.1983262	6.887064111	0.080258492	7.878043268	0.010055875	1.099096138	0.139513849	64.50057284	0.705388488	78.38793373	5.943147872	526.4062226	171.2666514	64.50057284	0.705388488	12.25300349
080919BK-1 293	450.3615569	1372.61429	2.611701606	11.20309732	7.150798855	0.106632672	11.01982987	0.009752587	2.420925934	0.219688141	62.56462541	1.507316928	102.8804141	10.78221352	1180.493102	213.1140242	62.56462541	1.507316928	5.299872172
080919BK-1 294	922.2095807	5207.778176	2.192685559	14.47773706	5.363708157	0.13699502	6.154956796	0.014915423	1.269838563	0.206311531	95.4409779	1.203018865	130.3638474	7.530244889	826.6274485	125.7615184	95.4409779	1.203018865	11.54582733
080919BK-1 295	843.6128838	2860.443388	1.639499165	14.77875568	10.61917366	0.085693513	12.8789239	0.009881911	1.665291811	0.129303646	63.39019438	1.05045847	83.4837442	10.32203085	705.5380733	272.7286904	63.39019438	1.05045847	8.984659622
080919BK-1 296	332.7696414	12981.05717	1.365709337	12.53707003	1.522949945	2.146593683	1.852675919	0.196964557	0.851836485	0.459787098	1158.993172	9.036110211	1163.954406	12.83398934	1174.07727	32.55859	1174.07727	32.55859	98.71523811
080919BK-1 297	2144.955625	10549.34483	2.211139339	19.4400148	2.127282031	0.109312786	2.738489995	0.015768044	0.818224234	0.298786644	100.8542805	0.818792455	105.3365609	2.740053662	208.9322297	60.60018034	100.8542805	0.818792455	48.27128904
080919BK-1 298	572.9605654	34734.38671	5.435140673	16.42472823	1.965384208	0.885615276	2.114709558	0.105729994	0.678079988	0.320649228	647.9016581	4.179730785	644.0109399	10.08525611	631.3481831	43.13877294	647.9016581	4.179730785	102.6219249
080919BK-1 299	1847.887899	6767.775942	2.890449042	19.1408017	3.19962766	0.10485196	3.951934585	0.015117077	0.771980266	0.195342369	96.72169513	0.741098794	101.2452178	3.808150955	210.122625	89.87300227	96.72169513	0.741098794	46.0310712
080919BK-1 300	1557.646706	4711.582006	2.585072885	18.06086929	3.257552372	0.107375184	4.476050151	0.014833902	0.831406319	0.185745533	94.92316259	0.783415144	103.5614719	4.406935707	308.154538	100.18852	94.92316259	0.783415144	30.80375295
080919BK-1 301	719.7589614	3143.979087	4.379129853	16.02927476	6.248434298	0.120586143	7.399638852	0.015073195	0.972287714	0.131396644	96.44302077	0.930724136	115.6032802	8.085404856	531.5579218	160.8752606	96.44302077	0.930724136	18.14346411
080919BK-1 302	911.1393249	2204.036912	2.239642119	16.75830919	4.577676509	0.073594569	5.756722971	0.010020467	1.424302102	0.247415432	64.27458689	0.910915566	72.10481671	4.006941087	341.1705004	126.3786503	64.27458689	0.910915566	18.83943272
080919BK-1 304	358.3943389	14250.09573	2.697860053	14.01898893	1.949088327	1.486010948	2.085961693	0.152531218	0.573055025	0.274719822	915.1367123	4.889006939	924.6884267	12.66128312	948.4495468	41.05963855	948.4495468	41.05963855	96.4876535
080919BK-1 305	563.579049	746.9426207	1.70364311	13.98799631	8.49814547	0.044656148	30.73362135	0.006220632	3.326046511	0.108221757	39.97656219	1.325524792	44.35983787	13.34063585	289.2649008	NA	39.97656219	1.325524792	13.82005286
080919BK-1 306	287.7855108	13804.37182	1.712758368	13.26774365	2.193484905	1.674022008	2.971724898	0.16255705	1.599772562	0.538331311	970.9713607	14.42011448	998.7142295	18.89229903	1061.026576	50.39980866	1061.026576	50.39980866	91.51244489
080919BK-1 307	782.4043045	2158.505229	1.713436763	15.63423667	8.101618	0.078556277	10.25923713	0.00991334	1.531807836	0.149310111	63.59081239	0.969300351	76.78668437	7.587367906	510.6773129	223.4856466	63.59081239	0.969300351	12.45224935
080919BK-1 308	163.6818936	2747.550395	1.797102661	9.07008542	3.989001452	0.978495161	5.870058805	0.067096482	2.040848591	0.347670894	418.6391109	8.272281278	692.8329554	29.48615249	1728.501315	101.1048381	1728.501315	101.1048381	24.21977394
080919BK-1 309	1955.801675	7824.02591	2.499368542	18.32613432	4.34109837	0.109843604	4.490878696	0.015048661	0.683261422	0.152144261	96.28720983	0.653004404	105.822316	4.513122113	327.180781	100.7644103	96.28720983	0.653004404	29.42935998
080919BK-1 310	223.6581434	8470.540908	2.595823031	12.85003224	1.863901353	1.963642877	2.052501701	0.186158631	0.666658215	0.324802759	1100.532114	6.744690125	1103.131658	13.80946486	1109.112777	38.78423998	1109.112777	38.78423998	99.22634899
080919BK-1 311	432.3939605	679.1706127	1.936129191	9.986587177	15.80537945	0.070997117	17.7531115	0.00646634	3.942189415	0.222056253	41.5505072	1.632732173	69.6452247	11.95024624	1188.735413	344.3002054	41.5505072	1.632732173	3.495353695
080919BK-1 312	2528.694543	35877.73936	1.751695492	16.0505505	0.795395161	0.823090112	1.204939272	0.095990123	0.780731439	0.647942562	590.8665676	4.407982361	609.770955	5.523808364	681.5525553	19.62380586	590.8665676	4.407982361	86.69420473
080919BK-1 313	994.6009097	3008.433423	1.609515398	13.61485315	11.90668804	0.093238667	12.43512434	0.009801424	3.388059978	0.272458874	62.87639996	2.119934807	90.51586056	10.76905017	899.4112807	247.6174928	62.87639996	2.119934807	6.990839598
080919BK-1 314	732.7006147	3723.432785	3.421858424	16.04281705	8.136504704	0.133317563	9.645121872	0.016472864	1.024344961	0.106203423	105.325757	1.07013302	127.074405	11.52104875	556.8158859	209.5838507	105.325757	1.07013302	18.91572415
080919BK-1 315	2466.631268	8733.80984	2.580039765	18.782557	2.395153948	0.107787396	3.199934012	0.015091507	0.772757987	0.241491851	96.55931307	0.740609254	103.9393705	3.161432381	277.6326107	71.12187314	96.55931307	0.740609254	34.77952854
080919BK-1 316	236.8063705	23831.28837	1.741994669	8.019928441	0.838044529	6.262812019	1.161250342	0.364214391	0.788857479	0.679317328	2002.1191	13.5766265	2013.268096	10.16798402	2025.479465	15.09336328	2025.479465	15.09336328	98.84667482
080919BK-1 317	2273.679211	7777.844175	3.568451821	18.74978906	3.027280045	0.106939195	3.616355004	0.015005896	0.781577858	0.216123101	96.01560758	0.744875716	103.1616232	3.547446713	272.5232806	80.93718559	96.01560758	0.744875716	35.23207536
080919BK-1 318	292.4271513	854.2044056	2.342752723	5.725864201	11.71473516	0.147999041	13.40884551	0.006685329	5.670401009	0.422885103	42.95298219	2.427510121	140.143639	17.55423629	2462.280082	206.1458871	42.95298219	2.427510121	1.744439331
080919BK-1 320	1040.385751	3644.69571	3.229751012	16.45077678	6.738999266	0.119987152	7.174374958	0.015253652	1.167230789	0.162694422	97.58894011	1.130509477	115.060379	7.804484811	494.4478	156.2072376	97.58894011	1.130509477	19.73695506
080919BK-1 321	2317.49001	10992.87319	1.946176466	19.97580275	2.288104802	0.100437763	2.68403528	0.0148821	0.742594142	0.276670783	95.22932091	0.70196969	97.1803493	2.487428154	146.3657348	60.49886993	95.22932091	0.70196969	65.06257838
080919BK-1 322	493.3164871	63209.1098	3.570467771	7.89775011	0.714087722	6.56916144	1.020717807	0.375149865	0.723068274	0.708391947	2053.587225	12.71606795	2055.218853	8.995164911	2057.608874	12.71501197	2057.608874	12.71501197	99.80454746
080919BK-1 323	1351.837947	5171.284272	2.148666296	17.68903119	5.278452877	0.111371345	6.989455473	0.014971688	0.983984852	0.140781332	95.79834653	0.935671629	107.2190679	7.11204713	369.9741692	156.0354142	95.79834653	0.935671629	25.8932527
080919BK-1 324	1338.45529	4762.745264	3.363726672	18.70050268	3.529919654	0.107478173	4.057944336	0.015398459	0.903679378	0.222693906	98.50833736	0.883432529	103.6559014	3.998741606	224.6793039	91.48869828	98.50833736	0.883432529	43.84397479
080919BK-1 325	329.9073432	1067.337059	2.499813173	12.96632382	8.677293346	0.084088936	15.60159089	0.009549244	5.232055758	0.33535399	61.26632439	3.190304273	81.9819705	12.28836045	738.0918765	312.6367809	61.26632439	3.190304273	8.300636593
080919BK-1 326	247.3302779	3612.337818	2.520330983	15.77228704	4.890713107	0.557510436	6.06103233	0.06776816	1.153537603	0.190320318	422.6954921	4.719530163	449.9047289	22.03264825	592.4028003	129.0828929	422.6954921	4.719530163	71.35271674
080919BK-1 327	415.1911772	24560.64123	1.011090628	10.0194529	0.704648006	4.255170174	1.066152217	0.309508908	0.681809222	0.639504577	1738.289688	10.38833985	1684.73614	8.765769835	1619.490125	15.25510093	1619.490125	15.25510093	107.3356151
080919BK-1 328	371.1965758	7881.136236	1.857730724	17.3248186	3.883055212	0.523192655	4.414946153	0.067598239	0.677988048	0.15356655	421.6695496	2.767373658	427.2818833	15.39910278	458.6271402	96.81602488	421.6695496	2.767373658	91.94169131
080919BK-1 329	146.3784445	15862.97259	0.853367319	9.712949674	1.450086651	4.033702115	1.634267368	0.285225337	0.65578335	0.401270541	1617.624898	9.381833499	1641.01713	13.29823984	1671.903159	27.67625781	1671.903159	27.67625781	96.75350446
080919BK-1 330	80.72299452	3121.004849	0.762588804	12.85611618	5.296752196	1.732974912	5.981102139	0.170848379	0.947882677	0.1584796	1016.783862	8.916271266	1020.856706	38.52796919	1030.460451	119.4771883	1030.460451	119.4771883	98.67276908
080919BK-1 331	928.9657259	3578.527731	1.594446296	15.22159153	8.469788195	0.08477481	8.735356455	0.009927802	1.046854014	0.119841018	63.68312867	0.663387246	82.62417303	6.931776015	672.6835785	185.8275104	63.68312867	0.663387246	9.46702591
080919BK-1 332	225.4493763	696.4112944	2.613625491	9.097979808	12.7751261	0.179114493	14.85662002	0.014390658	2.130570752	0.143408847	92.10697778	1.948451412	167.2982959	22.91914561	1432.084066	282.0759191	92.10697778	1.948451412	6.431673949
080919BK-1 333	642.4483251	2749.86455	3.529098534	15.03321496	6.513041654	0.125078083	8.526899079	0.014743017	1.228697581	0.144096649	94.34581852	1.150783178	119.6653712	9.625706083	658.7998882	181.1846453	94.34581852	1.150783178	14.32086134
080919BK-1 334	442.8259313	3364.505839	3.330331197	15.20916722	2.293307572	0.883902308	4.628686932	0.103829442	0.846501307	0.182881521	636.8118913	5.132919762	643.0881059	22.05473777	666.1268959	97.47228042	636.8118913	5.132919762	95.59918616
080919BK-1 335	2466.073405	10706.87824	2.277452018	19.37248861	2.378399728	0.105157752	3.226363137	0.015108285	0.694545301	0.215271893	96.66586094	0.666379434	101.5262091	3.117177569	218.1987455	72.94100609	96.66586094	0.666379434	44.30174918
080919BK-1 336	1249.904947	3619.164115	1.565518419	15.27193029	5.719113085	0.084661537	7.280762262	0.009942266	1.083333154	0.14879392	63.77545107	0.687494253	82.51814035	5.770365774	666.6808603	154.3514347	63.77545107	0.687494253	9.566113994
080919BK-1 338	1229.265573	112300.8636	2.328973806	10.30863092	0.583536224	3.634368156	0.866061854	0.270803371	0.638080527	0.736760919	1544.878491	8.765358276	1557.08978	6.896422915	1574.489992	10.96233545	1574.489992	10.96233545	98.11929576
080919BK-1 339	948.7478853	5755.581627	2.38773619	15.75949096	1.306937153	0.817578269	1.961691888	0.096848162	1.153136171	0.587827364	595.911422	6.563625906	606.6964448	8.960003867	648.1421226	34.08655744	595.911422	6.563625906	91.94147413
080919BK-1 340	353.177014	6632.015253	11.12063438	13.60289104	1.308701794	1.76951695	2.941955803	0.178999637	0.893568028	0.303732649	1061.507259	8.745498542	1034.343218	19.08832897	978.2226867	57.10398612	978.2226867	57.10398612	108.5138664
080919BK-1 341	405.6111269	33797.48123	1.532831177	9.274965723	0.707282985	4.562004376	1.003106647	0.306595417	0.652131351	0.650111684	1723.931253	9.864569839	1742.355224	8.354321609	1765.31843	13.92791046	1765.31843	13.92791046	97.65554039
080919BK-1 342	754.5648499	41183.34854	9.241915497	7.404993188	0.577819389	6.695863909	0.905378139	0.35878179	0.666948519	0.736651892	1976.396814	11.35250342	2072.074966	7.998676581	2169.337747	10.67160589	2169.337747	10.67160589	91.10599845
080919BK-1 343	130.3138626	4002.622616	1.604536389	13.74143454	9.668810799	0.667786966	10.99320972	0.06966918	1.146043394	0.104250116	434.1622771	4.81183321	519.365972	44.72316246	915.0589365	225.6053218	434.1622771	4.81183321	47.4463731
080919BK-1 344	1019.007231	49544.77076	3.567507789	12.24763366	0.566198971	2.288633326	0.866777641	0.203056538	0.586116851	0.676202089	1191.719153	6.377250776	1208.785172	6.124965435	1240.246323	12.51509776	1240.246323	12.51509776	96.08729581
080919BK-1 345	500.0625017	1846.489361	3.081962586	14.45118231	8.446592412	0.126892277	14.92135346	0.014932551	2.030312452	0.13606758	95.54976698	1.925652457	121.3013626	17.06207282	662.2448779	318.3619056	95.54976698	1.925652457	14.42816248
080919BK-1 346	308.2493478	24650.91449	1.304956472	9.226321805	0.679907917	4.667445424	0.918009721	0.312460977	0.585418864	0.637704428	1752.805696	8.984513931	1761.424048	7.676749461	1772.44039	12.90829807	1772.44039	12.90829807	98.89222261
080919BK-1 347	450.031862	8792.765668	1.797480006	16.38099093	3.15716154	0.710169876	3.656167749	0.086310349	0.68841329	0.188288213	533.6789883	3.525952439	544.8471427	15.41744445	592.7613482	77.86025356	533.6789883	3.525952439	90.03269021
080919BK-1 349	83.62759495	6082.321922	0.822638367	8.773155674	1.940874965	5.026104126	2.646185328	0.324644904	0.627282102	0.237051463	1812.373418	9.910385788	1823.730233	22.41380296	1837.497035	46.56552816	1837.497035	46.56552816	98.63272614
080919BK-1 350	1873.330356	49386.78771	1.460013933	17.97687391	1.22992872	0.526941458	1.423602426	0.068748014	0.586886682	0.412254623	428.6084342	2.433645512	429.7778215	4.988409596	436.9996353	28.88513497	428.6084342	2.433645512	98.07981509
080919BK-1 351	1613.184785	5960.678078	3.863453316	18.30793832	3.695018737	0.108581068	5.947483498	0.01502779	0.882664493	0.148409742	96.15466123	0.84242464	104.6665789	5.914999601	304.0382438	134.1427049	96.15466123	0.84242464	31.62584418
080919BK-1 352	133.9466483	2081.762543	2.275416391	14.54020395	8.886745281	0.586491593	11.03653903	0.068474595	1.501498739	0.136047971	426.9590276	6.203097151	468.6246973	41.45032901	679.1510383	234.295622	426.9590276	6.203097151	62.86657952
080919BK-1 353	1484.70078	38022.35672	0.851829624	17.86003659	1.273047	0.534024115	1.521620457	0.069326448	0.813004661	0.534301873	432.0964564	3.397816526	434.4767461	5.378596855	448.0598485	28.59207612	432.0964564	3.397816526	96.4372188
080919BK-1 354	633.0015286	10292.54001	1.607879841	17.78899153	2.419702321	0.443452255	3.326541959	0.058420118	0.91889231	0.276230488	366.010263	3.269544156	372.6838033	10.37725481	415.3377497	71.43699782	366.010263	3.269544156	88.12352434
080919BK-1 355	2798.463788	10118.59176	3.808057798	18.99103939	3.243476179	0.107203772	3.861701639	0.015113863	0.777895337	0.201438487	96.70128472	0.746620837	103.4042879	3.7965853	261.7721941	86.90501007	96.70128472	0.746620837	36.94100706
080919BK-1 356	1621.170386	4628.03279	5.327645888	16.40655171	4.994270969	0.076476137	7.344203251	0.009551165	1.133532278	0.154343806	61.27858673	0.691321561	74.82649188	5.297855097	533.430504	159.0775393	61.27858673	0.691321561	11.48764202
080919BK-1 357	474.2045337	1210.390427	3.328063959	11.19689001	8.167811496	0.107251002	15.27274457	0.009980577	2.351555174	0.1539707	64.01998141	1.498014435	103.4475998	15.02221453	1146.15501	301.5029057	64.01998141	1.498014435	5.58563029
080919BK-1 358	757.3983591	17305.78728	2.269972744	17.75458288	2.506191871	0.531365548	2.780452204	0.069138251	0.812045319	0.292055126	430.9618124	3.385189883	432.7154919	9.79655408	443.00731	59.16828479	430.9618124	3.385189883	97.2809709
080919BK-1 359	426.1921945	109644.2783	1.498073543	3.26850588	0.621354236	29.54475152	1.016896656	0.6973147	0.804575728	0.791206976	3410.458752	21.3085139	3471.790497	9.987676829	3508.037671	9.607947595	3508.037671	9.607947595	97.21841875
080919BK-1 360	550.7866326	1478.059406	1.675018534	10.78263918	15.42738285	0.073810689	17.80285412	0.006404288	6.098174551	0.342539152	41.15305744	2.501591989	72.30919787	12.4260404	1283.824108	328.0528609	41.15305744	2.501591989	3.205505894
080919BK-1 361	691.7021552	2499.336455	1.819331447	14.23056975	11.76274798	0.089590557	12.67263509	0.01002867	1.609541194	0.127009196	64.32693891	1.030219904	87.12188643	10.58062847	768.4678889	265.6941853	64.32693891	1.030219904	8.370803756
080919BK-1 362	241.8082865	983.7565256	2.720171047	10.03153663	11.32675	0.182049833	14.0518786	0.015389011	3.027142166	0.215426154	98.44835346	2.957530936	169.8228949	21.97792132	1334.464867	266.6200252	98.44835346	2.957530936	7.377365706
080919BK-1 363	547.7720574	53381.9178	1.851818667	6.802895219	0.594578669	7.826858504	0.976793718	0.385007526	0.76721765	0.785444906	2099.633027	13.74847521	2211.300377	8.794779329	2317.18331	10.37067503	2317.18331	10.37067503	90.61143407
080919BK-1 364	505.3383523	13739.15127	1.62042016	17.74982985	3.013355787	0.517868083	3.547338949	0.067630464	0.872007822	0.245820271	421.8641318	3.560902162	423.7262258	12.28963321	434.8188102	76.59556806	421.8641318	3.560902162	97.02067204
080919BK-1 365	601.831696	1691.700756	2.680150462	10.42952861	12.88552759	0.122325869	15.57979648	0.010081184	1.681877617	0.107952477	64.66209465	1.082101114	117.1784539	17.24379194	1383.403903	299.3092752	64.66209465	1.082101114	4.67412984
080919BK-1 366	316.9938578	7124.577988	2.183222161	13.52447544	1.67983446	1.738898389	2.523960634	0.174493701	0.714973545	0.283274444	1036.822962	6.847584554	1023.055076	16.27226278	994.5830004	49.19639229	994.5830004	49.19639229	104.2470022
080919BK-1 367	2139.531874	12427.52954	2.346906788	18.9243359	3.275586081	0.107860928	3.441404047	0.015072277	0.704437889	0.204694909	96.43718599	0.674283922	104.0067665	3.402092414	282.1125127	77.07719091	96.43718599	0.674283922	34.18394494
080919BK-1 369	774.6787233	2300.902409	2.553776445	13.46899181	7.660558173	0.093272456	9.889421559	0.00990289	1.82943384	0.184988963	63.52410875	1.156424391	90.54724227	8.567144884	878.9126518	201.5376091	63.52410875	1.156424391	7.227579285
080919BK-1 370	440.0363116	816.3231649	1.676378053	8.201441842	12.52683485	0.093277332	18.32044385	0.006403489	5.107594137	0.278792052	41.14793847	2.094976459	90.55177077	15.8725625	1726.38972	325.6379562	41.14793847	2.094976459	2.383467533
080919BK-1 371	421.7253755	9321.811789	36.87653629	17.28188678	3.226040538	0.545563408	4.019904184	0.069950345	0.857736062	0.213372265	435.8565076	3.614915562	442.0861139	14.40897772	475.5868842	86.87737302	435.8565076	3.614915562	91.64603189
080919BK-1 372	708.5457365	2194.423762	0.868881446	7.502986891	1.122485749	1.620731859	1.903047093	0.09196083	1.40067043	0.736014592	567.1233331	7.604141525	978.2744724	11.95055513	2068.992734	22.70617405	2068.992734	22.70617405	27.41060051
080919BK-1 373	393.0112187	9204.501093	2.133432113	11.47881573	1.181644255	2.597471909	1.894224012	0.21906668	0.668665524	0.353002348	1276.941496	7.745977148	1299.925218	13.88806619	1338.893329	34.25694005	1338.893329	34.25694005	95.37290748
080919BK-1 374	361.4648243	9447.760563	1.280049994	17.7761856	2.702168768	0.535660902	2.914015825	0.070678149	0.703334353	0.241362572	440.2400139	2.992997106	435.5595706	10.32122854	411.8405764	63.21882582	440.2400139	2.992997106	106.8957357
080919BK-1 375	427.6089482	11380.70723	0.964508011	17.45208551	2.583759119	0.581020099	3.209987016	0.074871599	0.702679214	0.218904067	465.4389154	3.155265204	465.1167906	11.97862856	464.4776819	69.42482712	465.4389154	3.155265204	100.2069494
080919BK-1 376	1122.278926	3399.186155	2.870720687	16.64898106	5.930567719	0.079092425	7.081242357	0.010238726	1.13222278	0.159890415	65.66746163	0.739727886	77.29130367	5.270108001	454.3758967	155.3085638	65.66746163	0.739727886	14.45223263
080919BK-1 377	403.8686772	606.910184	1.808463935	9.892155318	18.04484986	0.069693356	19.51608188	0.006476533	4.19070497	0.214730856	41.61579644	1.738378074	68.40841134	12.91153946	1148.913721	381.9512562	41.61579644	1.738378074	3.622186392
080919BK-1 378	1741.87691	9390.972288	2.109243669	17.46544001	4.807920288	0.116257026	5.07847236	0.015067259	0.813613872	0.160208388	96.40532203	0.778531149	111.6729933	5.370590722	451.7573562	111.350077	96.40532203	0.778531149	21.3400669
080919BK-1 379	843.7358518	15554.98026	14.41476567	13.89428071	2.333219112	0.486927462	3.09574576	0.049471619	1.787511759	0.577409095	311.2768235	5.431910908	402.8145249	10.29400945	969.3646877	51.56032452	311.2768235	5.431910908	32.11142591
080919BK-1 380	166.3442114	11189.17027	1.924632715	12.30232497	1.997971562	2.123056983	2.328861108	0.191519687	0.742629901	0.318881147	1129.602194	7.694901131	1156.330735	16.0765009	1207.651926	43.48878102	1207.651926	43.48878102	93.53706718
080919BK-1 381	2744.154851	11840.07058	4.361968446	19.24169169	2.591124154	0.105478099	3.062847272	0.015080549	0.756231013	0.225409089	96.54097878	0.738079979	101.3100294	3.857879953	227.8871098	75.29590949	96.54097878	0.738079979	42.84750887
080919BK-1 382	388.7634176	17518.03116	4.848088797	14.2082088	1.314613132	1.537261884	1.672261903	0.159523982	0.792959101	0.474183559	954.1309305	7.032591841	945.4084388	10.28801602	926.0449944	30.22360417	926.0449944	30.22360417	103.0328911

080919BK-1 383	2409.030458	9484.41998	3.200479692	19.20433384	2.863622593	0.105510274	3.381044868	0.015076283	0.788213759	0.23312727	96.46262828	0.754671269	101.8500434	3.276531305	230.8106169	75.95387504	96.46262828	0.754671269	41.79297712
080919BK-1 384	1842.818783	7528.674341	1.984044443	19.7528984	2.084453345	0.107847153	3.392936322	0.015997013	0.863071667	0.254373081	102.307233	0.876015001	103.994141	3.353791319	143.8210282	76.98586031	102.307233	0.876015001	71.13510054
080919BK-1 385	359.5261027	7075.707046	2.035829934	16.74207562	4.106811786	0.534240669	4.616953672	0.066867529	0.724929985	0.157014784	417.2558355	2.928997996	434.6200747	16.32549292	528.6804425	99.98663526	417.2558355	2.928997996	78.92401571
080919BK-1 386	474.4967339	11389.40308	2.541687212	17.49644455	3.186475254	0.612392746	3.643592384	0.079118225	0.662976822	0.181956913	490.8573713	3.13345957	485.0680338	14.05227446	458.7930269	79.48113405	490.8573713	3.13345957	106.9888474
080919BK-1 387	1962.091974	5596.97082	1.233726581	16.4468874	5.500228865	0.080597525	5.886304456	0.009997204	0.93525594	0.158886776	64.1261097	0.596770127	78.70655661	4.45792914	548.4334116	127.0199804	64.1261097	0.596770127	11.69259719
080919BK-1 388	80.47498754	5158.507361	1.475162842	12.87161186	6.370752109	1.837365015	7.384403543	0.176998581	1.044488773	0.141445246	1050.556797	10.12549317	1058.918424	48.59112057	1077.086193	146.9221861	1077.086193	146.9221861	97.53692909
080919BK-1 391	1097.131186	7868.406087	5.32816527	19.08619796	2.255302222	0.208087517	2.615956204	0.029730013	0.731654606	0.279689165	188.858305	1.36174582	191.9465351	4.575209135	231.0777014	58.00424962	188.858305	1.36174582	81.72935072
080919BK-1 392	2620.960083	11582.45731	4.202225102	18.46158601	2.677862791	0.110371729	2.989856737	0.015061523	0.501133039	0.167611054	96.36889247	0.479344519	106.3053767	3.01766495	336.0886743	66.80454774	96.36889247	0.479344519	28.67365069
080919BK-1 393	2040.162826	7117.831424	3.640116404	17.99423581	2.421798028	0.084597441	2.821600663	0.011411875	0.650871817	0.230674675	73.14907695	0.473415664	82.45813711	2.234677277	362.1752095	61.915151	73.14907695	0.473415664	20.19715183
080919BK-1 394	1476.279963	3451.1183	3.105135513	17.12612445	4.266391118	0.076556243	5.526694181	0.01020645	0.709140867	0.128311943	65.46150723	0.461865276	74.90204898	3.99063007	388.6315806	123.1355703	65.46150723	0.461865276	16.8441039
080919BK-1 395	192.2464046	2398.53523	1.893989079	10.8063169	11.23980018	0.361596423	11.84519152	0.030110217	1.820681356	0.153706367	191.2380553	3.430697155	313.4059522	31.95148405	1363.486882	226.2004531	191.2380553	3.430697155	14.02566155
080919BK-1 396	530.1614852	8239.499619	2.089620215	17.00271299	2.42684349	0.616446908	3.794626067	0.078003759	0.575109793	0.151559016	484.1963557	2.682651458	487.6178849	14.6947922	504.6949467	82.57541497	484.1963557	2.682651458	95.93841962
080919BK-1 397	545.7824023	1175.932578	2.548721107	12.06172249	13.8657932	0.098469006	15.54732382	0.010051736	1.445580062	0.09297935	64.47415344	0.927380162	95.36213352	14.15224768	959.6901379	318.1297225	64.47415344	0.927380162	6.718226113
080919BK-1 398	441.5914551	20376.72002	6.019727868	13.97105587	1.070811472	1.567745505	1.493285581	0.159679691	0.550136888	0.368407018	954.9965426	4.883156997	957.5349328	9.257812978	964.2796105	28.35219799	964.2796105	28.35219799	99.03730538
080919BK-1 399	495.1199863	6685.621982	3.793290431	17.80125514	3.179796896	0.42422126	3.578793254	0.056720664	0.592922571	0.165676676	355.6512448	2.051621815	359.0650149	10.82425305	382.140501	79.36756968	355.6512448	2.051621815	93.06818928
080919BK-1 400	850.8839225	69864.57882	3.072698466	10.9182535	0.591785345	3.180907501	0.801391301	0.251259407	0.52980819	0.661110483	1444.967414	6.858229475	1452.534222	6.190994201	1464.43189	11.42311872	1464.43189	11.42311872	98.67085139
080919BK-1 401	97.47462759	8617.5342	1.305003242	9.659922079	2.001907772	3.932254916	2.342001707	0.278493992	0.77883185	0.332549651	1583.773191	10.93652789	1620.344489	18.96110944	1668.965594	40.85342167	1668.965594	40.85342167	94.89549677
080919BK-1 402	132.5152872	9165.502347	1.946014808	13.67217284	3.921678378	1.71469642	4.053943706	0.172916039	0.712451075	0.175742715	1028.157864	6.770827726	1014.042881	26.00569955	984.5687144	81.28892487	984.5687144	81.28892487	104.4272329
080919BK-1 403	281.0134538	22203.44899	2.351424429	12.66892907	1.384639293	2.113817501	1.686635211	0.194894263	0.630830626	0.374017228	1147.833674	6.632858118	1153.322299	11.6263766	1164.496927	30.9988099	1164.496927	30.9988099	98.56905988
080919BK-1 404	1227.036551	11129.03212	1.337426346	9.470482531	0.569906942	4.01078375	1.07034137	0.277432887	0.902438283	0.843131274	1578.420676	12.6344436	1636.383551	8.699342602	1712.475312	10.58478422	1712.475312	10.58478422	92.17187922
080919BK-1 405	247.6822841	22672.72342	0.862681011	9.89797764	0.869461922	3.988264824	1.087940572	0.286691583	0.611773063	0.562322133	1624.975083	8.787175652	1631.810041	8.832436498	1641.422373	16.69857517	1641.422373	16.69857517	98.99798552
080919BK-1 406	294.6458291	6785.248573	2.091302571	16.27291798	4.753506189	0.557029564	5.254530559	0.067793866	0.788717393	0.150102352	422.850683	3.228067717	449.591187	19.08958044	589.7508678	112.7596488	422.850683	3.228067717	71.69988313
080919BK-1 407	42.71428864	4838.514105	0.665938367	5.74933294	2.204535266	11.22554577	2.386504243	0.472840055	0.885074513	0.370866516	2496.003525	18.31714914	2542.039578	22.25362975	2579.697253	37.01977547	2579.697253	37.01977547	96.75567635
080919BK-1 408	1800.123878	5249.012711	1.87188841	18.32489602	2.68707562	0.125776849	5.687882037	0.017537203	0.845245285	0.148604574	112.0722042	0.93909817	120.2958117	6.452599885	287.0979896	128.6425489	112.0722042	0.93909817	39.03622048
080919BK-1 409	177.5630893	288.8488861	2.001755345	6.50235439	14.16545239	0.088455589	20.87889845	0.005997537	8.398986937	0.402271555	38.54712739	3.22790801	86.06366506	17.23033575	1749.155016	353.3116911	38.54712739	3.22790801	2.203757074
080919BK-1 410	2140.691147	9751.987193	2.714905537	18.64123616	3.508100808	0.108154069	4.059722958	0.014974322	0.793513238	0.195459948	95.81507693	0.754682886	104.2754028	4.023197012	303.1797523	90.75924386	95.81507693	0.754682886	31.60338914
080919BK-1 411	960.2929284	1653.890836	1.673202009	15.14120581	7.408230594	0.131496801	10.13800233	0.016586593	1.447559088	0.142785437	106.0469813	1.522535147	125.4418023	11.96366521	511.6750081	221.0097624	106.0469813	1.522535147	20.72545651
080919BK-1 412	947.3013323	18515.12821	0.761484779	18.5277924	1.881357516	0.464924456	2.130262351	0.063107096	0.808473841	0.379518438	394.4937488	3.093751222	387.6769816	6.864940576	348.1555903	44.55706785	394.4937488	3.093751222	113.3096121
080919BK-1 413	311.5001885	30620.79275	2.540398096	8.157781827	0.865042702	6.046948643	1.176420453	0.357375425	0.772118257	0.656328488	1969.721198	13.1047074	1982.631575	10.25043755	1996.882515	15.77261423	1996.882515	15.77261423	98.63981398
080919BK-1 414	462.5812645	792.5280509	3.422322531	7.768388828	31.89759546	0.097281752	32.52452307	0.006292693	3.896558545	0.11980371	40.43820304	1.570766446	94.26408762	29.28697284	1834.877497	601.7674963	40.43820304	1.570766446	2.203863915
080919BK-1 415	632.0121072	1524.665698	2.038569043	9.95924878	14.9418242	0.080098656	16.53619813	0.006336207	3.822448947	0.231156456	40.71695778	1.551480053	78.23768623	12.45228791	1461.66293	307.7353625	40.71695778	1.551480053	2.785659876
080919BK-1 416	800.2070252	46587.55922	1.878614112	12.37007624	0.7882532	2.26319472	1.093689809	0.202860246	0.733268816	0.670454099	1190.667264	7.971928949	1200.900331	7.702138741	1220.220874	15.96830596	1220.220874	15.96830596	97.57801141
080919BK-1 417	816.594318	9792.156429	1.861302469	17.61473711	1.324590827	0.524914735	2.618928346	0.068545069	0.837148306	0.319653001	427.3842062	3.46181636	428.4291991	9.153949146	435.0021833	55.27750615	427.3842062	3.46181636	98.2487497
080919BK-1 418	1765.886259	24632.66597	3.229117744	18.37688574	1.353425274	0.390046755	1.579948905	0.05231448	0.778367698	0.492653715	328.7155846	2.494476394	334.4035979	4.501560168	375.1157905	30.94287707	328.7155846	2.494476394	87.63043115
080919BK-1 419	1080.687031	75304.37268	1.507442671	9.354616662	0.692683013	4.565438551	1.027266133	0.308828266	0.752824686	0.732842895	1734.938169	11.45109168	1742.981964	8.556699322	1753.425126	12.78926954	1753.425126	12.78926954	98.94566601
080919BK-1 420	457.4691456	7592.526729	1.880498359	17.60135017	2.620577126	0.537262118	3.700587939	0.070654322	0.807105179	0.218101878	440.0965521	3.433506235	436.6177477	13.13297601	419.2633682	80.66982483	440.0965521	3.433506235	104.9689969
080919BK-1 421	353.8886223	23082.87446	2.071173921	12.52194497	1.327322522	2.141944327	1.69459939	0.195116441	0.742787328	0.43832621	1149.032207	7.817475876	1162.452983	11.73075518	1188.427797	30.07759967	1188.427797	30.07759967	96.68506663
080919BK-1 422	284.6700538	32663.20454	1.298659646	7.60161431	0.842918371	7.100789229	1.136266477	0.390853443	0.717754378	0.631677861	2126.785149	13.00251059	2124.142248	10.11355302	2122.33182	15.43115925	2122.33182	15.43115925	100.2098319
080919BK-1 423	1565.060057	7224.79951	7.750621395	19.02051913	2.905000664	0.10707516	4.294851466	0.015294309	0.791365917	0.184259205	97.84709144	0.768481572	103.2863348	4.217860226	231.6514007	97.49902057	97.84709144	0.768481572	42.23893796
080919BK-1 424	263.3469491	4928.458155	2.633968491	17.02225713	4.130755453	0.569385283	5.926375482	0.073673057	1.014944022	0.171258812	458.2467896	4.48948991	457.6168989	21.83547661	455.3981331	129.668055	458.2467896	4.48948991	100.625531
080919BK-1 425	5444.556352	14350.72739	7.414088068	20.6205042	1.520104765	0.063998894	2.358453816	0.009733297	0.719865329	0.305227656	62.44147358	0.447324577	62.98862941	1.440419102	84.83927097	53.2860899	62.44147358	0.447324577	73.59972907
080919BK-1 426	2181.190425	18634.45993	2.144369265	19.01281817	3.435185265	0.107557739	3.636911876	0.014987045	0.756622835	0.208039914	95.89588068	0.720200059	103.7288481	3.586243571	288.6175404	81.31825883	95.89588068	0.720200059	33.22593649
080919BK-1 427	556.5200185	42535.65624	2.570061986	11.0170878	0.819109874	3.050818981	1.123966714	0.243514886	0.752770464	0.669744446	1404.944111	9.502888134	1420.438725	8.595424651	1444.555004	15.89943716	1444.555004	15.89943716	97.25791724
080919BK-1 428	1670.646836	6188.938688	2.686549224	19.07232408	2.529473891	0.105324311	3.862595896	0.015189963	0.816952107	0.211503385	97.18453126	0.787996337	101.6792264	3.737231937	209.3853951	87.5644128	97.18453126	0.787996337	46.41418816
080919BK-1 429	251.2716214	25102.05887	2.07358317	10.92516804	1.11075608	3.100451358	1.363360918	0.246016262	0.710336312	0.521018537	1417.898285	9.041127857	1432.804036	10.46765484	1455.819724	22.13415753	1455.819724	22.13415753	97.39518307
080919BK-1 430	310.7837032	33477.95735	1.796398852	9.125222996	1.145999155	4.260646623	1.535536596	0.281711697	0.988041906	0.643450575	1599.9771	13.99937943	1685.793726	12.62841541	1795.051904	21.39900315	1795.051904	21.39900315	89.13263712
080919BK-1 431	264.3224701	27564.05543	1.895985434	9.370897752	0.935447117	4.533893769	1.191664923	0.308135306	0.703652997	0.590478903	1731.524207	10.68478874	1737.210423	9.913759722	1744.843053	17.61735555	1744.843053	17.61735555	99.23667367
080919BK-1 432	2157.985376	9934.566824	2.511697824	19.43254656	2.716253052	0.103914444	3.101264636	0.015009367	0.681647294	0.219796558	96.03765372	0.649785848	100.3832547	2.964220275	205.8683525	70.21876506	96.03765372	0.649785848	46.65003269
080919BK-1 433	984.0075597	36681.89835	4.010694249	14.10481024	0.917863584	1.523862211	1.192388934	0.156019193	0.653601538	0.548144585	934.6164272	5.686491137	940.0318339	7.31030353	953.6438481	20.39145216	953.6438481	20.39145216	98.00476656
080919BK-1 434	1984.924501	7104.821604	2.685291647	19.68539701	2.230028955	0.100809362	3.050614179	0.014935666	0.764207176	0.250509285	95.5695561	0.724962266	97.52316847	2.836658631	146.6012555	69.28338414	95.5695561	0.724962266	65.19013481
080919BK-1 435	524.2798276	1531.614624	3.762202406	14.70049772	6.406560879	0.066919901	10.53359814	0.00825559	2.418620308	0.22961008	53.00047953	1.276625172	65.77235157	6.708670346	560.2873741	223.9869951	53.00047953	1.276625172	9.459517023
080919BK-1 436	834.5842298	4556.226642	1.546706972	18.326082	3.183346022	0.109003496	6.984319567	0.015326064	0.927746348	0.132832746	98.04871298	0.902760549	105.0534198	6.970570852	267.9543496	158.9354342	98.04871298	0.902760549	36.59157357
080919BK-1 437	850.9735784	1607.702831	2.694926097	13.26146822	8.707109777	0.105453675	10.00087054	0.011457475	1.550723266	0.155058828	73.43971197	1.132384214	101.7980566	9.687284691	830.9680244	206.4414168	73.43971197	1.132384214	8.837850533
080919BK-1 438	521.6618875	17766.86759	2.872112129	12.52623235	0.843988332	2.204818356	1.311998879	0.201378729	0.72650653	0.553740206	1182.722568	7.850396645	1182.57137	9.165255279	1183.174205	21.59100325	1183.174205	21.59100325	99.96182842
080919BK-1 439	802.6097811	15942.02175	3.187322476	17.91649758	2.357222868	0.530628428	2.568031841	0.069773847	0.698300684	0.271920571	434.7930235	2.93603611	432.2266216	9.039877123	419.5222539	55.19860489	434.7930235	2.93603611	103.640038
080919BK-1 440	951.3896147	14557.09139	1.134671446	17.71630272	1.40873865	0.504315304	1.912710017	0.065662941	0.641956101	0.335626465	409.9731533	2.549905154	414.6193297	6.511008601	441.5060285	40.10285793	409.9731533	2.549905154	92.85788342
080919BK-1 441	899.0980853	2067.206545	2.459849488	13.68174593	9.828225314	0.060030536	11.86866803	0.00655478	1.587978373	0.133795837	42.1169453	0.666627943	59.19451217	6.824836931	820.6361505	246.4503173	42.1169453	0.666627943	5.132231291
080919BK-1 442	280.2093547	762.3889583	2.434311316	9.410897995	20.50330743	0.120278898	21.82916057	0.009880406	2.760869819	0.126476225	63.38059135	1.741281568	115.3248415	23.8017981	1389.627852	420.5421081	63.38059135	1.741281568	4.560975894
080919BK-1 443	303.7316777	799.2181691	3.005022029	9.176186702	12.4252459	0.125888381	14.99831248	0.009928798	2.019710186	0.134662495	63.68948771	1.280009536	120.3964018	17.02955649	1467.319541	283.7818761	63.68948771	1.280009536	4.340532919
080919BK-1 444	491.7885815	649.4330968	1.574893091	7.362247428	29.9117006	0.097482138	33.29709012	0.006117829	2.69908583	0.081060712	39.31790875	1.057994379	94.44950096	30.03934476	1889.479905	615.5571784	39.31790875	1.057994379	2.080885255
080919BK-1 445	1454.999204	3979.64374	4.085453807	17.28504165	4.749437914	0.112024506	5.188552594	0.014927311	0.843186432	0.162508988	95.51648647	0.799444748	107.8156399	5.307362689	389.796932	114.9797868	95.51648647	0.799444748	24.5041658
080919BK-1 446	200.0554088	22112.4881	0.573017222	5.312535582	0.673123233	13.66052957	1.02898003	0.525402721	0.765067573	0.743520332	2722.05289	16.98739584	2726.46476	9.735719284	2730.441223	11.32718704	2730.441223	11.32718704	99.69278471
080919BK-1 447	301.6545431	12507.85577	1.714955808	13.82110715	2.072448716	1.590112802	2.28816666	0.161192897	0.694095594	0.303341363	963.4026498	6.211252107	966.3415013	14.26446175	973.9207638	44.44252319	973.9207638	44.44252319	98.92002364
080919BK-1 448	700.6364559	1900.008518	2.373989346	13.40332686	8.249740492	0.093679189	13.33984833	0.010089214	4.569042372	0.342510819	64.71334296	2.94198875	90.92492755	11.60253473	849.246576	261.5251978	64.71334296	2.94198875	7.620088769
080919BK-1 449	715.5059642	18106.68453	1.562062979	16.8730757	1.902373266	0.732157254	2.268148658	0.090403164	0.840975299	0.370776093	557.921052	4.494672406	557.8185503	9.734906513	558.364175	45.92377144	557.921052	4.494672406	99.92063907
080919BK-1 450	432.7501648	33492.36535	1.857355505	10.68607198	1.048070107	3.264321215	1.378414573	0.252936106	0.872454461	0.632940537	1453.59988	11.35385452	1472.592797	10.71442482	1500.883993	20.17438614	1500.883993	20.17438614	96.84958245
080919BK-1 451	1393.529434	5762.307301	4.199653387	19.82159385	3.33251992	0.106301702	3.968210043	0.016023932	0.866130259	0.218267241	102.4780249	0.880575433	102.5766893	3.871625171	105.8752204	91.53812544	102.4780249	0.880575433	96.79132143
080919BK-1 452	359.2452921	723.7105402	2.537041907	8.583766746	20.63461315	0.08747558	28.37585047	0.006484872	4.548687871	0.160301376	41.66920453	1.889289406	85.14903667	23.18043356	1584.014115	534.5629094	41.66920453	1.889289406	2.630608157
080919BK-1 453	741.0469342	3605.430861	1.778484025	15.00414815	10.9823671	0.135123958	12.47142315	0.015574186	1.089477044	0.087357877	99.6238682	1.077035414	128.6915359	15.0753326	706.6395877	265.2363402	99.6238682	1.077035414	14.09825743
080919BK-1 454	2095.92211	5588.917175	1.922877858	17.92401358	3.767952216	0.074134157	5.073629128	0.010065659	0.862031738	0.169904365	64.56301211	0.553775901	72.61501933	3.555578166	347.4884377	113.1168709	64.56301211	0.553775901	18.57990226
080919BK-1 455	775.3846416	14486.47606	4.299795401	17.05872863	1.969966345	0.700769389	2.562401447	0.087798517	0.753435144	0.294034779	542.5040752	3.920151496	539.2503735	10.72069427	526.4908889	53.69768593	542.5040752	3.920151496	103.0414935
080919BK-1 456	232.9173428	12154.29999	1.918898324	14.4871135	2.574438455	1.447270653	2.89991953	0.153987563	0.961662527	0.33161697	923.2772952	8.27228815	908.7408078	17.41510884	874.5037793	56.65988207	923.2772952	8.27228815	105.577279
080919BK-1 457	2337.638136	11478.56517	3.808232929	18.62360371	3.322760451	0.109516519	3.678537557	0.015082661	0.951130579	0.25856215	96.5031313	0.911034667	105.5230254	3.686827947	315.2612967	80.8207586	96.5031313	0.911034667	30.61052287
080919BK-1 458	149.5445318	7103.873865	2.238869219	9.486983924	1.362791981	4.096030469	1.867990512	0.285741319	0.909679286	0.48698282	1620.212432	13.03246439	1653.512613	15.24643746	1696.872169	30.06995968	1696.872169	30.06995968	95.48229159
080919BK-1 459	579.7080385	2181.484836	4.916685665	15.48331022	7.405500951	0.120925806	9.716527135	0.015074777	2.158478795	0.22214509	96.45306536	2.066421295	115.9110082	10.64385646	537.46091	207.6944624	96.45306536	2.066421295	17.94606148
080919BK-1 460	464.9313314	32396.26522	2.955204042	9.436518323	0.962066345	3.526564416	1.599834315	0.241196237	1.272434564	0.795353964	1392.912954	15.93986453	1533.19109	12.65640971	1733.24399	17.78959737	1733.24399	17.78959737	80.36450504
080919BK-1 461	325.8719764	5326.579908	1.01537385	16.15586261	3.425899502	0.841588668	4.13527597	0.102665264	1.006868245	0.243482721	630.0094532	6.043253489	620.0219381	19.19081245	584.6958834	87.11333384	630.0094532	6.043253489	107.7499382
080919BK-1 462	1123.866405	1054.352087	2.385161398	16.30299675	5.403803248	0.104331866	25.16065691	0.015910522	1.281864273	0.05094717	101.7584315	1.294163757	100.7671281	24.14076764	78.39103418NA		101.7584315	1.294163757	129.8087626
080919BK-1 463	469.1444165	1072.687075	3.372980579	10.48650282	13.13735481	0.109977552	16.28713746	0.009658613	2.792917902	0.171479974	61.96465241	1.722330898	105.9448566	16.38710476	1260.197606	315.5748287	61.96465241	1.722330898	4.917058414
080919BK-1 464	139.6855238	30082.89685	1.402381693	5.834280395	0.736755254	11.45817314	0.990773524	0.483743598	0.63715592	0.643089369	2543.55102	13.39124405	2561.178743	9.252888797	2575.877082	12.67846948	2575.877082	12.67846948	98.74504641
080919BK-1 465	395.6080264	9067.104932	2.845675287	17.39207234	3.741842238	0.441132527	4.456739271	0.056977554	0.793949278	0.178145776	357.2181843	2.758983002	371.0506999	13.85285358	459.3537183	97.29580325	357.2181843	2.758983002	77.76538428
080919BK-1 467	296.1111281	16640.2989	2.528773887	10.73566465	0.832770398	3.275069619	1.3372264	0.256112125	0.71352448	0.533585398	1469.91997	9.378407972	1475.148893	10.40225248	1483.487487	21.43168455	1483.487487	21.43168455	99.08543093
080919BK-1 468	862.6533002	2599.066021	1.676043568	14.92292572	6.606930351	0.085028556	7.482262654	0.009992191	1.421817579	0.190025083	64.09411095	0.906785968	82.86165997	5.953762061	665.2597519	157.5208548	64.09411095	0.906785968	9.634448915
080919BK-1 469	553.4646263	9766.38042	2.157454418	18.0819345	3.003533553	0.515208555	3.125790821	0.06911987	0.575943625	0.184255332	430.85098	2.400350767	421.9455645	10.79237005	374.5225755	69.15041532	430.85098	2.400350767	115.0400559
080919BK-1 470	435.659759	4771.521567	2.460512556	15.44706543	4.53695315	0.281608523	5.236577032	0.032946981	0.969242308	0.185090815	208.9660799	1.992912228	251.9327286	11.68387717	674.7444462	110.0878166	208.9660799	1.992912228	30.96966282
080919BK-1 471	301.7349414	10081.77004	4.354421664	13.83463409	2.196616311	1.577404241	2.519264497	0.160684953	0.69804497	0.277082843	960.5821593	6.229634948	961.3471945	15.65663978	964.0066115	49.41775765	964.0066115	49.41775765	99.6447688
080919BK-1 472	487.7958435	71262.91817	2.070039861	6.739795501	0.597780051	8.832743364	0.868392927	0.430270399	0.624152876	0.718744772	2306.936447	12.10411414	2320.879297	7.920925079	2333.899249	10.33605332	2333.899249	10.33605332	98.84473154
080919BK-1 473	1956.831824	8220.331847	2.688395953	18.76016076	3.916000962	0.106978731	4.130133333	0.014990371	0.6876146	0.166487264	95.91700859	0.654656918	103.1978882	4.052793293	275.7412807	93.31776682	95.91700859	0.654656918	34.78514654
080919BK-1 476	208.2708558	10221.26909	1.983427287	13.73192377	2.532526969	1.669453817	2.761918727	0.168725858	0.732721607	0.265294413	1005.087156	6.819088993	996.9781069	17.5402589	980.0521186	54.23516295	980.0521186	54.23516295	102.5544598
080919BK-1 477	870.1079464	12600.46543	2.851317081	18.13752497	1.594598341	0.442913078	2.15849004	0.059237442	0.617974157	0.286299286	370.9863337	2.227878541	372.3044531	6.72766951	381.4737619	46.48484551	370.9863337	2.227878541	97.25081271
080919BK-1 478	2182.743952	11277.59786	3.42834619	18.93859588	3.589744181	0.107621872	3.750380104	0.015085746	0.726577171	0.193734275	96.52272581	0.696087797	103.7876425	3.700122818	274.94371	84.29251961	96.52272581	0.696087797	35.10635897
080919BK-1 479	176.3416953	3748.312411	1.752862792	15.79272262	5.631948203	0.5668892	6.233307876	0.068834	0.726519203	0.116554359	429.1270593	3.016185755	456.0006628	22.90245431	594.7708803	134.2696715	429.1270593	3.016185755	72.149978
080919BK-1 480	297.8923091	10448.53702	1.374662274	16.95106388	3.934337159	0.691228441	4.229783338	0.086625968	0.797035993	0.188434236	535.5516711	4.096040272	533.5382574	17.55539595	525.8716408	91.10659175	535.5516711	4.096040272	101.8407591
080919BK-1 481	243.5191161	20940.64118	1.429288985	8.646118635	1.069154495	4.864296994	1.515332686	0.305308738	1.056069468	0.696922516	1717.579974	15.9234645	1796.093426	12.76335653	1889.285546	19.55858427	1889.285546	19.55858427	90.91161353
080919BK-1 482	715.5379759	2760.363381	1.91876463	12.21929691	12.39525332	0.104166318	13.312548	0.009805897	1.595766129	0.119869324	62.90495218	0.998934137	100.6149024	12.75283526	1123.21237	264.590634	62.90495218	0.998934137	5.600450443
080919BK-1 483	805.9610751	3307.80244	2.367262361	15.72923507	6.875600417	0.121607802	7.286942538	0.014834236	1.307419083	0.179419431	94.92528568	1.231978437	116.5286018	8.022407345	584.79616	155.7859819	94.92528568	1.231978437	16.23220058
080919BK-1 484	1673.068567	7334.89993	2.693962332	17.89781385	3.822140759	0.10963215	4.17076793	0.014689663	1.323107355	0.317233511	94.00686443	1.234786539	105.6288408	4.184150466	377.3517024	89.01161943	94.00686443	1.234786539	24.91226721
080919BK-1 485	298.7493422	5854.858661	2.055918415	12.68435847	1.509068295	1.889824535	2.723423577	0.178529443	0.983286786	0.361048055	1058.93587	9.602142417	1077.520217	18.08593802	1116.194429	50.67443503	1116.194429	50.67443503	94.87019839
080919BK-1 486	723.4470475	15418.66421	1.870118188	17.59759494	2.010025357	0.534877332	2.475571647	0.069097165	0.895945808	0.361914715	430.7140792	3.732871574	435.0413399	8.759850729	458.9991446	51.19123057	430.7140792	3.732871574	93.83766491
080919BK-1 487	273.2975373	4882.224736	2.454400288	16.33424213	3.947864633	0.532334571	5.21243673	0.065976158	1.152821032	0.221167391	411.8675888	4.599596144	433.3578063	18.38862489	550.2049795	111.0523433	411.8675888	4.599596144	74.85711766
080919BK-1 488	205.0933501	31564.30969	2.928911088	8.780813831	1.033660644	5.185679797	1.437165488	0.329948237	0.962197004	0.669510235	1838.130679	15.38842259	1850.268478	12.23421103	1864.710275	19.27008026	1864.710275	19.27008026	98.57459918
080919BK-1 489	150.2137442	16843.80744	1.197088959	8.931188062	1.602173333	5.018763986	1.75881022	0.325914962	0.633683987	0.360291281	1818.551223	10.0410682	1822.492684	14.89256453	1827.772461	29.74941844	1827.772461	29.74941844	99.49549308
080919BK-1 490	448.2166637	14847.25001	1.895037302	17.97888607	1.783601822	0.572795767	2.206623797	0.075678666	0.679392996	0.307888004	470.2773841	3.081273256	459.8210682	8.16009145	408.8608036	46.98212952	470.2773841	3.081273256	115.0213911
080919BK-1 491	641.3888572	2425.67538	2.598634321	16.67274224	9.357575242	0.074588554	10.95856118	0.009982364	2.091500868	0.190855427	64.03139236	1.332587978	73.04447135	7.723636024	380.0059368	242.5114177	64.03139236	1.332587978	16.85010316
080919BK-1 492	80.51602399	4672.396894	1.891230039	12.78676484	8.540430644	1.741433465	8.657708681	0.167244999	1.058712756	0.12228556	996.9139137	9.77885044	1023.994462	55.89854223	1083.184906	172.6126979	1083.184906	172.6126979	92.03543257
080919BK-1 493	388.1170893	8138.450664	0.914241509	18.67719176	3.833088343	0.388415153	4.213512587	0.054191389	1.201518222	0.285158332	340.2031738	3.981616635	333.2110667	11.96936585	285.6527791	92.35313982	340.2031738	3.981616635	119.0967491
080919BK-1 494	2763.406888	10393.19031	2.343366073	19.3324306	2.800550141	0.105569257	3.315900904	0.015147625	0.698364703	0.210610849	96.91568543	0.671762634	101.9042162	3.21502547	221.1895297	74.98367742	96.91568543	0.671762634	43.81567498
080919BK-1 495	286.2069308	19325.00882	2.57633632	9.422093022	0.965526937	4.3774548	1.206205288	0.299736876	0.617807972	0.512191397	1690.003811	9.184525902	1708.092782	9.97034068	1731.132377	19.01003416	1731.132377	19.01003416	97.62418136
080919BK-1 497	213.0765344	19216.76463	1.811548939	8.533944395	1.02340845	5.447854268	1.35193716	0.337633565	0.864124022	0.639174695	1875.275144	14.06058627	1892.417529	11.59886715	1912.041198	18.66190137	1912.041198	18.66190137	98.07713068
080919BK-1 498	864.9283366	17574.87014	2.418173009	18.19605202	1.643801696	0.532980867	2.305633986	0.07108443	0.928429617	0.402678666	442.685711	3.972080337	433.7859767	8.139626239	387.7579664	47.37144793	442.685711	3.972080337	114.1654716
080919BK-1 499	384.818646	35481.66109	4.14609817	9.070883236	0.917772139	4.875375704	1.272239	0.320359855	0.874652196	0.687490477	1791.48633	13.68043874	1798.009857	10.71981266	1806.360066	16.7956317	1806.360066	16.7956317	99.17659075
080919BK-1 500	943.9724904	34979.67528	2.425295645	16.47113069	1.199431033	0.82187929	1.473481614	0.098395412	0.843376201	0.572369681	604.99854	4.870300611	609.0963548	6.749466813	625.286292	26.03242936	604.99854	4.870300611	96.7554459
080919BK-1 502	186.1376879	13192.70838	0.747642329	13.23551655	2.17886682	1.827009689	2.752954265	0.17708861	0.883921343	0.321081013	1051.049865	8.572619631	1055.205875	18.06709344	1064.708055	52.46001794	1064.708055	52.46001794	98.71718924
080919BK-1 503	208.8551436	3863.925286	2.634509816	17.25930109	3.711997763	0.512204666	6.180016986	0.068267908	1.247294269	0.201826997	425.7119071	5.138349479	419.9305781	21.25768564	389.2569655	135.9949205	425.7119071	5.138349479	109.3652638
080919BK-1 504	1912.656931	6522.180966	3.179282681	18.1231831	4.367010779	0.109357993	4.94473648	0.01491487	0.745770139	0.150821008	95.43746409	0.706501423	105.3779395	4.949431502	337.3538479	110.7836854	95.43746409	0.706501423	28.29001794
080919BK-1 505	238.2786291	44928.6527	2.309413652	5.426740118	0.725434004	12.92626217	1.02895889	0.507129833	0.727919926	0.707433438	2644.364667	15.78960168	2674.291945	9.697940905	2697.702866	12.00887334	2697.702866	12.00887334	98.02282899
080919BK-1 506	650.7627535	2201.534559	1.274287345	12.93061807	11.40769642	0.107880926	12.02582772	0.010995656	1.513224934	0.12583125	70.49568708	1.060946683	104.0250949	11.89094363	962.8564644	244.4712434	70.49568708	1.060946683	7.321515686
080919BK-1 507	231.938624	24292.06223	1.168517837	10.54589464	0.89854277	3.546150383	1.1724485	0.271601072	0.733281601	0.625427556	1548.923727	10.09647892	1537.575067	9.286437625	1522.804486	17.24404526	1522.804486	17.24404526	101.7152065
080919BK-1 508	753.4459574	6533.47321	6.177052004	16.37084357	1.472757226	0.695141998	1.900164987	0.085249815	0.777389702	0.409116949	527.3824643	3.936595284	535.8851722	7.912203634	573.2087585	37.69988213	527.3824643	3.936595284	92.00530461
080919BK-1 509	654.2104377	58570.85227	2.91864364	9.420129025	0.772037672	4.636764439	1.199036236	0.316007609	0.896281698	0.747501761	1770.202191	13.87402728	1755.912291	10.01524204	1739.730814	14.59888254	1739.730814	14.59888254	101.7514995
080919BK-1 510	492.2137853	49985.20501	2.331532162	8.846876881	0.724747992	5.124510563	1.031125738	0.328060908	0.702704405	0.681492449	1828.976083	11.18994127	1840.177535	8.760589259	1853.641561	13.63888133	1853.641561	13.63888133	98.66935016
080919BK-1 511	440.0177298	1175.408526	1.532083845	8.925176254	27.30831836	0.088910764	28.18938009	0.006398199	4.21057765	0.149367515	41.11405152	1.725630379	86.48819395	23.37513888	1639.403006	528.1357442	41.11405152	1.725630379	2.507867277
080919BK-1 512	2614.436034	10311.29777	3.431504058	19.85008601	1.817392229	0.101538331	2.353670761	0.014974832	0.634813209	0.269711983	95.81831231	0.603769033	98.19534479	2.202960498	157.3111362	53.06369431	95.81831231	0.603769033	60.9100631
080919BK-1 513	696.0870719	796.8720698	1.912275835	11.62355667	11.75218971	0.098744702	20.76279576	0.010485548	1.443559007	0.069526235	67.2422632	0.965636742	95.61694528	18.94886344	878.5565398	433.0150669	67.2422632	0.965636742	7.653720637
080919BK-1 514	1577.627038	5653.895291	2.984417759	18.04602951	3.519796051	0.110101913	3.794234887	0.015047486	0.863391143	0.227553425	96.27974768	0.825093929	106.0586129	3.82109811	332.6983948	83.79675584	96.27974768	0.825093929	28.93904786
080919BK-1 515	206.9304047	20976.46584	2.14612501	6.715143809	0.866527069	8.60489174	1.099551872	0.418850141	0.666690943	0.606329688	2255.257269	12.68719047	2297.073184	10.00259345	2335.210531	14.96799424	2335.210531	14.96799424	96.57618615
080919BK-1 516	3248.244724	13997.16912	2.70729392	20.17019919	1.828620091	0.105588575	2.367028662	0.015708152	0.63339834	0.267592172	100.4741692	0.631467892	101.9219581	2.295395653	136.956031	53.6095816	100.4741692	0.631467892	73.36235465
080919BK-1 517	627.9646786	2650.292659	1.612241019	14.03625038	10.46571096	0.091770011	11.83971897	0.010067909	1.651595541	0.139496178	64.57737373	1.061232676	89.15087791	10.10544085	810.7169978	246.0357958	64.57737373	1.061232676	7.965464386
080919BK-1 518	269.8312169	6904.849129	1.719810458	17.54537003	3.381172799	0.557513571	4.28981122	0.073330658	0.781614893	0.182202632	456.1906744	3.442414167	449.9067723	15.59286191	418.8643161	94.23055141	456.1906744	3.442414167	108.9113245
080919BK-1 519	216.7100405	13850.2432	1.030779907	8.725533842	0.82569034	5.182547268	1.083477646	0.329239725	0.606732805	0.559986454	1834.695526	9.687794718	1849.754141	9.222265785	1867.499615	16.19792302	1867.499615	16.19792302	98.2434219
080919BK-1 520	994.7994501	4665.89084	4.174655214	16.54282823	5.407697983	0.121836723	6.159501923	0.015342913	0.828125978	0.134446906	98.1556849	0.806695609	116.7358213	6.792514001	515.2458505	134.1682557	98.1556849	0.806695609	19.05026209
080919BK-1 521	59.95409919	2786.664628	1.076902054	5.441084309	1.581821023	10.07297053	2.188299718	0.405449994	1.007694204	0.460491858	2194.08562	18.74002171	2441.495711	20.21564077	2655.282571	32.21207575	2655.282571	32.21207575	82.63096532
080919BK-1 522	327.4949605	750.7430119	2.880356187	7.877980885	19.36711392	0.097127526	23.93945924	0.006445222	4.45708526	0.186181535	41.41525096	1.839996202	94.12136306	21.52258827	1788.483463	434.8365518	41.41525096	1.839996202	2.315663065
080919BK-1 523	516.8031565	13179.54006	2.179739549	17.62162814	2.783543891	0.535477884	3.047730659	0.069470969	0.581174593	0.19069093	432.9676364	2.433656067	435.4385516	10.7924693	449.472919	66.47232649	432.9676364	2.433656067	96.3278583
080919BK-1 524	97.51372517	21492.15807	3.100170417	4.984225973	0.680624587	15.15618707	0.923099742	0.546817661	0.582396495	0.630913939	2811.923922	13.27214086	2825.103393	8.79306899	2835.215612	11.67772576	2835.215612	11.67772576	99.1784861
080919BK-1 525	1793.712627	5666.341737	1.445419609	19.21384715	2.165536651	0.122948392	5.7206065	0.017949345	0.796380933	0.139212675	114.6827214	0.905235319	117.7415031	6.359759914	180.9937995	132.0906857	114.6827214	0.905235319	63.36279019
080919BK-1 526	1202.690598	28409.31132	1.836559595	17.60071112	1.079510737	0.545312214	1.263220679	0.069917051	0.575092888	0.455259242	435.6559087	2.422641848	441.9210745	4.526275679	475.6223616	24.8936114	435.6559087	2.422641848	91.59701981
080919BK-1 527	113.2175573	8262.522075	1.092472066	9.232320278	1.316009295	4.56970485	1.480053948	0.309262486	0.572791931	0.387007468	1737.076495	8.721995952	1743.760028	12.33061601	1752.563147	24.9766393	1752.563147	24.9766393	99.11634268
080919BK-1 528	1313.792745	4949.905664	1.849918925	18.16060215	2.91893253	0.122675439	4.262744048	0.016997802	0.676455606	0.158690177	108.6540275	0.728836753	117.4946658	4.729614109	301.4631903	95.98563248	108.6540275	0.728836753	36.0422204
080919BK-1 530	421.1845812	21431.89631	3.061626088	12.63883825	1.134689054	2.17776668	1.57179124	0.200367604	0.712338738	0.453201876	1177.294741	7.66510683	1173.964206	10.93782358	1168.672726	27.74095415	1168.672726	27.74095415	100.7377613
080919BK-1 531	462.8274532	69380.46638	1.542463305	9.673386807	0.652662863	4.081125161	0.922076283	0.285536554	0.64971351	0.704620129	1619.185707	9.302885754	1650.538382	7.520119188	1691.472576	12.06544084	1691.472576	12.06544084	95.72639426
080919BK-1 532	184.7878794	5781.688812	1.632313145	11.40055563	1.381185417	2.503548108	2.284702698	0.211898689	0.938294383	0.41068555	1238.925344	10.57595673	1273.063106	16.57853119	1332.007181	40.3067747	1332.007181	40.3067747	93.01191176
080919BK-1 533	173.2700832	18734.02191	1.408789004	8.773958796	0.981884813	5.217920905	1.333386202	0.332596127	0.672458872	0.504324157	1850.952555	10.81939515	1855.54713	11.36203942	1861.469133	20.79235265	1861.469133	20.79235265	99.43503882
080919BK-1 534	138.846553	14846.02011	1.25569386	9.853884545	1.084400556	4.137513215	1.531978205	0.297024868	0.729182149	0.475974232	1676.53878	10.76463096	1661.744582	12.52826633	1643.890287	24.99743673	1643.890287	24.99743673	101.9860506
080919BK-1 535	148.1675269	13787.1813	2.163624588	9.960647251	1.904120315	3.991640971	2.127230369	0.289898561	0.744218255	0.349853155	1641.022275	10.78225083	1632.497038	17.27406149	1622.322013	37.08155986	1622.322013	37.08155986	101.152685
080919BK-1 536	2431.550241	5982.668496	2.771165517	18.47223635	4.04655358	0.072484401	4.450934705	0.010124982	0.759715371	0.170686703	64.94161178	0.490894603	71.05429948	3.054471042	282.9808563	100.3686532	64.94161178	0.490894603	22.94911841
080919BK-1 537	991.715369	3040.119125	2.919893069	17.4190536	4.997534152	0.081596183	6.824003859	0.011202079	1.527804697	0.223886845	71.81176981	1.091055251	79.64451116	5.227303379	322.4577802	151.2414955	71.81176981	1.091055251	22.27013092
080919BK-1 538	1693.974611	5653.350647	2.442785864	18.32951599	3.136069371	0.10833324	4.004288688	0.015050847	0.78172674	0.195222373	96.30109301	0.74721628	104.4395603	3.974192335	295.3414928	89.67206438	96.30109301	0.74721628	32.60669271
080919BK-1 539	2273.625643	5637.689894	8.598796185	19.43747452	3.368047529	0.064899437	4.989925492	0.009594207	0.876718461	0.175697706	61.55342079	0.537081967	63.84766128	3.087860283	151.714596	115.1510093	61.55342079	0.537081967	40.57185162
080919BK-1 540	433.8617419	1069.742325	2.57722388	11.61465139	11.77226585	0.098490586	12.92957283	0.009775238	2.938029701	0.227233315	62.70923033	1.833483551	95.38208164	11.77150324	1016.884455	256.0220136	62.70923033	1.833483551	6.166799976
080919BK-1 541	435.8142717	722.6018291	2.617586791	11.42623645	12.98074009	0.06061947	16.97047505	0.006473807	3.255048682	0.191806574	41.59833654	1.349686717	59.75848438	9.848953155	866.813212	347.584882	41.59833654	1.349686717	4.798996596
080919BK-1 542	164.722624	15982.17923	2.168567119	9.917148373	1.264821717	3.987466494	1.447365338	0.287921962	0.668466407	0.461850591	1631.136421	9.633483552	1631.647524	11.75018001	1633.097632	23.85263402	1633.097632	23.85263402	99.87990853
080919BK-1 543	544.0739767	45178.79467	1.438920587	9.162760888	0.593515163	4.798495051	0.89060516	0.323981298	0.610534147	0.709769855	1781.102057	11.09921297	1789.313825	11.03799155	1798.836489	21.1397011	1798.836489	21.1397011	99.01542106
080919BK-1 544	1472.250963	4564.692784	2.50659217	18.27949586	2.62862813	0.110021999	3.639986859	0.015661189	0.886627538	0.190388077	99.35114164	0.76553458	107.5664336	3.664353514	274.4497776	80.885114	99.35114164	0.76553458	35.95559042
080919BK-1 545	166.8721841	22851.57546	1.155936828	5.399224573	0.636159589	12.82648696	0.94171827	0.501364569	0.633431629	0.672653396	2619.657443	16.06220087	2666.991012	8.870698179	2703.787345	11.50348557	2703.787345	11.50348557	96.88645343
080919BK-1 546	1618.040597	7162.544928	2.04541764	19.09789443	2.399012461	0.105779953	3.656802516	0.015023936	0.763950339	0.258838016	101.7920239	0.780640549	108.0082558	3.609946565	265.3763438	96.02676106	101.7920239	0.780640549	38.35598706
080919BK-1 547	256.1225727	8204.18566	1.230508908	10.88606936	0.989560161	3.303806184	1.386160616	0.185581165	0.602740836	0.474936893	1097.440306	7.068718003	1097.251519	10.21493016	1096.875053	20.41080883	1096.875053	20.41080883	100.0515331
080919BK-1 548	1669.835606	29412.09198	1.202884281	18.57397347	1.187193507	0.440956101	1.638249049	0.05967612	0.650250929	0.397057594	373.6559885	2.361560948	370.9265929	5.090472378	354.8714307	33.93779117	373.6559885	2.361560948	105.2932123
080919BK-1 549	568.9849695	1456.080377	1.507544578	12.18207453	13.92447079	0.065071384	14.65034016	0.004983577	1.670567496	0.215021775	40.42474782	1.194706259	63.2504009	12.18260318	1003.676385	315.0212771	40.42474782	1.194706259	4.027618025
080919BK-1 550	550.2927902	976.7338579	1.602899553	7.735884928	16.4890286	0.086659373	23.56396429	0.00684558	2.836680462	0.187939095	54.46964478	1.036081549	91.31069431	32.33040127	1958.413094	613.0071027	54.46964478	1.036081549	2.781366428
080919BK-1 551	1153.064052	9151.584513	1.930848318	18.68195651	2.280797195	0.144046024	3.067087398	0.019126553	0.795627213	0.26237216	111.1843001	1.003108876	122.1369036	5.211596998	337.6432993	106.6040795	111.1843001	1.003108876	32.92963706
080919BK-1 552	237.6104544	19139.15751	1.658516342	12.58345787	1.204718773	2.176369487	1.513312098	0.146907659	0.704853298	0.326131541	1175.494251	7.61020488	1172.922822	9.478651	1173.175666	26.60508208	1175.494251	7.61020488	99.78124703
080919BK-1 553	1627.741732	6385.713753	1.480298469	15.5667759	6.624194106	0.085610156	6.763675405	0.009755917	0.935008911	0.129856	63.71118478	0.595234889	86.1095854	5.709174894	717.5614803	143.1725274	63.71118478	0.595234889	8.878796155
080919BK-1 554	506.2880474	1328.76665	2.071529632	12.25650355	11.43952117	0.100964227	12.35993914	0.010207829	1.563766484	0.126649356	65.45787684	1.021935612	94.39107094	9.565548003	936.0443446	283.7124262	65.45787684	1.021935612	6.993065779
080919BK-1 555	309.6112736	14763.29651	1.875364098	12.50963484	1.638025596	2.032431138	1.763732448	0.183006526	0.795837553	0.452031849	1083.424128	8.089491651	1092.519758	11.79416338	1110.772106	33.29210149	1110.772106	33.29210149	97.53841015
080919BK-1 556	393.1032001	987.9466009	3.315782332	10.05690241	18.47906237	0.119711888	19.70064516	0.010012163	2.608436005	0.132375486	61.6211063	1.602218713	112.7935408	16.76069729	1418.642482	461.8023838	61.6211063	1.602218713	4.343686466
080919BK-1 557	1769.824313	9123.718501	2.015827008	18.34154512	2.467891005	0.110719075	3.134698173	0.016008566	0.759618307	0.24234451	102.3686036	0.777452981	110.0862818	3.451818766	280.0536287	72.62049003	102.3686036	0.777452981	36.55313818
080919BK-1 558	651.0379281	15339.21572	2.555109646	17.95838451	1.884817823	0.540689573	2.313536379	0.069987353	0.743095836	0.321170911	436.0755541	3.24587627	444.0599992	7.567244311	485.0196001	48.40174493	436.0755541	3.24587627	89.90796651
080919BK-1 559	347.2505386	20530.45935	2.075244963	10.84022822	0.998387507	3.238397089	1.20511427	0.25529365	0.754807346	0.626355994	1465.718818	9.882981946	1466.401314	8.819683474	1468.188963	21.37559633	1468.188963	21.37559633	99.83050316
080919BK-1 560	670.3616794	706.9245972	1.59577177	14.35993567	11.6575883	0.06697811	13.77798584	0.0048026	2.137491413	0.183419457	30.88828007	0.659951004	44.38013066	5.954232074	857.0410934	289.0413891	30.88828007	0.659951004	3.604119059
080919BK-1 561	262.0051776	430.8129413	2.7221993	5.760668662	18.81366317	0.122697494	22.90912376	0.0095377	2.52891616	0.141027738	61.19917866	1.540000731	97.3393	18.41036826	1326.498484	385.7396283	61.19917866	1.540000731	4.624818017
080919BK-1 562	607.2819034	1256.501273	2.371057181	7.59582576	14.3111241	0.103784005	18.21335073	0.007544211	2.3304102	0.168208616	48.46078218	1.107302893	73.91706023	11.15268936	1062.096283	271.6012845	48.46078218	1.107302893	4.562744047
080919BK-1 563	1653.206267	7074.211143	2.312669772	19.64729512	2.241420081	0.102025196	2.546619149	0.014604189	0.664660234	0.260792297	93.49665034	0.624078849	96.3689667	2.38716298	168.4049716	61.77609389	93.49665034	0.624078849	55.51832795
080919BK-1 564	31.59458067	1873.401484	0.704193159	8.607792051	4.78917705	4.807824197	7.401722544	0.205485423	1.211318067	0.163628372	1205.435616	13.05009473	1174.880214	51.49693768	1115.009442	153.0432513	1115.009442	153.0432513	108.1108478
080919BK-1 565	3156.848573	10828.40207	4.406028499	19.34939912	2.097484225	0.10498985	2.36526221	0.014933186	0.677032684	0.286303787	95.55380429	0.641493166	101.4350048	2.315233508	244.9555974	56.5648451	95.55380429	0.641493166	39.0085133
080919BK-1 566	1626.964359	4564.692798	2.50659217	18.27949586	2.62862813	0.110021999	3.639986859	0.015661189	0.886627538	0.224303218	98.68003795	0.868457735	103.9664715	3.666335445	222.4186714	80.53812456	98.68003795	0.868457735	44.53744656
080919BK-1 567	241.9307066	3799.962714	2.662576734	10.60601402	0.787539693	3.418750957	1.300204259	0.26247883	0.725451694	0.555065658	1502.543394	10.10963124	1504.356958	9.112054262	1506.835898	20.16396553	1506.835898	20.16396553	99.71445061
080919BK-1 568	1626.964359	4564.692798	2.50659217	18.27949586	2.62862813	0.110021999	3.639986859	0.015661189	0.886627538	0.224303218	98.68003795	0.868457735	103.9664715	3.666335445	222.4186714	80.53812456	98.68003795	0.868457735	44.53744656
080919BK-1 569	241.9307066	3799.962714	2.662576734	10.60601402	0.787539693	3.418750957	1.300204259	0.26247883	0.725451694	0.555065658	1502.543394	10.10963124	1504.356958	9.112054262	1506.835898	20.16396553	1506.835898	20.16396553	99.71445061
080919BK-1 570	479.1769981	39944.05375	5.028956215	7.956010802	0.660343832	5.846097383	1.444687489	0.32069004	0.874460917	0.699627808	1791.889052	13.06964186	1801.162826	11.06718513	1811.732458	21.80838564	1811.732458	21.80838564	98.90432766
080919BK-1 571	1058.422917	23399.95754	1.854916532	17.87416897	1.591582786	0.531275667	1.893877078	0.069565215	0.753706051	0.383424373	433.5357195	3.262818924	440.7125464	6.687184673	478.1934651	37.69045981	433.5357195	3.262818924	90.66110432
080919BK-1 572	206.4693573	2803.262906	3.82941213	15.11162132	8.193692322	0.402585516	10.26594306	0.047634985	1.098595652	0.102930416	299.9970599	3.155889536	299.9970599	3.155889536	299.9970599	2.455458341	299.9970599	2.455458341	46.11825523
080919BK-1 573	864.79871	3074.046551	1.968674112	17.36509518	4.284946861	0.109893133	5.516851208	0.015201569	1.200231431	0.217051086	96.23770181	1.144926369	98.41059443	5.547857557	335.0128128	96.14484936	96.23770181	1.144926369	28.90202682
080919BK-1 574	162.6662979	11521.16445	3.765853723	9.41399515	1.209489486	4.465505751	1.61276917	0.318409809	0.80698001	0.554011209	1781.977145	13.21661883	1755.905217	12.11296681	1724.387675	23.42614719	1724.387675	23.42614719	103.3400286
080919BK-1 575	819.0222495	15860.82543	1.978501739	18.28314815	2.06331686	0.507428407	2.307983035	0.068168094	0.762838164	0.30593931	424.3583625	2.79870837	416.7184417	7.298065542	375.5965689	49.62507154	424.3583625	2.79870837	112.9824912
080919BK-1 576	3187.024221	7554.676479	8.132389329	19.72892211	2.034206082	0.109146776	3.539060326	0.015855793	0.711309524	0.225891286	101.4229612	0.761964148	106.1097113	3.505683061	212.5604168	73.88209616	101.4229612	0.761964148	47.71459836
080919BK-1 577	1653.206267	7074.211143	2.312669772	19.64729512	2.241420081	0.102025196	2.546619149	0.014604189	0.664660234	0.260792297	93.49665034	0.624078849	96.3689667	2.38716298	168.4049716	61.77609389	93.49665034	0.624078849	55.51832795
080919BK-1 578	931.1323514	20568.89137	0.533854237	9.955520831	0.564760678	3.832579028	0.83182792	0.277286089	0.574632839	0.690807348	1577.679603	8.041716796	1599.614444	6.698566268	1629.42066	11.17915423	1629.42066	11.17915423	96.82458752
080919BK-1 579	1653.206267	7074.211143	2.312669772	19.64729512	2.241420081	0.102025196	2.546619149	0.014604189	0.664660234	0.260792297	93.49665034	0.624078849	96.3689667	2.38716298	168.4049716	61.77609389	93.49665034	0.624078849	55.51832795
080919BK-1 580	486.1207403	8104.986564	1.472216955	18.05281312	4.121946519	0.500587139	5.08294216	0.067431242	0.812904418	0.156912153	418.3020812	2.621671343	412.0999769	8.899966735	365.3863515	57.3492114	420.6611661	2.621671343	115.1276289
080919BK-1 581	2475.997611	8944.899828	2.211932658	18.35533109	4.138793038	0.109463306	4.806410818	0.014954458	0.631967209	0.131484227	95.68891378	0.600256511	105.4743265	4.815148362	333.5604217	108.0540438	95.68891378	0.600256511	28.68713059

080919BK-1 582	696.406913	16279.44952	9.292281875	13.83779335	1.519718998	0.660645973	1.703690503	0.066805862	0.686696219	0.403063947	416.8832108	2.772120252	515.0090541	6.882068625	978.9315431	31.76778292	416.8832108	2.772120252	42.58553253
080919BK-1 583	8.904842819	1178.595911	0.529829977	4.879077811	7.53311004	14.07155527	8.260931843	0.52119619	2.067862057	0.250318257	2704.251361	45.67336821	2754.540499	78.47049257	2792.302495	131.170439	2792.302495	131.170439	96.84664774
080919BK-1 584	3355.577015	11047.45384	3.891976436	20.35014301	1.455849765	0.104507264	2.331680585	0.015781703	0.646767795	0.277382674	100.9409638	0.647768879	100.9283858	2.240152447	101.6843316	53.00347677	100.9409638	0.647768879	99.26894556
080919BK-1 585	843.2548168	15598.28215	2.433062573	17.87946384	2.070569113	0.520230351	2.702901017	0.068287766	0.686033005	0.253813588	425.8317337	2.826948463	425.3052443	9.392013859	423.4033872	58.36889642	425.8317337	2.826948463	100.5735302
080919BK-1 586	920.5278081	34454.71824	4.12817713	13.63419081	0.700519815	1.622487855	1.168985218	0.160597357	0.869580862	0.743876697	960.0956332	7.756846616	978.9545924	7.343692299	1022.363963	15.81284088	1022.363963	15.81284088	93.90937751
080919BK-1 587	301.4896722	636.6964824	2.46882453	7.359132327	23.76049686	0.10674145	26.4112197	0.006720477	3.665984046	0.138804042	43.17804892	1.577611103	102.9802173	25.87016798	1883.697734	479.7639013	43.17804892	1.577611103	2.292196255
080919BK-1 588	528.9351005	1798.35637	2.486347907	14.92161183	8.901091559	0.08116616	12.28493198	0.00994382	1.968808093	0.160262026	63.78537307	1.249619101	79.2407333	9.364779053	575.3833122	264.5071621	63.78537307	1.249619101	11.08571829
080919BK-1 589	23.31400162	4140.272731	5.353456452	5.352902993	2.401840497	13.43053627	2.883663318	0.527162821	1.222579829	0.423967604	2729.486858	27.20554567	2710.409236	27.25772798	2696.922336	43.14107138	2696.922336	43.14107138	101.2074698
080919BK-1 590	1847.321923	7735.294414	2.29332635	18.64344846	3.610935351	0.108284069	4.491184451	0.01510811	0.810949508	0.18056473	96.66475008	0.778054232	104.3945121	4.455608929	285.6191072	101.0467511	96.66475008	0.778054232	33.84393678
080919BK-1 591	1170.276657	3790.292667	1.699688927	14.8691759	11.07786884	0.088527101	11.87399807	0.010074303	1.171471266	0.098658536	64.61818317	0.753202136	86.13037436	9.805672475	733.7023113	251.0654838	64.61818317	0.753202136	8.807139105
080919BK-1 592	730.7392099	2756.173211	3.031716641	15.56143235	7.938273818	0.130710667	8.605403804	0.015997422	1.17110026	0.136088937	102.3098235	1.188692912	124.7360953	10.10124795	577.6065032	185.5818359	102.3098235	1.188692912	17.71272016
080919BK-1 593	377.9026168	33441.68296	1.898276149	8.2585308	0.747763673	6.195985265	1.095873093	0.370609655	0.776200862	0.70829448	2032.268458	13.52994112	2003.882082	9.581272128	1975.502987	13.78106492	1975.502987	13.78106492	102.8734692
080919BK-1 595	470.8192359	1024.634079	2.207214308	9.942839403	14.50923969	0.076521153	15.3530526	0.006358397	2.986501061	0.194521646	40.85909943	1.216398451	74.86895178	11.08155807	1367.584602	291.5568669	40.85909943	1.216398451	2.987683494
080919BK-1 596	631.2039369	4057.097773	2.152465775	16.851541	8.839729529	0.115469607	10.39347041	0.014954201	1.400413989	0.134739787	95.68727771	1.330121796	110.9564795	10.92489321	453.391483	229.1567134	95.68727771	1.330121796	21.10478059
080919BK-1 597	216.3447492	448.658209	2.898782545	7.461935332	16.04248082	0.093015289	25.00086151	0.006492566	6.375084303	0.254994585	41.71848332	2.651001296	90.30836861	21.60620675	1695.802058	452.4418869	41.71848332	2.651001296	2.460103354
080919BK-1 598	354.1087213	7659.442918	2.541860546	17.26803321	2.983333763	0.530342049	3.516957812	0.068354726	0.631852124	0.179658716	426.2357812	2.606074028	432.0366269	12.37616602	464.0452946	76.68061011	426.2357812	2.606074028	91.85219333
080919BK-1 599	547.1635794	2126.118949	2.525546643	11.51428553	9.662255435	0.113210883	12.01479823	0.010191528	2.541810949	0.21155669	65.36628467	1.653092121	108.8983368	12.40734166	1211.733091	231.880716	65.36628467	1.653092121	5.394445788
080919BK-1 600	155.3139608	15515.93668	1.607080114	9.052608449	1.344066647	4.79010036	1.477769584	0.31553003	0.577276516	0.39064041	1767.862365	8.925700418	1783.164568	12.41414443	1801.895904	24.7434065	1801.895904	24.7434065	98.11123722

Sample 080719BK-02

Analysis	U (ppm)	206Pb 204Pb	U/Th	206Pb* 207Pb*	± (%)	207Pb* 235U*	± (%)	206Pb* 238U	± (%)	error corr.	206Pb* 238U*	± (Ma)	207Pb* 235U	± (Ma)	206Pb* 207Pb*	± (Ma)	Best age (Ma)	± (Ma)	Conc (%)
-SAMPLE 1 Grain 22 Spot 22	876	8079	3.2	21.7289	1.4	0.0617	2.1	0.0097	1.6	0.75	62.4	1.0	60.8	1.2	NA	NA	62.4	1.0	NA
-SAMPLE 1 Grain 7 Spot 7	2973	410149	4.7	20.4579	1.0	0.0656	1.8	0.0097	1.5	0.83	62.5	0.9	64.5	1.1	141.1	22.9	62.5	0.9	NA
-SAMPLE 1 Grain 16 Spot 16	1192	13298	2.8	21.0659	1.3	0.0638	1.9	0.0097	1.5	0.75	62.5	0.9	62.8	1.2	71.9	30.3	62.5	0.9	NA
-SAMPLE 1 Grain 30 Spot 31	765	68495	2.1	21.1583	1.6	0.0640	2.2	0.0098	1.4	0.66	63.1	0.9	63.0	1.3	61.5	38.5	63.1	0.9	NA
-SAMPLE 1 Grain 1 Spot 1	1487	20751	3.5	21.3163	1.1	0.0637	2.0	0.0099	1.6	0.84	63.2	1.0	62.7	1.2	43.7	25.6	63.2	1.0	NA
-SAMPLE 1 Grain 3 Spot 3	569	18974	2.3	21.1827	1.8	0.0643	2.3	0.0099	1.3	0.60	63.4	0.9	63.3	1.4	58.8	43.5	63.4	0.9	NA
-SAMPLE 1 Grain 23 Spot 24 Rim	865	26185	1.9	21.2784	1.6	0.0640	2.3	0.0099	1.6	0.71	63.4	1.0	63.0	1.4	48.0	39.0	63.4	1.0	NA
-SAMPLE 1 Grain 10 Spot 10	272	3562	2.6	22.5609	2.1	0.0605	2.5	0.0099	1.4	0.55	63.5	0.9	59.6	1.4	NA	NA	63.5	0.9	NA
-SAMPLE 1 Grain 4 Spot 4	2329	77861	2.5	21.0208	0.9	0.0650	1.7	0.0099	1.5	0.86	63.6	0.9	63.9	1.1	77.0	20.7	63.6	0.9	NA
-SAMPLE 1 Grain 47 Spot 47	1589	77689	3.2	20.6027	1.2	0.0665	1.9	0.0099	1.5	0.80	63.8	1.0	65.4	1.2	124.5	27.5	63.8	1.0	NA
-SAMPLE 1 Grain 21 Spot 21	623	12697	2.7	21.3763	2.0	0.0643	2.5	0.0100	1.5	0.60	64.0	0.9	63.3	1.5	37.0	47.2	64.0	0.9	NA
-SAMPLE 1 Grain 14 Spot 14	985	15711	1.8	21.6053	1.1	0.0637	1.9	0.0100	1.5	0.79	64.0	0.9	62.7	1.1	11.4	27.1	64.0	0.9	NA
-SAMPLE 1 Grain 18 Spot 18	777	21725	3.2	20.9493	1.3	0.0657	2.1	0.0100	1.7	0.78	64.1	1.1	64.6	1.3	85.1	31.4	64.1	1.1	NA
-SAMPLE 1 Grain 15 Spot 15	768	30762	1.8	21.3102	1.5	0.0646	2.3	0.0100	1.8	0.76	64.1	1.1	63.6	1.4	44.4	36.3	64.1	1.1	NA
-SAMPLE 1 Grain 20 Spot 20	1576	114713	3.2	21.1705	1.2	0.0651	1.9	0.0100	1.4	0.76	64.2	0.9	64.1	1.2	60.1	29.2	64.2	0.9	NA
-SAMPLE 1 Grain 27 Spot 28	2120	27345	3.0	21.2196	0.8	0.0650	1.6	0.0100	1.4	0.86	64.2	0.9	63.9	1.0	54.6	19.5	64.2	0.9	NA
-SAMPLE 1 Grain 24 Spot 25	1125	15290	2.8	20.2513	1.8	0.0681	2.2	0.0100	1.3	0.60	64.2	0.8	66.9	1.4	164.9	41.7	64.2	0.8	NA
-SAMPLE 1 Grain 42 Spot 43	2903	90613	1.7	20.9074	0.9	0.0661	1.6	0.0100	1.4	0.84	64.3	0.9	65.0	1.0	89.8	21.1	64.3	0.9	NA
-SAMPLE 1 Grain 6 Spot 6	624	15648	3.6	20.8128	1.6	0.0664	2.0	0.0100	1.1	0.57	64.4	0.7	65.3	1.2	100.6	38.4	64.4	0.7	NA
-SAMPLE 1 Grain 13 Spot 13	374	22419	3.1	18.2422	2.1	0.0758	2.5	0.0100	1.2	0.50	64.4	0.8	74.2	1.8	403.8	48.1	64.4	0.8	NA
-SAMPLE 1 Grain 43 Spot 44	1201	210359	2.9	20.7173	1.1	0.0668	1.9	0.0100	1.5	0.80	64.4	1.0	65.6	1.2	111.4	27.0	64.4	1.0	NA
-SAMPLE 1 Grain 2 Spot 2	679	223281	2.0	21.1049	1.3	0.0656	1.9	0.0100	1.3	0.71	64.5	0.9	64.5	1.2	67.5	31.7	64.5	0.9	NA
-SAMPLE 1 Grain 19 Spot 19	1357	19186	2.4	21.8826	1.4	0.0634	2.0	0.0101	1.5	0.72	64.5	0.9	62.4	1.2	NA	NA	64.5	0.9	NA
-SAMPLE 1 Grain 39 Spot 40	1614	34977	2.9	21.1676	1.2	0.0655	2.0	0.0101	1.6	0.79	64.6	1.0	64.5	1.2	60.5	29.0	64.6	1.0	NA
-SAMPLE 1 Grain 17 Spot 17	342	3351	1.9	22.5587	2.0	0.0615	2.4	0.0101	1.4	0.57	64.6	0.9	60.6	1.4	NA	NA	64.6	0.9	NA
-SAMPLE 1 Grain 56 Spot 50	868	87178	2.6	21.4538	1.5	0.0647	2.0	0.0101	1.4	0.69	64.6	0.9	63.7	1.2	28.4	35.0	64.6	0.9	NA
-SAMPLE 1 Grain 8 Spot 8	375	12362	1.9	20.8214	2.0	0.0667	2.3	0.0101	1.3	0.54	64.7	0.8	65.6	1.5	99.6	46.6	64.7	0.8	NA
-SAMPLE 1 Grain 26 Spot 27	471	14649	1.9	20.7060	1.6	0.0672	2.0	0.0101	1.2	0.59	64.7	0.8	66.0	1.3	112.7	37.6	64.7	0.8	NA
-SAMPLE 1 Grain 55 Spot 49	703	45582	4.4	21.0509	1.3	0.0662	2.2	0.0101	1.8	0.80	64.8	1.1	65.1	1.4	73.6	31.4	64.8	1.1	NA
-SAMPLE 1 Grain 23 Spot 23 Core	768	33960	1.6	21.8550	1.8	0.0638	2.3	0.0101	1.4	0.60	64.9	0.9	62.8	1.4	NA	NA	64.9	0.9	NA
-SAMPLE 1 Grain 35 Spot 36	1098	157749	2.9	20.9138	1.3	0.0668	1.9	0.0101	1.3	0.70	65.0	0.8	65.6	1.2	89.1	31.5	65.0	0.8	NA
-SAMPLE 1 Grain 9 Spot 9	424	107768	2.9	20.9108	1.7	0.0669	1.9	0.0101	0.9	0.48	65.1	0.6	65.7	1.2	89.5	40.2	65.1	0.6	NA
-SAMPLE 1 Grain 28 Spot 29	378	189971	2.2	21.5519	2.4	0.0651	2.6	0.0102	1.2	0.45	65.3	0.8	64.1	1.6	17.4	56.8	65.3	0.8	NA
-SAMPLE 1 Grain 46 Spot 46	720	20940	2.5	20.5586	1.5	0.0683	2.2	0.0102	1.6	0.72	65.3	1.0	67.1	1.4	129.5	34.8	65.3	1.0	NA
-SAMPLE 1 Grain 40 Spot 41	1234	528544	3.5	21.1575	1.3	0.0663	2.1	0.0102	1.7	0.79	65.3	1.1	65.2	1.3	61.6	31.3	65.3	1.1	NA
-SAMPLE 1 Grain 11 Spot 11	583	7662	4.0	21.4981	2.5	0.0653	2.7	0.0102	0.9	0.35	65.4	0.6	64.3	1.7	23.4	60.3	65.4	0.6	NA
-SAMPLE 1 Grain 44 Spot 45	293	6140	3.9	22.9596	2.2	0.0612	2.6	0.0102	1.3	0.51	65.4	0.9	60.3	1.5	NA	NA	65.4	0.9	NA
-SAMPLE 1 Grain 32 Spot 33	176	3698	2.2	22.5705	4.2	0.0623	4.4	0.0102	1.3	0.30	65.4	0.9	61.4	2.6	NA	NA	65.4	0.9	NA
-SAMPLE 1 Grain 38 Spot 39	390	33848	2.7	21.3471	2.1	0.0668	2.3	0.0103	1.1	0.46	66.3	0.7	65.6	1.5	40.3	49.7	66.3	0.7	NA
-SAMPLE 1 Grain 37 Spot 38	2085	1088918	3.2	20.3752	0.9	0.0701	1.6	0.0104	1.4	0.83	66.4	0.9	68.8	1.1	150.6	21.3	66.4	0.9	NA
-SAMPLE 1 Grain 36 Spot 37	654	53854	2.6	20.9447	1.8	0.0682	2.2	0.0104	1.4	0.62	66.5	0.9	67.0	1.4	85.6	41.7	66.5	0.9	NA
-SAMPLE 1 Grain 5 Spot 5	654	9054	3.6	18.2423	2.5	0.0785	2.9	0.0104	1.4	0.50	66.6	0.9	76.7	2.1	403.8	55.7	66.6	0.9	NA
-SAMPLE 1 Grain 25 Spot 26	2274	910656	5.6	20.8318	1.1	0.0689	1.8	0.0104	1.5	0.81	66.8	1.0	67.6	1.2	98.4	25.5	66.8	1.0	NA
-SAMPLE 1 Grain 48 Spot 48	417	14462	3.2	21.2343	2.0	0.0679	2.4	0.0105	1.3	0.54	67.1	0.9	66.7	1.5	52.9	47.6	67.1	0.9	NA
-SAMPLE 1 Grain 41 Spot 42	325	170970	2.1	18.9531	2.7	0.0761	3.0	0.0105	1.3	0.43	67.1	0.9	74.4	2.1	317.6	60.9	67.1	0.9	NA
-SAMPLE 1 Grain 34 Spot 35	403	152973	3.0	19.4160	2.3	0.0743	2.5	0.0105	1.2	0.46	67.1	0.8	72.8	1.8	262.5	51.9	67.1	0.8	NA
-SAMPLE 1 Grain 33 Spot 34	322	6016	2.4	21.2165	2.6	0.0682	2.9	0.0105	1.3	0.45	67.3	0.9	67.0	1.9	54.9	61.1	67.3	0.9	NA
-SAMPLE 1 Grain 29 Spot 30	140	2388	1.9	23.5425	7.8	0.0616	7.9	0.0105	1.4	0.18	67.4	1.0	60.7	4.7	NA	NA	67.4	1.0	NA
-SAMPLE 1 Grain 12 Spot 12	282	50835	3.3	21.3156	2.5	0.0685	2.7	0.0106	1.1	0.40	67.9	0.7	67.3	1.8	43.8	59.8	67.9	0.7	NA
-SAMPLE 1 Grain 31 Spot 32	1469	437356	2.4	18.3537	0.7	0.4492	1.5	0.0598	1.4	0.90	374.5	5.1	376.7	4.9	390.1	14.9	374.5	5.1	NA

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-SAMPLE 2 Grain 26 Spot 73	1954	84263	3.6	21.2134	1.2	0.0570	1.9	0.0088	1.5	0.80	56.3	0.9	56.3	1.0	55.3	27.6	56.3	0.9	NA
-SAMPLE 2 Grain 12 Spot 62	1629	44295	8.6	21.1714	1.1	0.0571	1.7	0.0088	1.3	0.78	56.3	0.7	56.4	0.9	60.0	25.5	56.3	0.7	NA
-SAMPLE 2 Grain 48 Spot 91	431	5762	5.6	21.6100	2.3	0.0565	3.0	0.0089	1.9	0.63	56.9	1.1	55.8	1.6	10.9	56.4	56.9	1.1	NA
-SAMPLE 2 Grain 21 Spot 71	3081	70046	5.2	21.0606	1.0	0.0584	1.7	0.0089	1.4	0.83	57.2	0.8	57.6	1.0	72.5	22.8	57.2	0.8	NA
-SAMPLE 2 Grain 10 Spot 60	156	95091	2.6	20.2568	3.4	0.0607	3.7	0.0089	1.3	0.35	57.3	0.7	59.9	2.1	164.2	80.3	57.3	0.7	NA
-SAMPLE 2 Grain 22 Spot 72	3207	40249	16.5	21.0074	0.8	0.0586	1.4	0.0089	1.2	0.84	57.3	0.7	57.8	0.8	78.5	18.3	57.3	0.7	NA
-SAMPLE 2 Grain 2 Spot 52	67	13803	5.0	20.6597	4.0	0.0598	4.3	0.0090	1.8	0.41	57.5	1.0	58.9	2.5	118.0	93.6	57.5	1.0	NA
-SAMPLE 2 Grain 20 Spot 70	982	18410	3.3	21.1661	1.4	0.0586	2.0	0.0090	1.4	0.70	57.7	0.8	57.8	1.1	60.6	33.5	57.7	0.8	NA
-SAMPLE 2 Grain 6 Spot 56	614	2455663	7.4	21.0865	1.4	0.0588	2.1	0.0090	1.6	0.77	57.7	0.9	58.0	1.2	69.6	32.6	57.7	0.9	NA
-SAMPLE 2 Grain 5 Spot 55	544	24845	4.5	21.6016	1.3	0.0577	1.8	0.0090	1.2	0.66	58.0	0.7	57.0	1.0	11.9	32.1	58.0	0.7	NA
-SAMPLE 2 Grain 37 Spot 82	1225	110402	3.4	20.9449	1.2	0.0595	2.0	0.0090	1.6	0.79	58.1	0.9	58.7	1.1	85.6	28.4	58.1	0.9	NA
-SAMPLE 2 Grain 4 Spot 54	183	5294	3.5	21.5431	2.9	0.0580	3.1	0.0091	1.1	0.35	58.2	0.6	57.3	1.7	18.4	68.8	58.2	0.6	NA
-SAMPLE 2 Grain 33 Spot 79	278	6663	2.9	21.7888	2.3	0.0574	2.6	0.0091	1.2	0.45	58.2	0.7	56.6	1.4	NA	NA	58.2	0.7	NA
-SAMPLE 2 Grain 52 Spot 93	848	21106	12.3	20.8540	1.6	0.0599	2.2	0.0091	1.4	0.66	58.2	0.8	59.1	1.2	95.9	38.3	58.2	0.8	NA
-SAMPLE 2 Grain 27 Spot 74	258	42586	6.8	20.7173	3.0	0.0605	3.3	0.0091	1.4	0.43	58.3	0.8	59.6	1.9	111.4	71.1	58.3	0.8	NA
-SAMPLE 2 Grain 46 Spot 99 Rim	453	28595	5.6	20.9637	1.8	0.0598	2.1	0.0091	1.1	0.53	58.3	0.6	59.0	1.2	83.4	42.6	58.3	0.6	NA
-SAMPLE 2 Grain 49 Spot 92	476	208726	5.8	21.0374	1.9	0.0596	2.2	0.0091	1.1	0.52	58.4	0.7	58.8	1.3	75.1	44.6	58.4	0.7	NA
-SAMPLE 2 Grain 32 Spot 78	505	12525	6.8	21.8151	2.0	0.0576	2.2	0.0091	0.9	0.42	58.5	0.5	56.9	1.2	NA	NA	58.5	0.5	NA
-SAMPLE 2 Grain 13 Spot 63	598	44918	2.3	20.7369	1.3	0.0606	2.1	0.0091	1.7	0.78	58.6	1.0	59.8	1.2	109.2	31.9	58.6	1.0	NA
-SAMPLE 2 Grain 9 Spot 59	77	2218	5.7	22.8760	6.9	0.0550	7.1	0.0091	1.7	0.24	58.6	1.0	54.4	3.7	NA	NA	58.6	1.0	NA
-SAMPLE 2 Grain 24 Spot 97 Core	1283	45803	10.5	21.3162	1.4	0.0592	2.2	0.0092	1.7	0.77	58.8	1.0	58.4	1.3	43.7	33.9	58.8	1.0	NA
-SAMPLE 2 Grain 40 Spot 84	146	111724	3.7	19.6002	2.9	0.0644	3.3	0.0092	1.5	0.46	58.8	0.9	63.4	2.0	240.7	67.0	58.8	0.9	NA
-SAMPLE 2 Grain 16 Spot 66 Rim	885	39455	8.5	20.8297	1.4	0.0607	1.9	0.0092	1.3	0.67	58.9	0.8	59.9	1.1	98.6	33.6	58.9	0.8	NA
-SAMPLE 2 Grain 55 Spot 95	805	29180	9.2	21.0490	1.5	0.0602	2.0	0.0092	1.4	0.69	59.0	0.8	59.3	1.2	73.8	35.3	59.0	0.8	NA
-SAMPLE 2 Grain 8 Spot 58	513	48359	6.0	21.1076	1.5	0.0600	1.9	0.0092	1.2	0.62	59.0	0.7	59.2	1.1	67.2	35.5	59.0	0.7	NA
-SAMPLE 2 Grain 31 Spot 77	946	72167	11.4	21.1071	1.1	0.0600	1.9	0.0092	1.5	0.80	59.0	0.9	59.2	1.1	67.2	26.6	59.0	0.9	NA
-SAMPLE 2 Grain 3 Spot 53	491	11064	9.8	21.6918	2.2	0.0587	2.5	0.0092	1.1	0.45	59.3	0.7	57.9	1.4	1.8	52.8	59.3	0.7	NA
-SAMPLE 2 Grain 7 Spot 57	488	9468	6.8	19.5667	3.1	0.0651	3.3	0.0092	1.0	0.30	59.3	0.6	64.0	2.0	244.6	72.1	59.3	0.6	NA
-SAMPLE 2 Grain 15 Spot 65	133	4665	5.6	19.5844	4.0	0.0650	4.2	0.0092	1.3	0.31	59.3	0.8	64.0	2.6	242.6	91.1	59.3	0.8	NA
-SAMPLE 2 Grain 23 Spot 96	503	32626	7.4	20.8543	1.9	0.0611	2.3	0.0092	1.3	0.57	59.3	0.8	60.2	1.3	95.8	43.8	59.3	0.8	NA
-SAMPLE 2 Grain 44 Spot 88	611	12518	3.2	21.5956	2.1	0.0590	2.6	0.0092	1.6	0.61	59.3	0.9	58.2	1.5	12.5	50.1	59.3	0.9	NA
-SAMPLE 2 Grain 54 Spot 94	786	69874	12.8	21.4963	1.3	0.0594	2.0	0.0093	1.5	0.74	59.4	0.9	58.6	1.1	23.6	32.1	59.4	0.9	NA
-SAMPLE 2 Grain 30 Spot 76	657	7376	6.6	22.1125	1.4	0.0579	2.1	0.0093	1.5	0.72	59.6	0.9	57.1	1.1	NA	NA	59.6	0.9	NA
-SAMPLE 2 Grain 18 Spot 69	1090	14060	12.4	21.3739	1.2	0.0599	1.8	0.0093	1.4	0.75	59.6	0.8	59.0	1.1	37.3	29.3	59.6	0.8	NA
-SAMPLE 2 Grain 17 Spot 68	191	24225	4.1	21.2192	2.4	0.0605	2.7	0.0093	1.2	0.45	59.8	0.7	59.6	1.6	54.6	58.1	59.8	0.7	NA
-SAMPLE 2 Grain 47 Spot 90	728	20340	14.9	21.2171	1.7	0.0605	2.4	0.0093	1.7	0.72	59.8	1.0	59.7	1.4	54.9	39.9	59.8	1.0	NA
-SAMPLE 2 Grain 43 Spot 87	286	11989	5.3	21.4051	2.4	0.0601	2.7	0.0093	1.1	0.43	59.9	0.7	59.3	1.5	33.8	57.5	59.9	0.7	NA
-SAMPLE 2 Grain 1 Spot 51	216	4048	4.2	23.3190	2.9	0.0552	3.2	0.0093	1.5	0.47	60.0	0.9	54.6	1.7	NA	NA	60.0	0.9	NA
-SAMPLE 2 Grain 46 Spot 89 Core	601	12615	7.5	21.6077	1.7	0.0597	2.1	0.0094	1.2	0.59	60.0	0.7	58.8	1.2	11.1	40.9	60.0	0.7	NA
-SAMPLE 2 Grain 11 Spot 61	163	7367	3.3	20.3125	3.2	0.0635	3.4	0.0094	1.1	0.33	60.1	0.7	62.5	2.0	157.8	74.2	60.1	0.7	NA
-SAMPLE 2 Grain 42 Spot 86	449	7159	3.6	21.4985	2.1	0.0604	2.5	0.0094	1.4	0.57	60.4	0.9	59.5	1.4	23.3	49.3	60.4	0.9	NA
-SAMPLE 2 Grain 16 Spot 67 Core	383	6292	5.2	22.0712	2.2	0.0590	2.5	0.0095	1.1	0.45	60.7	0.7	58.2	1.4	NA	NA	60.7	0.7	NA
-SAMPLE 2 Grain 38 Spot 83	187	3192	4.7	22.4508	3.6	0.0581	3.9	0.0095	1.5	0.38	60.7	0.9	57.3	2.2	NA	NA	60.7	0.9	NA
-SAMPLE 2 Grain 29 Spot 75	320	9151	4.6	21.1054	2.7	0.0619	3.1	0.0095	1.4	0.46	60.8	0.9	61.0	1.8	67.5	65.3	60.8	0.9	NA
-SAMPLE 2 Grain 49 Spot 100 Rim	1984	40271	10.4	21.2084	0.9	0.0620	1.7	0.0095	1.4	0.85	61.3	0.9	61.1	1.0	55.9	21.4	61.3	0.9	NA
-SAMPLE 2 Grain 24 Spot 98 Rim	168	3988	3.4	23.1240	3.2	0.0579	3.4	0.0097	1.0	0.29	62.3	0.6	57.1	1.9	NA	NA	62.3	0.6	NA
-SAMPLE 2 Grain 41 Spot 85	256	4696	5.8	23.2758	2.7	0.0575	2.9	0.0097	1.2	0.40	62.3	0.7	56.8	1.6	NA	NA	62.3	0.7	NA
-SAMPLE 2 Grain 14 Spot 64	907	19789	3.9	21.0502	1.3	0.0656	1.8	0.0100	1.2	0.69	64.3	0.8	64.5	1.1	73.7	30.5	64.3	0.8	NA
-SAMPLE 2 Grain 36 Spot 81	759	133570	1.7	18.6935	0.9	0.4286	1.7	0.0581	1.4	0.85	364.3	5.0	362.2	5.1	348.9	20.0	364.3	5.0	NA
-SAMPLE 2 Grain 34 Spot 80	219	45548	6.8	13.8147	1.0	0.8718	1.7	0.0874	1.4	0.80	540.1	7.0	636.5	8.0	995.9	20.4	540.1	7.0	54.2

Sample MG1-70

Analysis	U (ppm)	206Pb 204Pb	U/Th	206Pb* 207Pb*	± (%)	207Pb* 235U	± (%)	206Pb* 238U	± (%)	error corr.	206Pb* 238U	± (Ma)	207Pb* 235U	± (Ma)	206Pb* 207Pb*	± (Ma)	Best age (Ma)	± (Ma)	Conc (%)
Spot 1	3408.941246	208357.6097	3.342443689	18.20994076	0.678964209	0.063445134	2.068975507	0.009683146	1.954393393	0.944618912	62.12128496	1.2082632	62.46003356	1.25333945	75.43841086	16.13468189	62.12128496	1.2082632	82.34702223
Spot 2	444.5368217	91678.93417	5.893062197	18.38126136	0.773302265	0.065802673	1.106907368	0.010154288	0.791898996	0.715415777	65.12863652	0.513156424	64.70853338	0.693917738	49.17607079	18.48550063	65.12863652	0.513156424	132.4396917
Spot 3	725.5764154	188133.2118	3.676285432	17.60220039	3.111844797	0.063702518	3.131074601	0.009418414	0.346005411	0.11050692	60.43086342	0.208117053	62.70575591	1.903970646	150.4065566	72.94897723	60.43086342	0.208117053	40.17834381
Spot 4	717.8299494	18409.58687	3.808754828	16.42084246	2.470028957	0.081587347	2.516709886	0.011385294	0.481749081	0.191420189	72.97965575	0.349596204	79.63621662	1.927634993	284.2251542	56.52414443	72.97965575	0.349596204	25.67670548
Spot 5	100.7282592	43397.24096	5.368093875	18.90576797	3.053187719	0.058699921	4.993448768	0.009368663	3.950806745	0.791198013	60.11312723	2.363914652	57.9191407	2.811229198	NA	NA	60.11312723	2.363914652	
Spot 6	129.013004	10997.20675	4.133231827	16.79981813	3.127851285	0.064349729	3.416647612	0.009274404	1.371468277	0.401407588	59.51111202	0.812420263	63.32337847	2.097457084	209.8895547	72.57040191	59.51111202	0.812420263	28.35353675
Spot 7	2399.632574	88443.28869	4.461506148	17.65406157	0.215129574	0.063734508	0.725278624	0.009465586	0.692577287	0.954912036	60.73210938	0.418641674	62.73629235	0.441241353	139.8652301	5.039135424	60.73210938	0.418641674	43.42187786
Spot 8	2150.646549	10879.94734	7.730834743	13.69391319	14.59922829	0.081852458	14.75996364	0.009570453	2.169083663	0.14695725	61.40175003	1.325532513	79.88506922	11.33957926	675.144831	313.7075745	61.40175003	1.325532513	9.094604182
Spot 9	2405.241658	13922.96786	8.136607986	15.49470125	0.742894751	0.072619836	1.915492182	0.00958882	1.765496283	0.921693286	61.51902707	1.080950114	71.18251613	1.316800488	409.2456413	16.62217178	61.51902707	1.080950114	15.03229866
Spot 10	2169.22138	448529.5731	7.761254263	18.22594194	0.672773921	0.062276826	1.332415625	0.009522516	1.150080154	0.863154209	61.09564677	0.699329741	61.34391437	0.793155759	71.06425335	16.00128207	61.09564677	0.699329741	85.97240369
Spot 11	1304.159825	63023.23735	6.455982864	17.44391648	1.079153025	0.0706704	1.396518382	0.010371607	0.886109535	0.634513334	66.51532913	0.586368343	69.33542632	0.935962493	167.7153815	25.21499831	66.51532913	0.586368343	39.65964751
Spot 12	1109.461119	17923.69524	14.06579575	14.99078697	10.39497405	0.073169605	11.22572769	0.009305725	4.237123437	0.377447552	59.71115736	2.518354195	71.7028147	7.771685893	492.5784398	229.7848208	59.71115736	2.518354195	12.12216218
Spot 13	2822.99196	751339.6187	4.693311357	18.23739801	0.473957363	0.062291369	1.121161217	0.00951198	1.016052939	0.906250523	61.02836995	0.61715463	61.35781481	0.667547636	74.21520222	11.26690465	61.02836995	0.61715463	82.23162927
Spot 14	986.5270232	226813.5622	7.516840361	18.38619055	1.039886585	0.060447854	1.831717531	0.009313529	1.507914004	0.823224093	59.76100162	0.896980399	59.59417447	1.060181303	52.91811733	24.81773758	59.76100162	0.896980399	112.9310804
Spot 15	83.99674946	19525.41927	4.89247817	18.2305499	5.148376507	0.060798659	6.595014627	0.009405863	4.120765248	0.624830342	60.35070329	2.475306064	59.93001595	3.838033665	43.17398717	NA	60.35070329	2.475306064	139.7848734
Spot 16	2476.983247	3275.226662	5.701845818	9.478010848	21.43637178	0.107329634	21.49779582	0.008867762	1.613503738	0.07505438	56.91328948	0.914256285	103.5197056	21.16067114	1377.695531	416.8920565	56.91328948	0.914256285	4.131049873
Spot 17	68.19070191	18719.65414	6.348801589	18.30518384	2.29592134	0.062136398	3.174713053	0.009658549	2.190305003	0.689922197	61.9642449	1.350703956	61.20967608	1.885821875	31.77156603	NA	61.9642449	1.350703956	195.0305025
Spot 19	2386.38681	11090.7097	6.634291614	14.08083901	10.76911133	0.081471488	10.87077554	0.009788399	1.479223394	0.136073401	62.79324948	0.924343211	79.5274439	8.315545128	616.7008409	233.1352492	62.79324948	0.924343211	10.18212483
Spot 20	572.8358777	6918.233203	3.633991119	13.32757922	8.055843085	0.084536987	9.254819515	0.009705405	4.555450023	0.49222462	62.26340157	2.82272458	82.40153889	7.325002785	714.0411779	171.4133598	62.26340157	2.82272458	8.719861472
Spot 21	145.2758082	16400.87443	6.428869108	18.53112147	2.869016477	0.063627765	3.528167204	0.01004372	2.05063114	0.581217108	64.42299748	1.314498827	62.63439633	2.143071793	NA	NA	64.42299748	1.314498827	
Spot 22	216.1667881	28350.2004	4.855795468	18.39562104	1.34395797	0.060368981	1.46025085	0.009392197	0.570262109	0.390523388	60.26342722	0.342058158	59.51865045	0.844139668	29.66326034	NA	60.26342722	0.342058158	203.1584746
Spot 23	133.5006959	30560.41761	5.763403031	18.20800059	2.558539918	0.06027172	3.246958149	0.009274086	1.998871105	0.615613449	59.50907973	1.18403628	59.42551173	1.874146364	56.05957078	NA	59.50907973	1.18403628	106.1532918
Spot 24	2379.702464	26256.27553	6.897515056	13.95464234	28.05669618	0.085402914	28.45989928	0.010046373	4.772958777	0.16770821	64.43992819	3.060369854	83.21192848	22.74142038	662.112721	612.4737559	64.43992819	3.060369854	9.732470944
Spot 25	419.8522706	4727.442802	4.79509723	10.82862953	18.88913688	0.099659257	20.52575661	0.009336749	8.030185294	0.391224813	59.90930497	4.788543618	96.46176081	18.89029307	1131.891726	379.4038329	59.90930497	4.788543618	5.29284768
Spot 26	2275.449449	48578.61012	14.53179597	17.15783552	1.357294313	0.063664546	2.352444256	0.009188919	1.921343994	0.816743686	58.9650775	1.127756354	62.66950753	1.429692039	206.574204	31.49092235	58.9650775	1.127756354	28.54425981
Spot 27	2514.495243	1855.532842	6.258912244	7.342963637	16.99134081	0.162429111	17.07074057	0.010560821	1.637724697	0.095937531	67.72245263	1.103301857	152.8272088	24.22490325	1824.785123	310.5400655	67.72245263	1.103301857	3.711256288
Spot 28	2030.213103	293083.4456	6.597893006	18.17491263	1.033751498	0.063011827	1.379771092	0.009608529	0.913836198	0.662310004	61.64487193	0.560648238	62.04622562	0.830464408	77.53516359	24.54864887	61.64487193	0.560648238	79.50569661
Spot 29	152.0778518	25650.746	4.603159905	17.87901246	2.860455509	0.064658221	2.977372212	0.009767477	0.825469279	0.277247593	62.65968466	0.514730783	63.61763603	1.836018518	99.83100287	67.66656737	62.65968466	0.514730783	62.76575699
Spot 30	1112.496496	16734.82832	5.387508043	15.67179853	4.682829462	0.076368127	4.700344466	0.010146736	0.400239636	0.085151129	65.0804438	0.259167305	74.72460652	3.386199316	395.2990194	105.0559919	65.0804438	0.259167305	16.46359859
Spot 31	129.643248	44139.94373	5.50098855	18.72957247	3.694282143	0.062129486	3.717742717	0.009792711	0.41495366	0.11161441	62.82078088	0.259411086	61.20306862	2.208158398	NA	NA	62.82078088	0.259411086	
Spot 32	222.2174419	39161.90794	5.545823238	18.3554916	3.371894155	0.058707838	3.753840169	0.009074446	1.649544106	0.439428434	58.2338156	0.956266749	57.92673348	2.113616896	45.22647252	NA	58.2338156	0.956266749	128.7604634
Spot 33	778.7353619	67225.94561	6.486028775	17.13522039	12.61688724	0.06292663	13.07638955	0.009051211	3.435869999	0.26275372	58.08538117	1.986773899	61.96484242	7.860634817	214.5509442	NA	58.08538117	1.986773899	27.07300188
Spot 34	409.2684363	33734.55431	5.123423101	14.52742667	21.65621974	0.07832644	21.70447819	0.009575466	1.444856235	0.066569499	61.43375611	0.88341335	76.57028616	16.00933812	579.1122228	475.6495751	61.43375611	0.88341335	10.60826446
Spot 35	1623.579552	15867.92235	5.194316874	14.94779465	14.65899415	0.075957649	14.7350891	0.009626199	1.493322948	0.101344685	61.75769693	0.917838326	74.33731197	10.56259345	500.3866893	324.3345956	61.75769693	0.917838326	12.34199435

Sample 071420HW-02

Analysis	U	206Pb	U/Th	206Pb*	±	207Pb*	±	206Pb*	±	error	206Pb*	±	207Pb*	±	206Pb*	±	Best age	±	Conc
	(ppm)	204Pb		207Pb*	(%)	235U	(%)	238U	(%)	corr.	238U	(Ma)	235U	(Ma)	207Pb*	(Ma)	(Ma)	(Ma)	(%)
Spot 1	2395.576757	126329.3313	3.875795465	18.12252067	0.812097129	0.04119442	3.315438794	0.006288253	3.214435654	0.969535514	40.40976044	1.294882996	40.98952658	1.331918768	75.04733111	19.31122791	40.40976044	1.294882996	53.84569956
Spot 2	1623.241253	69814.18997	4.912345014	18.06760867	1.376481273	0.041826263	2.666651311	0.006376136	2.283830928	0.85644153	40.97272621	0.932780333	41.60551918	1.087051386	78.22637402	32.68414422	40.97272621	0.932780333	52.37712564
Spot 3	4471.385447	67044.64362	5.86224812	17.01384529	3.191231296	0.045892923	3.207681527	0.006593518	0.322794081	0.100631586	42.36503465	0.136303449	45.56124568	1.429156998	217.2192689	73.91359874	42.36503465	0.136303449	19.50335017
Spot 4	1484.679169	26980.48125	4.128781026	13.3641583	38.68958737	0.056153632	39.54156318	0.006358593	8.16366049	0.206457708	40.86035404	3.325151568	55.47409221	21.35003037	743.2440313	848.9033299	40.86035404	3.325151568	5.497569078
Spot 5	196.611064	15511.80314	3.743887116	18.17472125	3.052479912	0.041696187	3.149617994	0.006490264	0.768368655	0.243955951	41.70374477	0.31940398	41.47873659	1.280098215	28.47222161NA		41.70374477	0.31940398	146.4716921
Spot 6	5091.313337	271787.3338	4.621134745	18.18771602	0.441001869	0.042408464	1.146251328	0.006498845	1.058005349	0.923013412	41.75869917	0.440381376	42.17278399	0.473504822	65.78887016	10.47716938	41.75869917	0.440381376	63.47380502
Spot 7	5670.418234	125327.0368	6.003144928	17.77051356	1.708611606	0.043365151	1.772176183	0.00650012	0.470000529	0.26521095	41.7668696	0.195969942	43.10424058	0.747896358	118.1994071	40.2862244	41.7668696	0.195969942	35.33593833
Spot 8	4105.526462	331891.6635	6.212253237	18.19640164	0.558461655	0.044312009	1.038908119	0.006792591	0.87603088	0.843222672	43.6398108	0.381007126	44.02528679	0.447608416	65.05498733	13.27457105	43.6398108	0.381007126	67.08142233
Spot 9	1353.898116	4023.503343	0.899979175	11.21729208	2.534582741	0.070789306	3.199331637	0.006956622	1.951352144	0.609924936	44.68999909	0.869043443	69.44818571	2.147600263	1036.038104	51.22285766	44.68999909	0.869043443	4.313547826
Spot 10	2127.076378	397027.5459	3.828814524	18.14389461	0.61845774	0.045703129	1.023656959	0.006987064	0.815973618	0.796823204	44.88488261	0.364842516	45.37697146	0.454278219	71.43977427	14.73228915	44.88488261	0.364842516	62.82898157
Spot 11	1535.739628	104785.1572	5.80989407	18.10857855	0.785021737	0.043459091	1.312254693	0.006659246	1.051490501	0.801285381	42.7859555	0.448400557	43.19565731	0.554949289	66.02969739	18.67344173	42.7859555	0.448400557	64.79804874
Spot 12	5361.203453	110226.4847	4.795099661	17.73618385	1.429758319	0.046028115	1.878093082	0.006906628	1.217720412	0.648381288	44.36993518	0.5384466	45.69248519	0.839125572	115.689777	33.74232995	44.36993518	0.5384466	38.35251164
Spot 13	1450.850402	63036.84402	4.240275057	18.1536542	1.761983989	0.043110998	2.217739278	0.006833564	1.346592805	0.607191665	42.62149098	0.572044762	42.8568743	0.930675063	56.05579245	42.02215307	42.62149098	0.572044762	76.03405249
Spot 14	2614.228014	224135.8457	3.67613439	18.05255159	1.412170574	0.04332955	1.720100523	0.006609907	0.98208441	0.57094594	42.46992237	0.415720255	43.06959425	0.725348113	76.57052492	33.55878046	42.46992237	0.415720255	55.46519684
Spot 15	132.8205703	18087.23326	3.576134593	18.19521887	4.981596048	0.04339832	5.064870865	0.006766574	0.892853023	0.176283472	43.47322372	0.386846123	43.13651933	2.139053814	24.44741156NA		43.47322372	0.386846123	177.8234216
Spot 16	2738.503122	9439.861223	1.316866226	11.38817996	31.64357466	0.089387555	31.69091642	0.006787618	1.719087428	0.054245431	43.60796562	0.747129162	68.11809538	20.88201437	1045.34676	654.3881362	43.60796562	0.747129162	4.171626803
Spot 17	2240.43987	130030.7589	3.781181012	18.29318737	1.132075396	0.043086175	1.540019775	0.006670295	1.044040445	0.677939635	42.85670828	0.445957331	42.83270999	0.645912983	41.51241614	27.08643441	42.85670828	0.445957331	103.2382893
Spot 18	3325.023676	130191.9855	5.824232229	16.59436195	8.24845457	0.048655388	8.467037628	0.006831549	1.911401545	0.225746197	43.88924689	0.836050469	48.23959066	3.988979313	270.1364827	189.3969524	43.88924689	0.836050469	16.24706387
Spot 19	1697.453751	151408.4724	3.988082853	18.23105528	0.959330485	0.042722972	1.543638411	0.006589639	1.209245617	0.783379625	42.34019403	0.510319213	42.4790922	0.642196688	50.33317523	22.89573486	42.34019403	0.510319213	84.11985502
Spot 20	349.3084927	29202.63754	3.560391335	18.10833877	2.033833808	0.041725109	2.294372718	0.006439586	1.059610217	0.461830028	41.37915034	0.437053495	41.50692712	0.933121823	48.87667159	48.62515872	41.37915034	0.437053495	84.66032771
Spot 21	6188.774611	17289.73093	6.221410322	15.63560038	3.410160944	0.046028674	3.775802257	0.006158721	1.620703203	0.429234132	39.57991341	0.639507682	45.6930278	1.687036301	379.5408942	76.70113374	39.57991341	0.639507682	10.42836596
Spot 22	3599.520819	13743.28247	3.809714451	14.72958693	8.275587446	0.052054677	8.36094179	0.006575083	1.189883536	0.142312142	42.24697296	0.501037743	51.5257012	4.200577761	507.6920659	182.283286	42.24697296	0.501037743	8.321377424
Spot 23	4128.938397	191167.0243	5.647087116	18.2628091	0.526190518	0.042213059	0.987715185	0.006517991	0.835868522	0.846264728	41.881328	0.348938112	41.98242746	0.40621128	47.75931773	12.58874281	41.881328	0.348938112	87.6924755
Spot 24	4454.325646	140178.2256	6.648244045	18.00045699	1.533747128	0.04325869	1.720675889	0.006586653	0.779956813	0.453286303	42.32106885	0.329005754	43.00062939	0.72445332	81.05353192	36.41751258	42.32106885	0.329005754	52.21372573
Spot 25	1744.889446	61302.62361	4.609224015	18.25146301	1.539719552	0.041824535	1.74546285	0.006473177	0.82201167	0.470941999	41.59430029	0.340809316	41.60383511	0.711503574	42.17662168	36.80946231	41.59430029	0.340809316	98.61932663
Spot 26	3598.487002	523198.4735	7.122321935	18.1891939	0.489019523	0.042748901	1.121347438	0.006556892	1.009085881	0.89988691	42.13046874	0.423746409	42.50434124	0.466783347	63.64306118	11.63833096	42.13046874	0.423746409	66.19805516
Spot 27	1914.421443	143009.2563	5.221633677	18.09589732	1.29708305	0.044269459	1.901107947	0.006760753	1.389787462	0.731040793	43.43594969	0.601638189	43.98391505	0.818329902	73.96833588	30.84359091	43.43594969	0.601638189	58.72235623
Spot 28	184.698349	5795.79429	3.532486661	18.61916508	4.569668296	0.039065386	4.676506553	0.006425412	0.983719706	0.210353539	41.28836405	0.404863842	38.91114535	1.785258643NA	NA		41.28836405	0.404863842	
Spot 29	3872.852437	8740.913277	4.001780181	14.12963969	8.049332241	0.049645721	8.491185541	0.006044412	2.700819791	0.318073345	38.84749563	1.046045844	49.19804909	4.07792899	588.0066598	174.901864	38.84749563	1.046045844	6.606642116
Spot 30	327.1900027	18307.3143	3.533615654	18.55717582	2.372189047	0.039685535	2.519831548	0.006291949	0.8466542	0.335596349	40.43344286	0.341260091	39.51697912	0.976633883NA	NA		40.43344286	0.341260091	
Spot 31	4285.86692	202356.8844	6.786565709	17.72430334	0.620898088	0.042924462	1.143835745	0.006409057	0.965597297	0.83980353	41.18360308	0.394347572	42.67528055	0.478019505	127.3715382	14.61019656	41.18360308	0.394347572	32.3334425
Spot 32	1934.635572	110873.6153	4.789042187	17.35194428	1.189318348	0.042683859	1.482246104	0.006242906	0.884447528	0.596694115	40.11925473	0.35373189	42.44100434	0.616114333	175.6994041	27.76185186	40.11925473	0.35373189	22.83403005
Spot 33	1916.320766	142105.9691	4.961287559	18.22025516	0.86168683	0.039415588	1.899141705	0.006048144	1.692386717	0.891132406	38.87140954	0.655875147	39.25330809	0.731250438	62.66198431	20.51046571	38.87140954	0.655875147	62.03348005
Spot 34	1874.18334	83571.57462	5.056235216	18.17395208	0.561487092	0.040529019	1.218736579	0.006211317	1.081390043	0.887304165	39.91688264	0.430323515	40.3404131	0.482005156	65.60174784	13.37461748	39.91688264	0.430323515	60.84728525
Spot 35	691.568164	38468.81088	6.240174592	18.43203557	1.573308313	0.038554377	3.52870944	0.006015763	3.158445808	0.895071091	38.66391698	1.217524033	38.41166112	1.330119046	22.70099153NA		38.66391698	1.217524033	170.318186