2006-04-17

# The Chipped Stone Tool Industries of Blackman Eddy, Belize

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# THE CHIPPED STONE TOOL INDUSTRIES OF BLACKMAN EDDY, BELIZE

by

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A thesis submitted to the faculty of

Brigham Young University

in partial fulfillment of the requirements for the degree of

Master of Arts

Department of Anthropology

Brigham Young University

February 2006

ABSTRACT

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One of the most significant finds at the site of Blackman Eddy, Belize, is a series of superimposed structures that date between 1200 B.C.-A.D. 600 (calibrated). Because it was continuously occupied for over 1800 years, this site provides a unique opportunity to examine long-term socio-economic changes in the eastern Maya lowlands. This thesis is a diachronic study of the chipped stone tool artifacts of Blackman Eddy using technological, attribute, and use-wear analysis. The data collected for this study were examined to see what types of raw materials were used in tool production, what types of tools were produced, how they were produced, and what they were used for during the Middle Preclassic, Late Preclassic, and Classic periods. Each of the attributes studied in this thesis creates different opportunities and constraints for the various chipped stone tool industries of Blackman Eddy, and changes in chipped stone artifact attributes between the different structures may be indicative of socio-economic change over time.

BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a thesis submitted by

Matthew P. Yacubic

This thesis has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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As chair of the candidate's graduate committee, I have read the dissertation of Matthew P. Yacubic in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials include figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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**Acknowledgements**

I would like to thank everyone who has helped me along in this thesis. Specifically, I would like to thank James Garber and Katherine Brown for giving me the opportunity to do this study. A tremendous amount effort by all of the staff and crew that have worked at Blackman Eddy during the 2000-2003 field could not go unrecognized as well as the contributions made by Ronald Lowe and Fred Nelson from the New World Archaeological Foundation. Their expertise, encouragement, and advice during the survey work and initial analysis of the artifact collection from Blackman Eddy was very gracious and helpful. I would also like to thank the members of my thesis committee for their advice. I would like to specifically thank John Clark for his extreme patience and dedicated help in all aspects of this thesis. Finally, I would like to thank my wife Ana for helping me with the graphics as well as her strong support and encouragement.

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## Preface

The analysis of stone tools arose simultaneously with the development of scientific archaeology during the later part of the nineteenth century (Trigger 1989:81-86). Stone tools have two important characteristics that set them apart from other artifacts. First, they preserve well in the archaeological record. This means that stone tools will be found in archaeological sites from a wide variety of different temporal, social, and geographical settings. With the rise of the New Archaeology during the 1960s, a focus on the processes of culture and cultural development led archaeologists to the second important characteristic of stone tools; stone tools can be used to infer human behavior patterns (Sheets 1972:372). These behaviors reflect the economic activities of individuals within a particular social setting.

Because this thesis examines the connections between society, economics, production, and exchange, it relates to a sub-field of anthropology known as economic anthropology. Economic anthropology is the study of economic institutions and behaviors in anthropological settings using an ethnographic style (Plattner 1989:2). Economic anthropology differs from more traditional economic studies in its high sensitivity to context, the wider setting and local history of the particular group or behavior under study. This holistic approach to studying economic activities provides an important perspective for economic anthropology, a perspective that explains economic activity relative to the social or political restraints of the social system (Polanyi 1954; Sahlins 1972; Earle 2001). This means that all economic activities are subject to pressures of the society to which they pertain. Thus, changes in economic activities are reflections of changes in society and vice versa (Clark 1987:259).

The purpose of my thesis is to look at social change at the site of Blackman Eddy and the economic impacts of social change based on an analysis of the chipped stone artifacts and architectural data. Social change at Blackman Eddy is inferred from shifts in the architectural patterns and function of Structure B1 (Brown 2003). Under this assumption, rises in social complexity are linked to public architecture and the roles that these building played in society (Brown 2003:1). For Blackman Eddy, three important shifts in social relations occurred during the sites occupation based on architectural changes and building function. This model of social change will be tested in this study using the chipped stone tool data collected from Structure B1. The hypothesis of this thesis is that social change at Blackman Eddy (as indicated by changes in the architectural characteristics and functions of the various buildings associated with Str. B1) caused changes in the chipped stone tool industries (as reflected by the changes the chipped stone artifact attributes). The null hypothesis to be tested in this thesis is that social change at Blackman Eddy did not cause significant changes in the chipped stone tool industries of Blackman Eddy.

The first chapter provides an overview of the geography and geology around Blackman Eddy, gives a description of its architecture, and analyzes changes in the labor costs and architectural styles of the various buildings of Str. B1. The second chapter discusses the methods used to analyze the chipped stone tool industries of Blackman Eddy. Chapter 3 looks at the data collected from the artifacts associated with the seven construction episodes of Str. B1. The goal of this chapter is to look for any changes in different attributes analyzed in this study. The fourth chapter looks at the chipped stone tool industries of five sites in Belize: Colha, Cuello, Cerros, Barton Ramie, and Cahal

Pech and compares the data on the chipped stone tool industries of the five site's to the data from Blackman Eddy.

## Chapter 1- Blackman Eddy and its Architectural History

### Geography

The site of Blackman Eddy is located in the eastern Maya lowlands in the modern state of Belize. The Maya lowlands are archaeologically defined "by the limits of elite-oriented cultural traits of Classic Maya civilization—particularly the combination of corbel vaulting, hieroglyphic inscriptions, carved and dated monuments and specific kinds of polychrome pottery" (Hammond and Ashmore 1981:20). Geographically, most of the sites that exhibit these traits are found in the tropics of Central America in an area that extends from 15 to 22 degrees north and 87 and 93 degrees west (Hammond and Ashmore 1981:20). "In modern political terms, the area falls within southeastern Mexico (states of Yucatan, Quintana Roo, Campeche, Chiapas, and Tabasco), Belize, and Guatemala, extending on the east just over the border of Honduras" (Hammond and Ashmore 1981:20).

Hammond describes three geographic zones for Belize: the Eastern Pasion Zone in southern Belize, the Eastern Central Zone in the northwest, and the Belize zone in the northeast (Hammond 1981a:157) (Figure 1). The Belize River Valley is located in the Eastern Central Zone (Figure 2). This environment is described as "one of perennial sluggish rivers flowing in fairly narrow, clear defined valleys with several series of relict alluvial terraces. These valleys are incised into the undulating-to-rolling limestone landscape, which has occasional steep scarps along the rivers resulting from the erosion of asymmetrical synclines" (Hammond 1981a:163). The Belize River Valley itself is geographically defined by the Maya Mountains that boarder it to the south and west. The

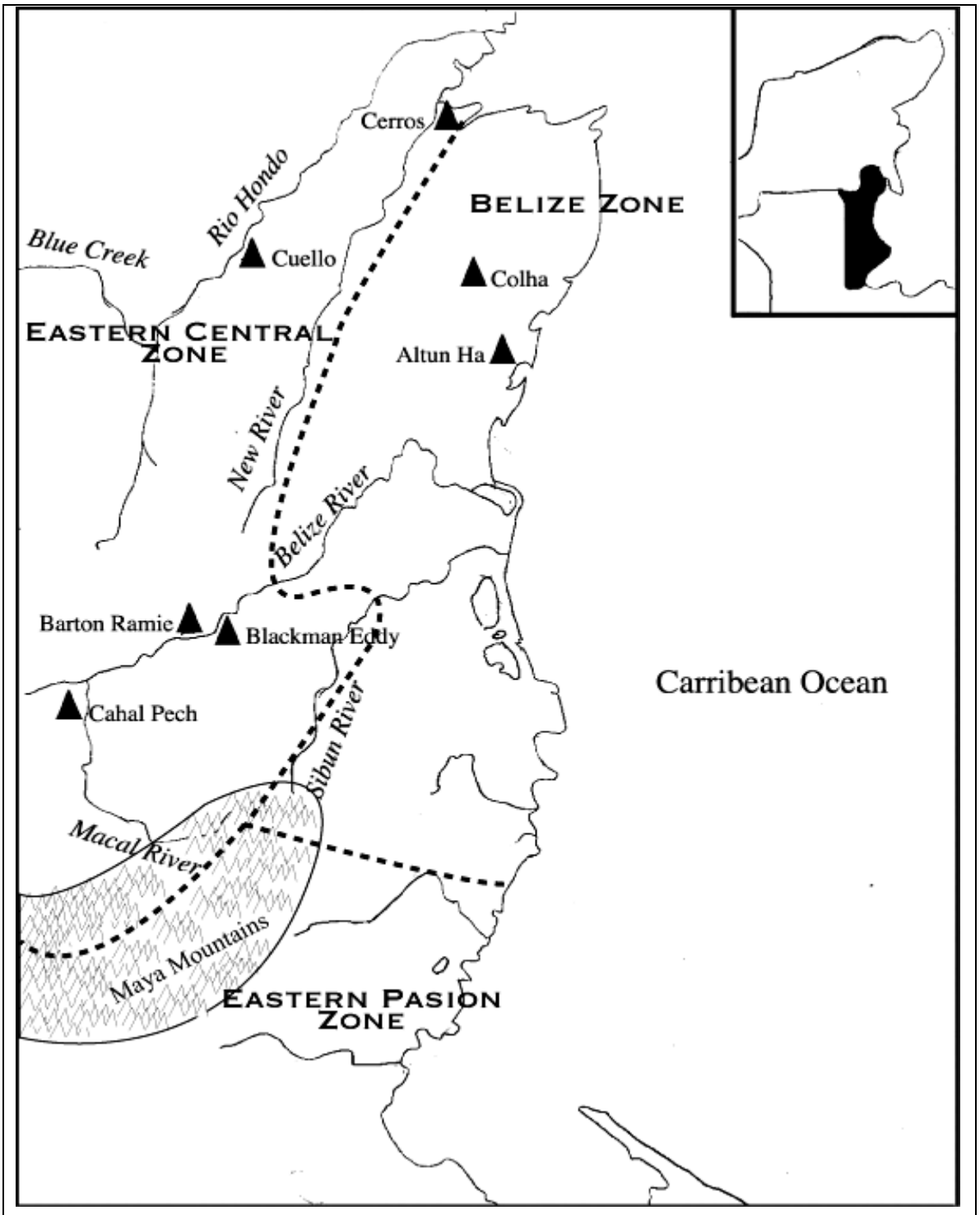


Figure 1. Geographic Zones of Belize

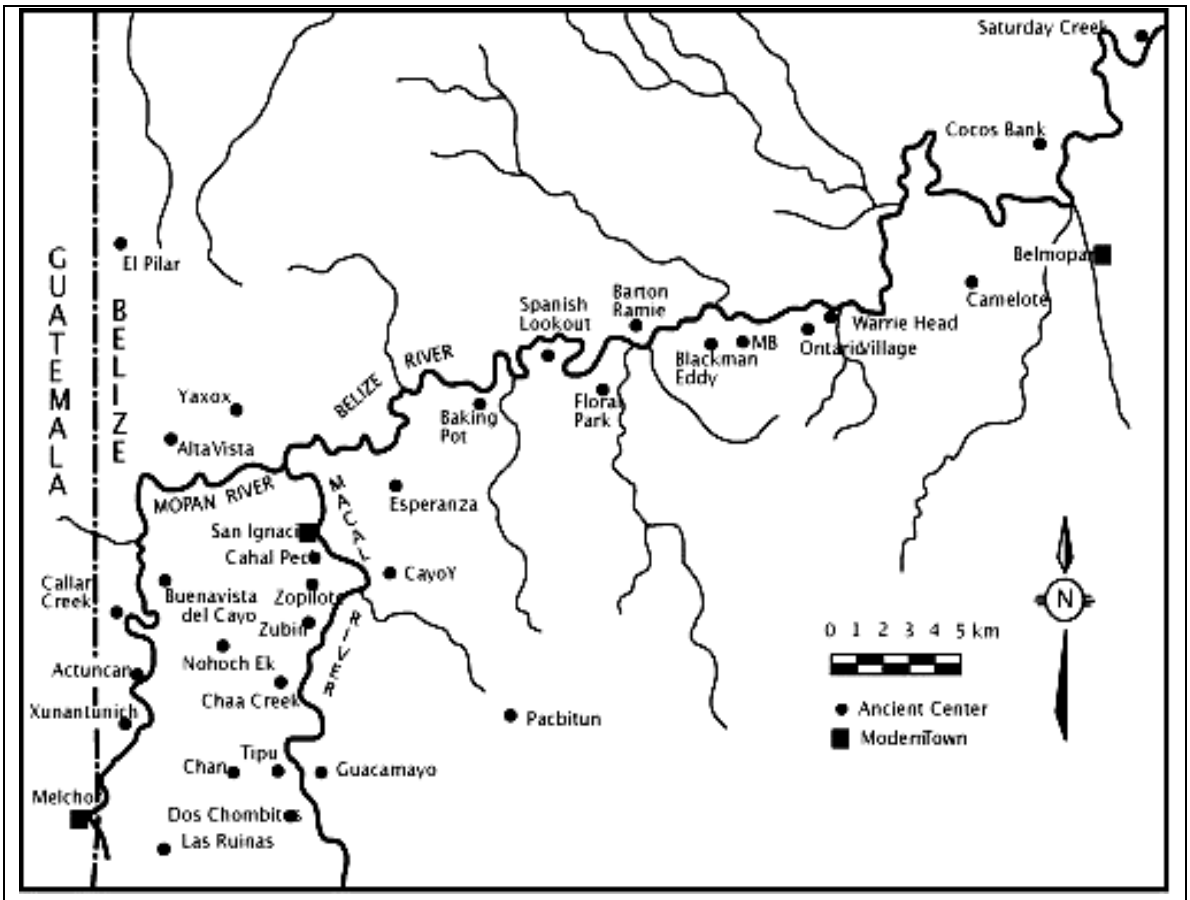


Figure 2. The Belize River Valley, after Brown (2001).

major features of the Belize River Valley are the Belize River and its two tributaries: the Mopan and Macaw Rivers (Figure 2).

**Geology**

The geology of Belize can be divided into two distinct zones. Zone 1 is made of large deposits of Carboniferous period limestone several hundred feet thick (Owner 1928:495). In addition, Zone 1 has significant deposits of chert. Chert is found in significant quantities in chalky marls that overlie limestone deposits in the valley around the town of San Ignacio (Owner 1928:501), and it readily found in river gravels and

outcrops along the terraces in the foothills and upland areas (Ford and Olsen 1989:194). These chert outcrops were extensively used by the prehistoric inhabitants of the Belize River Valley as sources for stone tools. Archaeological work performed under the Belize River Archaeological Settlement Survey (BRASS) found three chert quarries that date to the Classic period in the Belize River valley near the sites of Yaxox, El Pilar, and Alta Vista (Ford and Olsen 1989:189). These surveys also found debris associated with the manufacture of chert chipped stone tools.

Zone 2 consists of the Maya Mountains, which are a series of uplifted Toledo period deposits of granite, quartz, and quartzite (Owner 1928:502). The Belize River Valley is close enough to Zone 2 to have access to significant quantities of these raw materials (Owner 1928:508). Several veins of quartz have also been observed in the Belize River Valley southeast of San Ignacio along the edge of the Little Mountain Pine Ridge (Owner 1928:501). Obsidian is the only raw material type found in the archaeological record of Blackman Eddy that does not naturally occur in the region's environment. This is significant because any obsidian tools found at Blackman Eddy had to be imported from outside of the region. The geologic resources found in Belize had an important impact on the manufacture of chipped stone tools at Blackman Eddy throughout its history because chert, quartz, and quartzite were used extensively in the manufacture of chipped stone tools from the beginning of Blackman Eddy's occupation until its end.

**The Site of Blackman Eddy**

Blackman Eddy is located in the Belize River Valley about 20 km north of San Ignacio. The central core of the site rests at the top of a finger ridge overlooking the Belize River Valley and measures 200 m north-south by 95 m east-west (Hartman et al. 2001:37). Excavations at Blackman Eddy have uncovered an occupational history that lasts over 1800 years (Hartman et al. 1999:4; Table 1). The people of Blackman Eddy constructed a variety of different structures, many of which have multiple building sequences (Figure 3). Two plazas (Plazas A and B) are enclosed by several medium-sized structures to form the site core of Blackman Eddy. Plaza A is the larger of the two and has a quadrangle patio group, range structures, temple pyramids, a ball court, and several carved stelae (Hartman et al. 2002:5). Excavations in Plaza A indicate that all of its structures and features date to the Classic and Postclassic periods.

Plaza B is similar in design to Plaza A, but is older, with the two of the main structures (Structure B1 and Structure B2) dating to the Preclassic period. Structure B1 (Str. B1) is located in the north end of Plaza B and is the oldest and largest structure in the plaza. In recent history, Str. B1 has gone through drastic changes. Str. B1 was heavily damaged and destabilized by illegal bulldozer activity during the 1980s (Hartman et al. 2002:5). Furthermore, continued erosion and slumping after the bulldozer cut destabilized the remaining portions of the structure. This destabilization led the Belizean government to make a decision in 1994 to level Str. B1 as an archeological undertaking. Though the bulldozing activity created significant archaeological loss, it did give rise to a unique opportunity for archaeologists to conduct horizontal excavations on the structure. These excavations revealed that Structure B1 is actually a series of superimposed buildings,

| Calendar Date | Period | Ceramic Sequence | | | Blackman Eddy Buildings | Construction Episode |
|---|---|---|---|---|---|---|
| | | Uaxactun | Barton Ramie/ Cuello | Blackman Eddy | | |
| A.D. 1400 | Late Post Classic | | New Town | | | |
| 1200 | | | | | | |
| 1000 | Early Post Classic | | Spanish Lookout | Tiger Run | Str. B1.1 | |
| 800 | | Tepeu 3 | | | | |
| | Late Classic | Tepeu 2 | Tiger Run | | | |
| 600 | | Tepeu 1 | | | | |
| | Early Classic | Tzacol | Hermatage | Hermatage | Str. B1.2.A | Episode 7 |
| 400 | | | | | | |
| | Late Preclassic | | Floral Park | Mount Hope | Str. B1.2.B | |
| 200 | | Chicanel | Mount Hope | | | |
| 0 | | | | Barton Creek | Str. B1.3.A | Episode 6 |
| B.C 200 | | | Barton Creek | | Str. B1.3.B | |
| | | | | | Str. B1.3.C | |
| 400 | | | | | Str. B1.3.D | |
| | | Mamom | Jenney Creek | Late Facet Jenney Creek | Str. B1.3.E | |
| | | | | | Str. B1.3.F | |
| 600 | | | | | Str. B1.3G | Episode 5 |
| | | | | Early Facet Jenney Creek | Str.B1.4 | |
| | | | | | Str. B1.5 | Episode 4 |
| 800 | Middle Preclassic | | | | Str. B1.6 | |
| | | | Swasey | Kanocha | Str. B1.7 | Episode 3 |
| | | | | | Str. B1.8 | Episode 2 |
| | | | | | Str. B1.9 | |
| 1000 | | | | | Str. B1.10 | |
| | | | | | Str. B1.11 | Episode 1 |
| | | | | | Str. B1.12 | |
| 1200 | | | | | Str. B1.13 | |

Table 1. Ceramic Sequences and Building Dates of Blackman Eddy.

with the earliest buildings dating to the early part of the Middle Preclassic period (Hartman et al. 2002:6).

In my analysis, I grouped artifacts from these buildings into seven construction episodes to provide me with a larger sample of chipped stone tools for analysis. The division of buildings into the seven construction episodes was based on common temporal dates and architectural characteristics. While it was possible to organize chipped stone artifacts into the three phases (Domestic, Public/Integrative, and Monumental Phases), this action did not significantly increase the number of obsidian, quartz, or quartzite artifacts beyond the division into seven construction episodes. However, this division was useful for comparing the chipped stone data from Blackman Eddy with the chipped stone data from other sites in the eastern lowlands (Chapter 4). The criteria used to classify structures into construction episodes were similarities in pottery from fill and deposits, architectural forms, and radiocarbon dates where available (Table 2). The seven construction episodes created for this study include all of the Preclassic and Classic period structures found during the excavations of Structure B1. The final construction episode, which dates to the Late Classic period, is not considered in this study. The seven construction episodes of Str. B1 are presented next, from earliest to latest.

| Location | Phase | Beta # | Radio-carbon age BP | Radio-carbon age BC | Calibrated 1 sigma B.C | Calibrated 2 Sigma B.C. |
|---|---|---|---|---|---|---|
| BR-F3 | Kanocha | 122281 | 2990+/-60 | 1040+/-60 | 1295-1120 | 1395-1015 |
| BR-F5b | Kanocha | 162573 | 2800+/-40 | 850+/-40 | 1000-900 | 1030-840 |
| BR-F5a | Kanocha | 122282 | 2750+/-40 | 800+/-40 | 920-830 | 990-820 |
| Bedrock | Kanocha | 122282 | 2730+/-50 | 780+/-50 | 910-820 | 980-805 |
| BR-F2 | Early Jenney Creek | 162571 | 2420+/-40 | 470+/-40 | 740-710 and 530-410 | 760-620 and 590-400 |
| B4-F1 | Early Jenney Creek | 162570 | 2460+/-40 | 510+/-40 | 760-620 and 560-420 | 780-410 |
| BR-F4 | Early Jenney Creek | 159144 | 2450+/-40 | 500+/-40 | 760-640 and 560-420 | 780-400 |
| B1-7th | Early Jenney Creek | 162572 | 2340+/-60 | 390+/-60 | 410-380 | 740-710, 530-360, and 290-230 |
| B1-6th | Early Jenney Creek | 159146 | 2430+/-40 | 480+/-40 | 750-700 and 540-410 | 770-400 |
| B1-5th | Early Jenney Creek | 122279 | 2500+/-50 | 550+/-50 | 780-515 | 795-410 |
| B1-5th | Early Jenney Creek | 103956 | 2440+/-60 | 490+/-60 | 760-635 and 560-405 | 785-390 |
| B1-4th | Early Jenney Creek | 103959 | 2480+/-50 | 530+/-50 | 775-485 and 465-425 | 790-405 |
| B1-3rd | Late Jenney Creek | 159141 | 2290+/-40 | 340+/-40 | 390-370 | 400-350 and 300-220 |
| B1-3rd | Late Jenney Creek | 159145 | 2240+/-40 | 290+/-40 | 380-350 and 310-210 | 390-190 |
| B1-3rd | Late Jenney Creek | 159147 | 2190+/-40 | 240+/-40 | 360-280 nad 240-190 | 380-160 |

Table 2. Radiocarbon Dates From Blackman Eddy, After Brown 2003

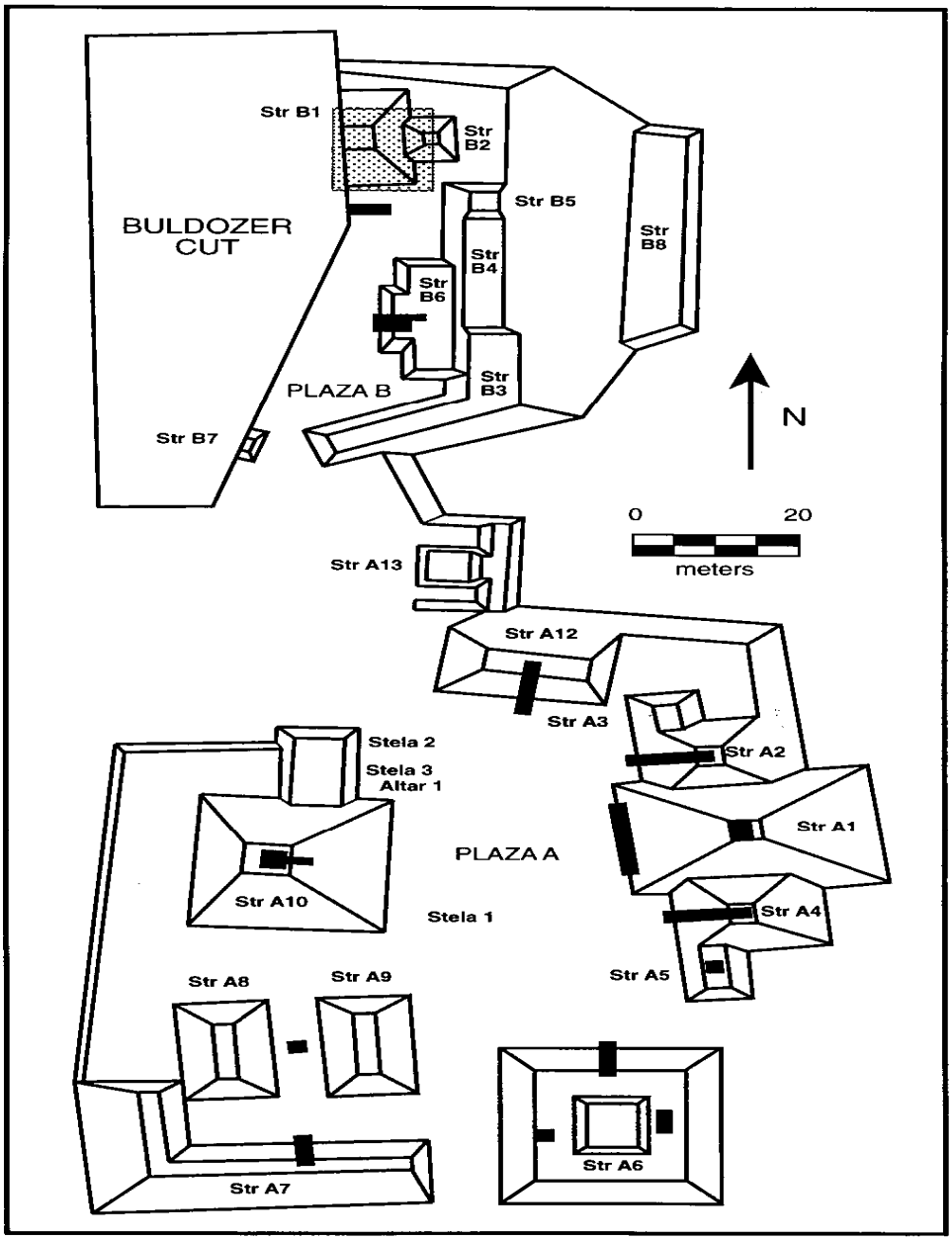


Figure 3. Plan View of Blackman Eddy, after Hartman et al. (2001).

**Construction Episode 1**

The first construction episode for Str. B1 (Episode 1) consists of Str. B1.13, Str. B1.12, Str. B1.11, and Str. B1.10 (Figure 4). These structures date to the Middle Preclassic period. Carbon from wood charcoal on the bedrock floor had a radiocarbon date of 1295-1120 cal B.C. (All radiocarbon dates presented here are calibrated). Radiocarbon samples taken from two pieces of wood charcoal found in Str B1.10 date between 1295-1120 and 910-820 B.C. respectively. What remains of these structures are a series of postholes cut directly into the bedrock floor (Garber et al. 2002:44). These postholes indicate that the buildings were likely round pole-and-thatch structures. All of the postholes from Str. B1.12 and Str. B1.11 have not been exposed and the exact diameters of these buildings are not known, but enough of Str. B1.10 has been exposed for its diameter to be calculated at 6.2 m. The ten postholes associated with Str. B1.10 had an average diameter of 13.3 cm (Garber et al. 2002:44). Unfortunately, the posthole patterns for Str. B1.13, Str. B1.12, Str. B1.11, and Str. B1.10 overlap on the same bedrock floor, so it is difficult to determine which of the three buildings is the oldest.

Ceramics from this first construction episode have been identified as Kanocha complex ceramics from Blackman Eddy. There are two wares present in this complex, one utilitarian ware with calcite and quartzite temper and a second, dull-slipped ware of ash temper (Garber et al. 2002:49). Common ceramic forms of the Kanocha complex include strap-handled and lug-handled jars, flat-bottom plates with out-curving sides and wide everted rims, tecomates, and colanders. Decoration techniques include appliqué and post-slip incising. The dominate ware shows close similarity to the unslipped Jocote types of Jenney Creek and appear to be its precursor (Garber et al. 2002:49).

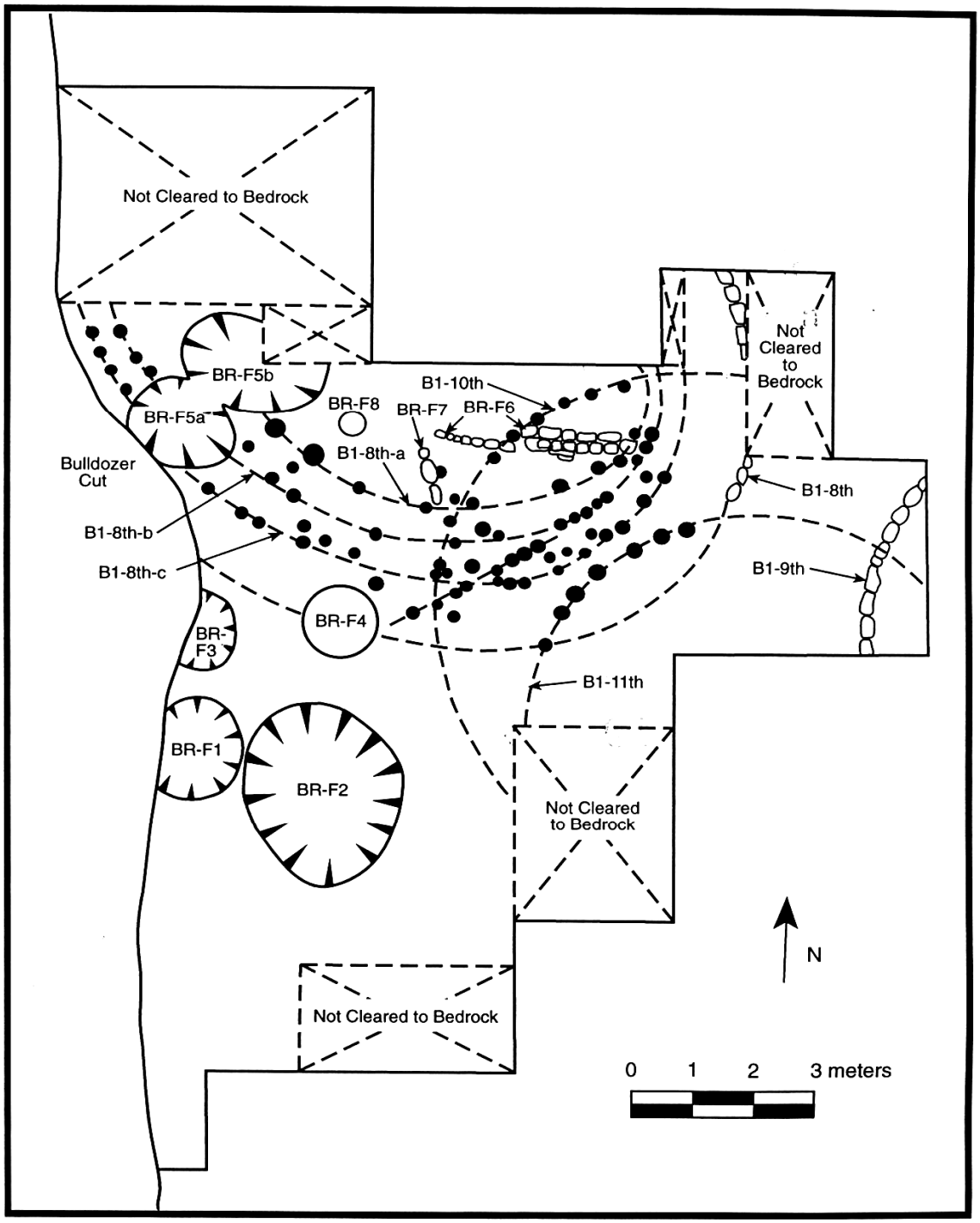


Figure 4. Plan view of bedrock features and structures at Blackman Eddy, After Hartman et al. (2002).

**Construction Episode 2**

The second construction episode (Episode 2) for Str. B1 consists of Str. B1.9 and B1.8. Both structures date to the early part of Middle Preclassic period (1200-850 B.C.). Both are elevated apsidal platforms between 6-8 m in diameter with heights of 45 cm. Both platforms have posthole patterns indicating that a pole structure was presence on top of the platforms. Also, both structures in Construction Episode 2 appear to have increased labor costs associated with their construction. Both platforms were built of tamped earth surrounded by rough limestone blocks (Garber 2002:45). This is an increase in labor cost when compared to the previous construction episode.

Associated with construction episode 2 is a two-chambered chultun designated as Bedrock Feature 5A (BR-F5A) and Bedrock Feature 5B (BR-F5B). Each chamber measures approximately 1.5 m north-south, 2.5 m east west and 1.5 m deep. A charcoal sample from BR-F5A dates to 920-830 B.C., and a charcoal sample from BR-F5B dates between 1000-900 B.C. Ceramics found in BR-F5A and BR-F5B collaborate the radiocarbon dates. The ceramics from both chultuns were identified as Kanocha variety ceramics.

**Construction Episode 3**

The third construction episode of Str. B.1 consists of Str. B1.7 and B1.6. These two structures also date to the Middle Preclassic period (850-650 B.C.). Ceramics from this construction episode were identified as Cunil and Early Facet Jenney Creek ceramics similar to ceramics from Barton Ramie (Brown and Garber 2000:10). Both Str. B1.7 and Str. B1.6 are single-tiered, rectangular platforms. These two structures mark a shift in

construction style at Blackman Eddy from circular, posthole structures to elevated, rectangular structures framed with limestone blocks. Str. B1.7 is the earliest known limestone block building at Blackman Eddy, and it was also the first structure that had a limestone plaster coating on its exterior. The building measures 7.1 m north-south by 7.7 m east-west and is about 25 cm high (Brown and Garber 2000:9). The blocks used for the construction of B1.7 were trimmed with rounded edges, approximately 28 x 15 x 6 cm in size (Garber et al. 2002:45).

Str. B1.6 is the second structure of construction episode 3. Radiocarbon samples from Str. B1.6 date to 750-510 B.C. Like Str. B1.7, ceramic sherds found within Str. B1.6 were similar to Cunil and Early Facet Jenney Creek ceramics from Barton Ramie (Brown and Garber 2000:11). Str. B1.6 could be a continuation of the construction patterns first seen for Str. B1.7. This structure is a small rectangular platform that has the same basal dimensions as Str. B1.7, but has a height of 50 cm above the plaza floor (Hartman et al. 2002:9). Many of the trimmed limestone blocks are the same size and shape as those used in the construction of B1.7 and were likely removed from Str. B1.7 for the construction of B1.6 (Hartman et al. 2002:9). Also like Str. B1.7, the exterior of Str. B1.6 was coated with plaster.

**Construction Episode 4**

The fourth construction episode of Str. B1 at Blackman Eddy consists of Str. B1.5 (Figure 5). This building dates to the Middle Preclassic period (850-650 B.C.). Charcoal samples recovered from within the structure had radiocarbon dates of 780-515 B.C., 760-635 B.C., and 560-405 B.C. Ceramic sherds recovered from Str. B1.5 parallel ceramics

from the Early Facet Jenney Creek complex (Garber et al. 1997a:10). While Str. B1.5 may have similar radiocarbon dates as Str. B1.4, it marks a shift in architectural design when compared to its predecessor.

Str. B1.5 was two-tiered structure flanked to the east by a smaller two-tiered platform (Hartman et al. 2002:7). A western structure is presumed to have been destroyed by the bulldozer activity. The central structure was a four-stepped platform with an outset, central staircase (Garber et al. 2002:54). The exact dimensions of the central building cannot be determined because of bulldozer damage but it does have a height of 1.7 m. The upper tier was intact and measured 5.85 m north-south by 7.15 m east-west (Garber et al. 2002:54). The central structure of B1.5 had a trimmed limestone block exterior and dry-laid rubble interior. The limestone blocks were approximately 28 x 15 x 5 cm in size (Garber et al. 2002:54). Ceramics and radiocarbon dates from Str. B1.4 suggest that the building had a transitional date between the early and late Middle Preclassic periods (Brown et al. 1998:46).

The eastern building of Str. B1.5 also dates to the Middle Preclassic period based on radiocarbon and ceramic analysis (Brown et al. 1998:47). The eastern structure of B1.5 measured 7.1 m north-south by 8.63 m east-west at the base and had a height of 0.68 m. As with the central structure, the eastern structure was constructed of limestone blocks covered with a limestone plaster coating (Hartman et al. 2002:9). The alleyway created between the central and eastern platform of Structure B1.5 was the location of extensive deposits of artifact that date between the Middle and Late Preclassic periods (800- 650 B.C.).

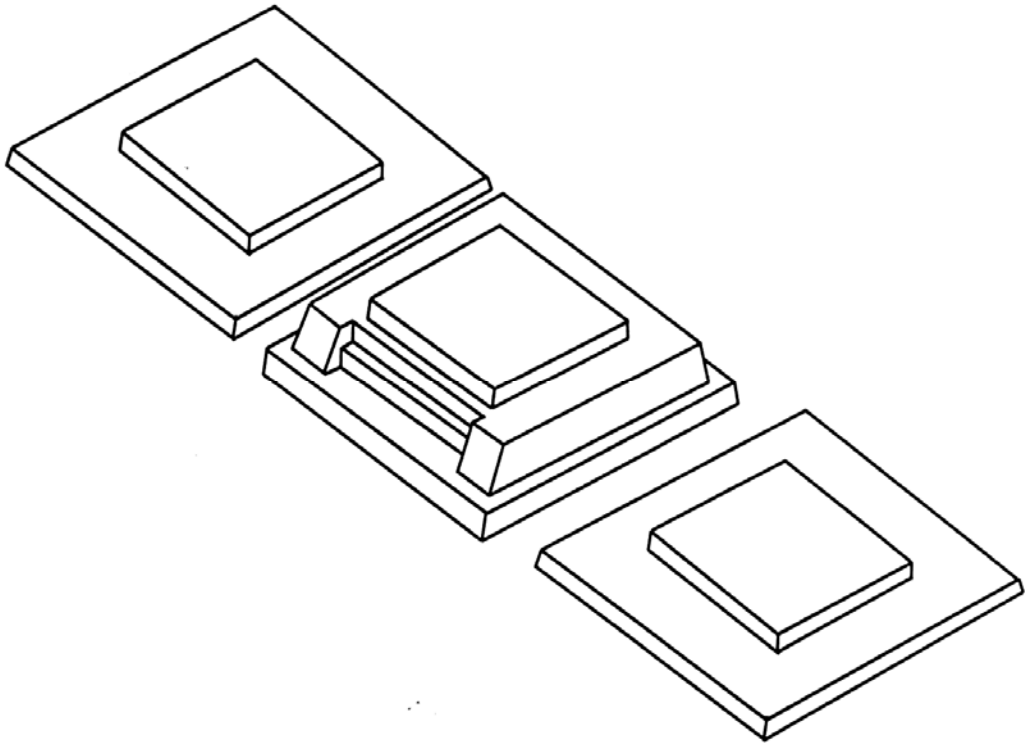

Figure 5. Isometric view of Structure B1.5, after Hartman et al. (2001).

**Construction Episode 5**

The fifth construction period of Str. B1 consists of Str. B1.4 and dates to the Middle Preclassic period (850-650 B.C). Two radiocarbon samples from Str. B1.4 dated between 775-485 B.C. and 465-425 B.C. Ceramics found within Str.B1.4 were similar to the early Kanuluk Phase ceramics from Cahal Pech and the Early Facet Jenney Creek ceramics from Barton Ramie (Garber et al. 2002:59). Also found within Str. B1.4 were ceramics similar to the Jocote Brown Orange and Mars Orange of Barton Ramie (Garber

et al. 2002:59). Str. B1.4 is a single-tiered platform (Figure 6). The base of Str. B1.4 measured 9.75 m north-south by 16.4 m east west, and it was 1.96 m high (Garber et al. 2002:54.).

Str. B1.4 initially began as an expansion of Str B1.5, but subsequent additions to Str. B1.4, including two new architectural features, gave it a unique look. For the first time at Blackman Eddy, stucco masks were used as architectural decoration on Str. B1.4. All that remained of these masks at the time of excavation were their nose armatures (Garber and Reilly. 1998:6). Another architectural feature used for the first time on Str. B1.4 was an inset, central staircase. This three-stepped staircase was located on the southern side of Str B1.4. Each of the steps each measured between 30-40 cm high (Garber et al. 1992:10). The summit of Str. B1.4 supported a perishable structure. Four post holes were found cut into the summit of B1.4. These post holes were conical in cross-section and had a mean diameter of 30.75 cm (Garber et al. 1996:14). However, the actual dimensions of the perishable top structure of Str. B1.4 are not known.

**Construction Episode 6**

The sixth construction episode for Str. B1 consists of Str. B1.3 and dates to the Late Preclassic period. Radiocarbon samples were taken from the building date to 390-370 B.C., 380-350 B.C., 310-210 B.C., 360-280 B.C., and 240-190 B.C. Ceramics found in this structure were similar to Mamom sphere ceramics from the Maya lowlands (Garber et al. 2002:44). The most common group of Mamom ceramics at Blackman Eddy are the Savannah and Jocote group with several Juventud, Chichuanta, and Patal groups represented as well (Garber et al. 2002:44).

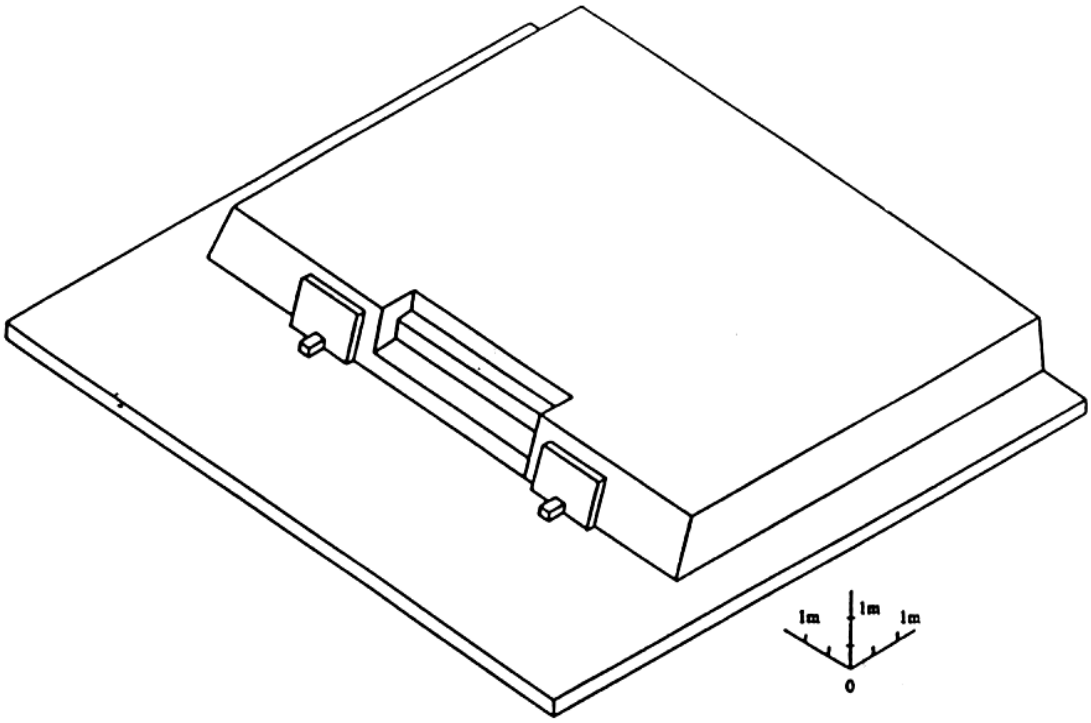


Figure 6. Isometric view of Structure B1.4, after Hartman et al. (2002).

Str. B1.3 is a three-tiered structure with a small upper summit platform (Figure 7). Str. B1.3 measures 13.5 meter north-south by 9.0 m east-west and is 1.5 m high above the associated plaza floor (Hartman et al. 2002:26). Structure B1.3 was built of trimmed limestone blocks covered with limestone plaster. The blocks used in construction of Str. B1.3 were extremely large, averaging 80 x 40 x 30 cm in size (Hartman et al. 2002:26). Str. B1.3 did have several inset staircases, but no stucco masks were found. Associated with Str B1.3 is a smaller structure to the east designated Str. B2. This structure is a two-tired structure 1.5 m in height (Hartman et al. 2002:26). The increase in the size of trimmed limestone blocks used in building construction indicate that the labor costs

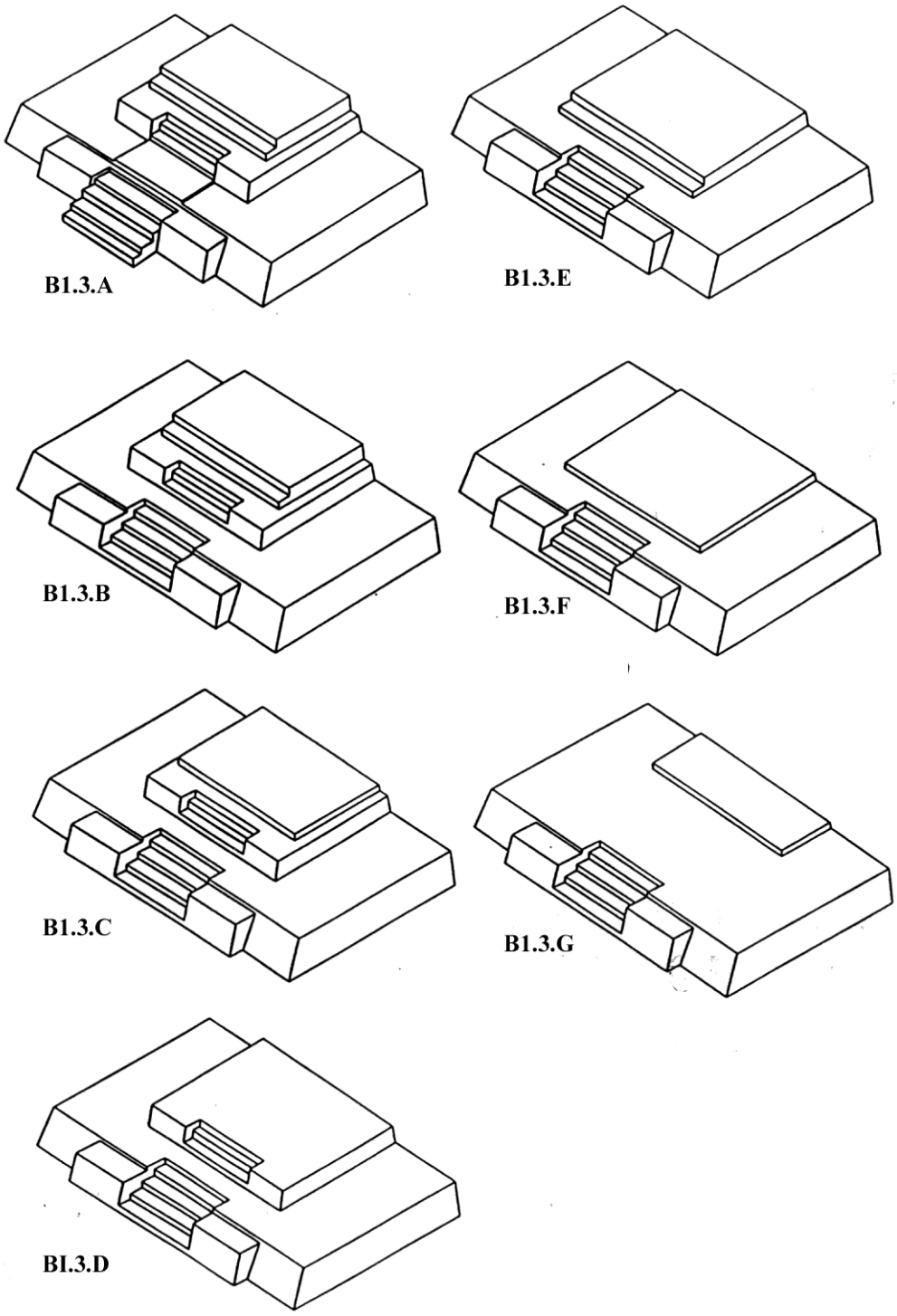


Figure 7. Isometric view of the construction episodes of Structure B1.3, after Hartman et al. 2001.

associated with the building increased when compared to the previous construction episode. During its lifetime, Str B1.3 experienced a high level of construction activity, with seven sub-phases of construction, more than any other buildings.

**Construction Episode 7**

The final construction episode consists of Str. B1.2 (Figure 8). Structure B1.2 is a two-tiered, pyramid structure dating between the Late Preclassic and Classic periods (Garber et al. 1993:7). Ceramics from the construction fill for Structure B1.2 are similar to ceramics from the Spanish Lookout phase of Barton Ramie (Garber et al. 1992:9). Other sherds recovered from Structure B1.2 date between the Late Preclassic and Early Classic period and include two partial vessels, a partial bowl, partial necked jar, partial plate and two partial mamiform tripods (Garber et al. 1995:9).

Structure B1.2 extends the front (south) side of Structure B1.3 in a series of three or four deep terraces, and it has an overall height of 3.32 m. During its lifetime, Structure B1.2 had three sub-phases of construction, designated B1.2A B1.2B and B1.2C (Garber et al. 1995:7). The first sub-phase of construction was designated Str. B1.2C. Most of Str. B1.2C was removed in antiquity to build Str. B1.2B, so its actual dimensions are not known. Str. B1.2B was a two-tiered structure measuring 1.55 m. in height (Hartman and Pagliaro 2000:27). The lower tier of Structure B1.2B measures 10.1 m. north-south by 12.2 m. east west. The upper tier of B1.2B measured 3.7 m. north-south by 2.4 m. east-west. The entire structure was constructed of trimmed limestone blocks 25 x 13x 2 cm in size (Hartman and Pagliaro 2000:27). The construction fill used for Structure B1.2B was

large rubble fill and gray-brown soil matrix, and it was covered by a yellowish-white plaster.

Structure B1.2B was also adorned with stucco masks (Garber et al. 1997c:8). The masks retained no distinguishable iconographic features, but they did retain traces of red pigment used in the painting of the stucco masks (Garber et al. 1996:10). One of the upper masks had sufficient detail remaining on the plaster façade to show several Classic period elements on it. The upper panel contained partially preserved circular elements interpreted as ear-flares. In profile, the lower panel showed an outwardly flaring bowl with three large dots within the bowl representing the three-stoned place of creation (Garber et al. 1993:9). Also constructed at this time were eight steps central staircase set 1.9 m. from the base of the central staircase.

Str. B1.2A represents the final construction sub-phase for Structure B1.2. This building was mostly an expansion of Str. B1.2B., increasing the width of the lower tier of building about a half meter using the same limestone masonry from the previous construction sub-episode. Many of the additions made during the B1.2B sub-episode carry over into this phase. Additions, such as a central staircase, lower and upper terrace masks, and panels, were also found on Str. B1.2A. Though the exact dimensions of Structure B1.2A are not known because of the bulldozer cut, the basal tier dimensions have been estimated to be about 13.1 m. north-south by 12.6 m. east-west. The summit of B1.2A had a yellow plaster surface 17 cm. thick which was underlain by a dry rubble fill.

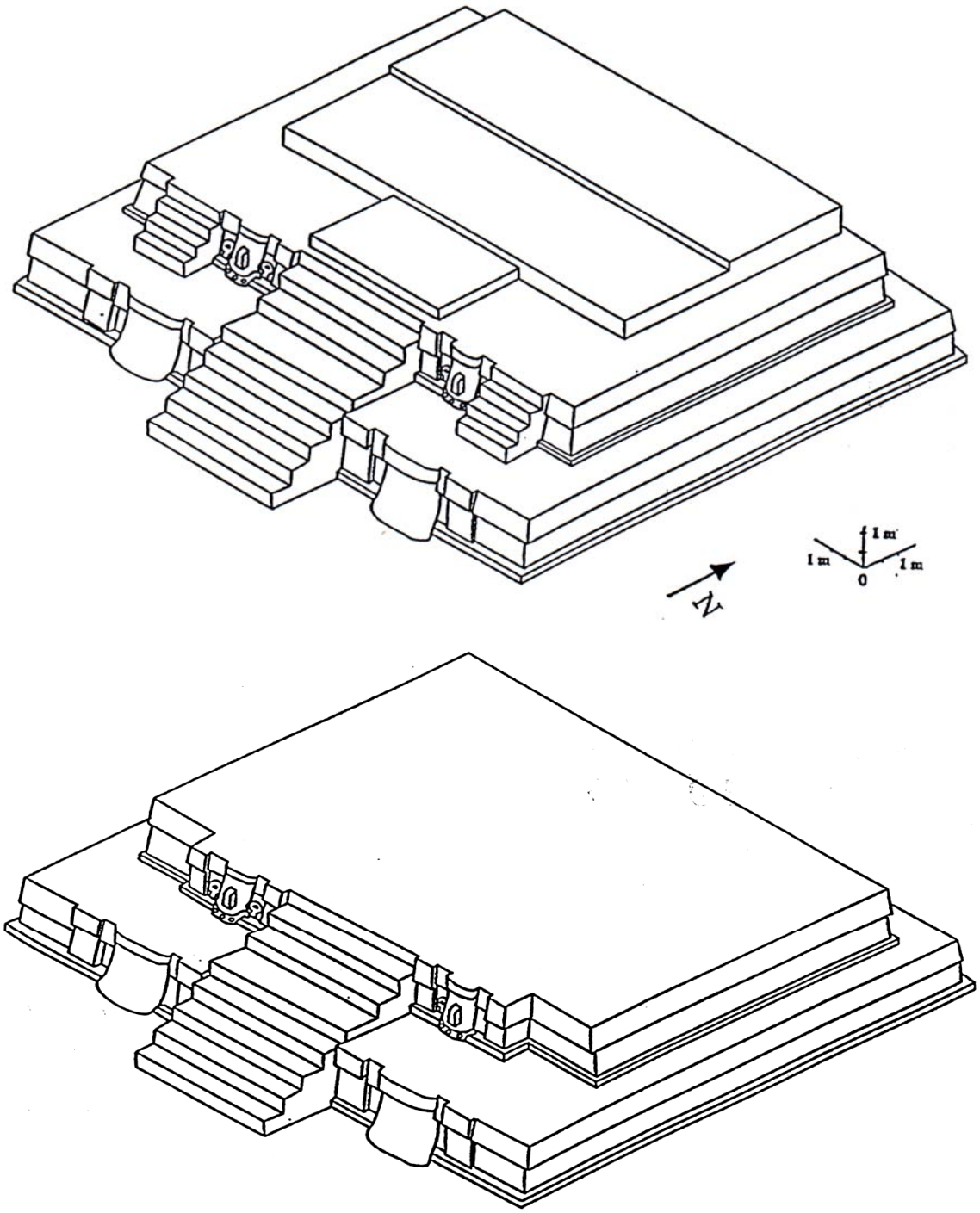


Figure 8. Isometric view of Structures B1.2A (top) and B1.2B (Bottom), after Brown et al. (2000).

**Discussion**

Because of its long architectural sequence, Str. B1 at Blackman Eddy can provide archaeological evidence for social change over time. In her analysis of the emergence of complex society at Blackman Eddy, Brown divides the architecture of Str. B1 into three phases: the Domestic architecture phase, the Public/Integrative phase, and the Monumental structural phase (Brown 2003). The division of the different buildings into these three phases was based on architectural style, architectural elaboration, and associated ritual deposits (Brown 2003:151).

The first architectural phase Str. B1 consists of Str B1.13 through B1.8. As the name implies, the buildings from this phase were domestic in nature because they share many characteristics in their form and function with common lowland Maya houses. First, the buildings from this phase were pole structures circular/apsidal shape. Second, these buildings were not very large, averaging between 6-8 m in diameter. Finally, significant amounts of daub found in and around these structures indicate that they were likely thatched with mud, waddle, and vine.

The artifacts and features found associated with this first phase also reflect the domestic nature of these buildings. First, a large number of domestic items, including mano and metate fragments, bone implements, and ceramic spindle whorls were found associated with Phase 1 (Brown 2003:100). Another class of domestic artifacts found in significant numbers in this early phase were ceramic figurines (Brown 2003:101). Figurines have been documented in domestic ritual setting across all of Mesoamerica in both archaeological and ethnographic studies, and it is likely that their presence in these early structures indicates their function. Second, a fire hearth and several midden

deposits, all domestic in nature, were found cut into the bedrock next to these early buildings (Brown 2003:100).

The next phase in the architectural history of Str. B1 is the Public/Integrative phase and consists of Str B1.7, B1.6, B1.5, and B1.4 (Brown 2003). These building of these platforms represent a considerable increase in labor investment and construction costs compared to the previous phase (Brown 2003:114). First, the buildings from phase 2 were built with a dry-laid rubble core sustained by an outer shell of trimmed limestone blocks. Second, a plaster coating was applied to the exterior as well. The application of a plaster coat to the exterior of these structures is a particular important construction cost because of the time and materials (particularly fuel) needed to heat and crush limestone to make plaster.

The change in form of the structures during Phase 2 indicates that the function of Str. B1 changed. During the public integrative phase, rectangular platforms replaced the circular pole-and-thatch structures of Phase 1. The buildings from this phase represent the first clear evidence for either public community buildings or elite residences at Blackman Eddy (Brown 2003:114). Also, the change from an enclosed to more open building form during this phase represents an increased emphasis on communal ritual activity (Brown 2003:114). These patterns are accentuated even further with the construction of Str. B1.5 and B1.4 during the latter part of this period.

Several deposits also indicate that there was a shift in building function from domestic to public rituals. First, a ritual deposit was found south of Strs. B1.6 and B1.7. This feature, designated BR-F2, was a basin-shaped depression cut into bedrock. This feature was lined by 15,000 riverine shell placed in layers, with small jute shells at the

base, riverine shells placed above, and large jute and pamancea placed on top (Brown 2003:116). The intentional placing of different layers of shell suggests that this feature was the receptacle for an elaborate ritual deposit (Brown 2003:116). This pattern of depositional caching was quite different from those associated in the first period, and the increased elaboration may indicate a change to a more public function for Str. B1. Second, possible evidence of a feasting event was located "west of the platforms in the form of a deposit that consisted of smashed vessels, numerous riverine bivalve and jute shells, faunal remains, and lithic flakes that extend over a wide area" (Brown 2003:116). This deposit was interpreted as the remains of an early feasting event at Blackman Eddy.

Feasting rituals have been associated with the emergence of rank societies in Mesoamerica (Clark and Blake 1991). In this model, aggrandizers within the community compete with each other for prestige in the form of recognized support by a coalition or faction. This competition is motivated by the personal ambition of individuals in the community.

Aggrandizement is primarily a political process based on the principle of reciprocity (Clark and Blake 1994:21). Reciprocal exchange is the process of gift giving between individuals. However, personal generosity creates a patron-client relationship between the giver and receiver that creates social obligations for the client on behalf of the patron (Mauss 1967). Through the sponsoring of feasting rituals, usually involving rare or exotic foods, aggrandizers create social obligations with community members. Aggrandizers may then call upon ritual participants for economic, political, or social support. Successful aggrandizers maintain a positive balance of obligations with their supporters through the regular bestowal of gifts and favors to their coalition that, over

time, may lead to the institution of social inequalities (Clark and Blake 1994:21). At Blackman Eddy, feasting rituals may have been used by aggrandizers in the local community as a way to sponsor the building of public buildings, such as the rectangular platforms from Str. B1. If feasting rituals were used at Blackman Eddy as a means for aggrandizers to gain political support, the process may have led to institutionalized social inequalities, like those found in a chiefdom, after a few generations. Feasting rituals may have been the means by which labor power was acquired for the subsequent additions to Str. B1.

With the construction of Str B1.5, single platform structures were replaced by multi-tiered structures. Again, this change increased the size of the structure its associated construction cost (Brown 2003:121). A final important architectural form that first appeared during this phase was the use of stucco masks facades as decoration. This form was found only in the last building of the phase (Str. B1.4). Stucco masks have been reported in detail for Late Preclassic buildings at El Mirador, Uaxactun, and Cerros, and this type of architectural is the representation of the centralization of religious and political power together in an architectural presentation of the symbol system of kingship (Freidel and Schele 1988). The presence of stucco masks at Blackman Eddy at the end of this phase "does not suggest that the institution of kingship was present at this early date, but rather that the ideological concepts which would have allowed the transition to and acceptance of the institution of kingship were in the early stages of development" (Brown 2003:138). In any case, the inferred increases in construction costs, shift in building function, change in building form, and introduction of the institution of kingship at the end of phase 2 implies that elite power significantly increased during this period.

The monumental structural phase is the third and final architectural phase. The buildings associated with this period are Str. B1.3, Str. B1.2, and Str. B1.1. During this period, building patterns shifted from the construction of rectangular platform structures to large pyramids (Brown 2003:139). This change in form from open platforms to restricted pyramids indicates that building function changed from open communal rituals to restricted rituals, most likely performed by select members of the community (Brown 2003:153). Not only did these buildings restrict ritual participation, the height of these pyramids elevated the individual(s) involved in ritual activities literally and figuratively above all observes. In addition to the pyramid form itself, the use of stucco masks with lowland motifs, continued to place in public view the symbols of kingship (Brown 2003:153). Also during this phase, there was a shift from ritual deposits associated with public events to single vessel caching. This was an important change because it signals a change in ritual behavior from communal caching to a more restrictive form of caching behavior (Brown 2003:140). For example, only a single Jouventud vessel was placed in plaza surface associated with Str. B1.3D or B1.3E; it was the only ritual deposit found associated with these buildings. All of these patterns were used to legitimize and centralize social power into the hands of fewer individuals than in the last period, indicating a highly stratified social system existed at this time at Blackman Eddy.

The third architectural period was marked by both increasing labor and material costs associated with building construction (Brown 2003:138). First, the size of the limestone blocks used in building construction increased in size during this period (Brown 2003:141). Second, the number of decorative elements on the buildings from this period (stucco masks, inset staircases, outset platforms) increased. Finally, building

intensity increased during this period based on the number of construction sub-phases. Str. B1.3 and B1.2 had eight sub-phases of construction between them, more than any other architectural period. Like the architectural motifs, the trends in construction costs also indicate a potential increase in social stratification during the Monumental structural period.

However, it is very difficult to quantify many of these increases in labor costs associated with stucco masks, trimmed limestone blocks, and inset staircases. While these additions did increase the labor costs associated with the construction of buildings, a more quantifiable way to examine increasing labor is to estimate the overall increase in building volume for each of the building within Str. B1. The assumption here is that increases in building volume correlate to greater control over labor power by an elite class. As elite power grows, they are able to build larger, more elaborate buildings. Unfortunately, the exact volume for each of buildings in the seven construction episodes is not known due to poor preservation, lack of total exposure from some construction episodes, and the intentional destruction of some structures in antiquity. However, I believe that enough data are available to gauge the general trend in building intensity over time. To calculate the volume of the buildings from the Construction Episodes 1 and 2, I used the formula for the volume of a cylinder (Height x $R^2$ ) because of their round shape. The building volume for Construction Episodes 3 and 4 was calculated using the formula for the volume of a rectangle (Length x Width x Height). For Construction Episodes 5, 6, and 7, the geometric formula for a pyramid was used to determine building volume (Length x Width x Height) / 3. Because each structure was built on top of another structure, I subtracted the volume of the previous structure to find the overall volume for

| Structure | Length | Width | Height | Volume | Adjusted Volume |
|---|---|---|---|---|---|
| B1.11 | 6.2m | 6.2m | 0.01m | 0.95$m^3$ | 0.94$m^3$ |
| B1.10 | 6.2m | 6.2m | 0.01m | 0.95$m^3$ | 0.94$m^3$ |
| B1.8 | 7.5m | 7.5m | 0.1m | 5.63$m^3$ | 4.68$m^3$ |
| B1.7 | 6.16m | 6.16m | 0.27m | 10.25$m^3$ | 4.62$m^3$ |
| B1.6 | 6.16m | 6.16m | 0.5m | 18.97$m^3$ | 8.73$m^3$ |
| B1.5 | 7.1m | 7.1m | 0.68m | 34.28$m^3$ | 15.31$m^3$ |
| B1.4 | 9.75m | 9.75m | 1.5m | 47.53$m^3$ | 13.25$m^3$ |
| B1.3G | 11m | 11m | 1.5m | 60.50$m^3$ | 12.97$m^3$ |
| B1.3A | 11m | 11m | 3.4m | 137.13$m^3$ | 27.17$m^3$ |
| B1.2B | 17m | 17m | 3.32m | 319.83$m^3$ | 182.69$m^3$ |
| B1.2A | 17m | 17m | 3.92m | 377.63$m^3$ | 57.80$m^3$ |

Table 3. Building Volume and Adjusted Volume for Str. B1

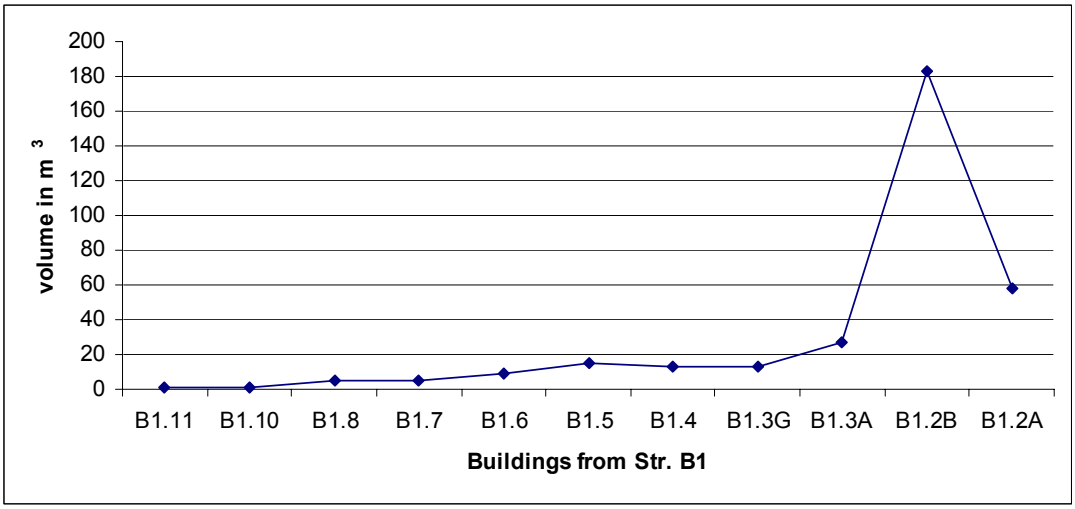


Figure 9. Estimated Volume of buildings from Structure B1.

each addition (Table 1). The calculated volume per structure indicates that Str. B1 increased slowly over time until the final construction episode (Figure 9). The reason for this variability in building volume over time may be due to the fact that several of the buildings (Str. B1.6, B1.4, and B3.A) were only slight modifications to their predecessors. Elite power appears to have grown very slowly over time based on the overall increase in building volume over time, and the elite may not have had strong social control over the general population during the Middle Preclassic period.

A dramatic increase in building volume occurred during the Classic period with the construction of Str. B1.2B, indicating that a comparatively tremendous amount of labor power went into the construction of this structure. The drop in building volume with the initial construction of Str. B1.2A may be due to the fact that this building was mostly an addition to Str. B1.2B. The dramatic increase in labor activity associated with the buildings from this last phase indicates that the elite class at Blackman Eddy could organize labor power in a manner previously unknown at there, clearly indicating a move to a more stratified social organization at the site. This may have occurred as Blackman Eddy was integrated in integrated into a large regional polity like a paramount chiefdom or early state.

Regional polities constitute the world of law and legal force that guarantees order among sedentary communities organized hierarchically (Johnson and Earle 2000:247). These societies are quite large in size and have a political organization more complex that a simple chiefdom, though the actual scale and internal integration of regional polities can be variable. With the integration of communities into regional polities, access to economic resources and political power becomes more restricted (Freid 1960). This consolidation of economic and political power into a larger socio-political system may create new exchange

opportunities for the elite class as access to goods from even larger areas than could be accessed by a simple chiefdom alone.

Based on the architectural data from Str. B1, there were two important social changes that occurred at Blackman Eddy during its history (Brown 2003). The first major social change occurred during the third construction episode in the Middle Preclassic period when Blackman Eddy transitioned to an emergent chiefdom. The second change occurred during the seventh construction episode in the early part of the Classic period. At this time Blackman Eddy was likely integrated into a larger, more stratified chiefdom or state. If there were significant changes in the social structure of Blackman Eddy during these two periods, then there should be a simultaneous change in the exchange, production, and/or function of the chipped stone artifacts from Str. B1 of Blackman Eddy during these periods of social change as well. In the next chapter, I will describe the methods I used to try study the chipped stone tools of Blackman Eddy.

## Chapter 2- Methods and Procedures for the Study of the Chipped Stone Tool Industries of Blackman Eddy

### Introduction

In this chapter, I discuss the objectives, assumptions, and methods used to analyze the chipped stone artifacts from Blackman Eddy. While chipped stone tools are not the only type of only stone tool found at Blackman Eddy, this category was used exclusively in this study because it provided me with the greatest analytical yield based on my knowledge level and the time restraints I had for conducting research in the field. Another reason why I chose to analyze chipped stone tools was because they are a significant stone tool category used in many other archaeological studies in this region, and this provided me with a significant amount of literature and data to use for comparative analysis.

The main objective of my thesis is to look at the various chipped stone tool industries of Blackman Eddy for changes that correspond in time to the social changes inferred from the architectural changes of Str. B1 (Chapter 1). To accomplish this, I needed to identify variation in artifacts from the various construction episodes and correlate that variation to social change. This required me to develop methods to both organize the artifacts in temporal sequences and study them in a systematic way to infer social change. First, I will discuss the methods I used to organize the chipped stone tools temporally.

**Organizational Assumptions and Methods**

Because the different buildings of Str. B1 were constructed on top of one another, the entire structure represents a well-preserved stratigraphic sequence which can be divided and analyzed in discrete temporal units. In the previous chapter, I discussed the criteria I used to organize the various buildings of Str. B1 into seven construction episodes. Each construction episode represents a single temporal sequence, and the artifacts from each construction episode represent materials from that period. If these assumptions are true, then any changes in the attributes of chipped stone artifacts between construction episodes can be interpreted as change over time in the chipped stone industries of Blackman Eddy.

The chipped stone artifacts of Blackman Eddy come from two different collections (small finds and general collections). As a result, a different method was adopted for selecting artifacts from each collection. The chipped stone tools in the small finds collection consists of all obsidian artifacts, quartz artifacts, and formal tool types (bifaces, drills, blades, burins, and adzes) made from obsidian, quartz, quartzite, or chert recovered from excavations in Str. B1. All chipped stone tools from the "small finds" collection present in the collection at the time of this study were analyzed, classified, and recorded on to a spreadsheet along with the corresponding lot and operation number from which the artifact came. Artifacts from the general collection were recorded in a similar manner according to lot and operation.

The chipped stone artifacts from the general collection consist of all chert, quartz, and quartzite artifacts not identified as a formal tool type recovered from excavations in Str. B1. This includes a large number of various types of chert artifacts. Because the

number of artifacts in the general lithic collection was too large to examine for this study, samples of artifacts from deposits associated with the seven construction episodes were collected as representative of the entire collection. Before selecting bags of artifacts to analyze, I examined the excavation records from Blackman Eddy and organized the various operation and lots numbers according to construction episode. This provided me with a "temporal" view of the artifacts.

Next, I eliminated operations from my selection that had contained mixed artifacts across construction episodes. Because one of the assumptions of this thesis is that artifacts from each building represented materials from that period, I tried to avoid using artifacts from operations that had overlapping construction episodes. My original goal was to get ten "pure" samples of chipped stone artifacts from each construction episode. This would provide me with a balanced sample of artifacts from each construction episode. However, some buildings did not have ten pure lots to sample from. Furthermore, each bag contained a variable number of individual chipped stone artifacts. Because of these two problems, the number of sampled artifacts from some construction episodes was much greater than others. In order to compare the various attributes of artifacts across the different construction episodes, the attribute numbers were divided by the total number of sampled artifacts sampled from each episode. This created a weighted average for comparison that was not biased by the sample size from each construction episode (see the index for a complete list of raw numbers and weighted averages for each attribute). Next, I will discuss the assumptions and procedures I used in my analysis of the sampled artifacts from the seven construction episodes of Str. B1 of Blackman Eddy.

**Analytical Assumptions and Procedures**

As stated earlier, the main goal of this thesis is to search for change over time in the chipped stone tool industries of Blackman Eddy. The four chipped stone tool industries at Blackman Eddy are the chert flake, obsidian flake, chert biface, and obsidian prismatic blade industries. An industry is "a manufacturing or productive enterprise focusing on raw material and involving certain common means of processing that material" (Sheets 1975:372). Quartzite was not considered as an industry in this study because most of the quartzite artifacts were classified as flakes from hammerstones and quartzite was not commonly processed into other tools. Using Sheet's definition, two important analytical elements are the raw materials used in tool production and the manufacturing techniques used in each chipped stone tool industry. The third important element is tool function. To study each of these elements and how they may have changed over time, this study looked at the attributes associated with raw material exchange, chipped stone tool production, and tool use (function) of chipped stone artifacts from Str. B1. The examination of each of these three elements required their own set of assumptions, procedures, and units of analysis.

**Raw Material Exchange**

At Blackman Eddy, change in the either the attributes or quantity of raw materials from one construction episode to another may be an indication of social change over time. Before I could study change in the exchange patterns of chipped stone tools at Blackman Eddy, I needed a method that could archaeologically identify the regional exchange. The

presence of certain types of raw materials in regions where they do not occur naturally is a good indication of regional exchange. Therefore, to study change in raw material types, I first needed to be able to identify the regional variations in raw materials. To accomplish this task, simple surveys were conducted in several of the different geographic regions in Belize.

**Regional Survey of Raw Material Types**

During the 2003 Belize Valley Archaeological Project (BVAP) field season, several surveys were conducted in the Belize River Valley and the Belize Zone near the site of Colha by John Clark, Fred Nelson, Ronald Lowe, and me to understand the type, variety, and quality of resources available for tool production. Obsidian does not occur naturally in Belize, and no raw obsidian nodules were found during theses surveys. Clearly, all obsidian artifacts found at Blackman Eddy were brought into the site through regional exchange. Because quartz and quartzite are readily found in and around Blackman Eddy, it is assumed that all quartz and quartzite artifacts from the different construction episodes were locally procured.

Chert is ubiquitous across most of Belize, but the type and variety of chert between geographic zones have been variable enough to infer patterns of regional exchange (Hester 1985; McAnany 2001; McSwain 1991). Based on this information, we collected 40 chert nodules from several road cuts, riverbeds, and streams near El Pilar, Blackman Eddy, and Colha. During the latter part of the field season, two chert nodules from each of the five locations were selected and split in half or had a platform preparation flake removed to examine the characteristics of the raw material.

Our overall conclusion from this simple survey and subsequent study of raw materials was that the chert collected from each of the five different regions all had very similar raw material characteristics, and we could not distinguish the provenience of chert based on its color, texture, or cortex. This conclusion was surprising, but considering that most of Belize is a continuous shelf of chert-bearing limestone of similar geologic age, it should not have been unexpected. The similarities in raw material characteristics from the five regions make it nearly impossible to reconstruct networks of exchange of raw chert without the aid of trace element analysis.

Two important differences in the samples examined from the 2003 surveys were the much lower frequency of inclusions and higher frequency of chert with patination in samples from Colha. After the completion of the regional survey and an initial analysis of chipped stone artifacts, the raw material attributes I used to identify regional exchange patterns at Blackman Eddy were selected. These attributes were: raw material type, color, and translucence, and patination. Though the analysis of regional samples from the different geographic zones indicated that color and translucence may not have much predictive potential for determining regional exchange, I decided to test these attributes using data collected from the artifacts of Str. B1 to see if any trends might emerge.

**Raw Material Type**

The raw material types found at Blackman Eddy were obsidian, quartz, quartzite, and chert. Obsidian is an igneous rock which forms into a natural glass through the quick cooling of magma (Whittaker 1994:67). Obsidian is an easily recognizable type of raw material because of its physical properties, and all obsidian artifacts were identified

visually in this study. Obsidian has a highly vitreous look that is extremely translucent. This vitreous look and translucent nature of obsidian are similar to colored glass, making obsidian very distinct in its appearance when compared to the other raw material types. Black is the most common color for obsidian, but it has been found in other colors. In Mesoamerica, green and black are two very common obsidian colors. Obsidian is also extremely brittle and can be easily shaped (Whittaker 1994:67).

Quartz is another igneous rock commonly used in tools manufacturing and it comes in two forms: large, free standing six-sided crystals (macro-crystalline) and a micro-crystalline form (Andrefsky 2000:54). Quartz can have a glass-like luster that is often translucent or white in color, but impurities in the quartz can cause it to have different colors (Andrefsky 2000:28). For this study, Quartz artifacts were identified visually based on the physical characteristics outlined above. The quartz in this study was much lighter in color than obsidian, more translucent than chert, and did not have visible crystals like quartzite.

Quartzite is metamorphosed quartz, and it is formed from sandstone that has been subjected to an extreme process of heat and pressure. Through the metamorphic process, different-sized grains of sand and quartz interlock, giving quartzite the ability to break across individual grains (Andrefsky 2000:54). Visually and tactilely identified, quartzite differs from quartz by its large grain size, which is visible to the naked eye, and for its sandpaper-like texture. Quartzite is extremely hard, making a good percussion instrument to be used in the production of chipped stone tools.

Chert is a chemical precipitate sedimentary rock. The exact process by which chert is produced is disputed, but it involves the replacement of calcium carbonate

deposits in limestone with silica (Whittaker 1994:70). Chert is highly homogeneous in composition, though impurities are not uncommon. Most chert crystals are crypto-crystalline and can only be seen with the aid of a microscope (Andrefsky 2000:54). Like all of the other raw material types considered in this study, chert was visually identified. The dull and waxy luster of chert was another characteristic that I used to identify chert artifacts. Chert was the most colorful of the raw material types in this study, and it was found in a wide variety of different colors

**Color**

The second raw material attribute coded in this study was color. This attribute was selected to aid in the identification of different proveniences of raw materials. The assumption of this attribute is that raw materials of different colors come from different sources and proveniences. The color categories used in this study were: caramel, chocolate, tan, tan-white, white, gray, gray-white, black, green, and red. Caramel is a milky-tan color similar to the candy. Chocolate was a dark brown color similar to a Hershey bar in appearance. Tan-colored artifacts had a brown color lighter than caramel in appearance but closer to white on the color spectrum. Gray, black, green, and red artifacts appear like the colors used to describe them. The different color categories of the artifacts were also compared to soil colors in the 2000 Munsell's Soil Chart to give specific identifications to each of the nine color categories previously described. Artifacts that were not easily classified into one of these categories were compared to the Munsell colors to find which color was the best fit for the artifact, and artifacts with banding were

classified into a color category based on the two colors present in the banding. Banded artifacts came in two varieties: gray-white and tan-white.

**Translucence**

Translucence describes the ability of a lithic artifact to allow light to pass through it. Translucence was a presence or absence attribute, with an artifact classified as either translucent or opaque. All artifacts were held up to a 60 Watt bulb or natural light, and if light could be seen through the lithic artifact, it was considered to be translucent. The purpose for examining this attribute was also to aid in determining the provenience of raw materials used for tool production. Translucence in chert artifacts may be a good indicator of chert provenience, based on the assumption that artifacts from different sources will not have the same translucence.

**Patination**

Patination was a presence or absence category for chert artifacts, and they were classified as having or not having patination based on the visual identification of patina. Patina forms on the freshly fractured chipped-stone surface. Patination is a chemical weathering process that can be attributed to several factors: the pH of the soils, solutions in which the chert occurs, temperature, and moisture (Hester 1988:32). Over time, increased exposure of chert to these different factors increases the amount of patination of the surface. Another factor that affects the patination is the physical property of chert itself. Due to differences in the physical and chemical structures of chert, some types of chert will weather faster. Therefore, the amount of patina on chert artifacts at Blackman

Eddy would indicate the use of different chert proveniences and may be used to infer regional chert exchange.

**Production Analysis**

Production analysis examines the manufacturing techniques and processes used to create chipped stone tools. These processes and techniques represent past behavior patterns that cannot be observed in the archaeological record but can be inferred using ethnographic analogies with present behaviors (Binford 1967). One method that uses ethnographic analogy to infer past behaviors associated with the production of chipped stone tools is replication studies. The basic assumption of a replication study is that "the various products removed from a stone core display differing characteristics which vary according to the technique and fabricator used, the size and shape of the original core and the products removed previously. If these variables remain constant, then the same kinds of artifacts will be produced in the same order in the reduction sequence and in roughly the same relative frequency" (Clark 1988:12). By comparing the tools and by-products created in replication studies to artifacts from the various construction episodes of Blackman Eddy, inferences can be made about how artifacts were made and how these processes may have changed over time.

**Reference Collection**

A reference collection, "consists of replicas of stone tools organized and standardized in a systematic fashion" (Statham 1985:230). Reference collections help analysts understand how stone tools were made and used in the past. An important

assumption for using a reference collection is that similar production inputs create similar production outputs. If chipped stone tools from reference collections have similar attributes (bulb of force, platform characteristics, and the size and shape of product) as ancient artifacts, then they may have been produced in a similar manner using similar techniques. The reference collection used for comparative analysis with the artifacts from Str B1 was created from two chert nodules collected during the 2002 surveys.

The manufacturing technique used to make tools and by-products for the reference collection was direct percussion using several quartzite and metamorphic hammer-stones. First, the outer cortex was removed from the nodules to create a core. From this core, blades of various sizes and lengths were created until the core could no longer be reduced. Tools and waste by-products were collected and labeled according to type and order in the manufacturing process. All tools and by-products selected for the reference collection can be found with the artifact collections of Blackman Eddy in San Ignacio, Belize. This reference collection was essential in identifying technological types for each chipped stone tool industry.

**Technological Types**

The first production attribute used in this study was technological type. A technological typology is a classification system that organizes artifacts according to how and when they were made in the manufacturing sequence, and it is based on findings from stone tool replication experiments (Sheets 1975:372). The technological types in this study come primarily from the work of Don Crabtree and John Clark, and they are presented as part of the tool industry they belong to (Crabtree 1972; Clark 1988; Clark

and Bryant 1997). These technological types are: flakes, flake fragments, fortuitous blades, chunks, cores, prismatic blades, proximal prismatic blades, medial prismatic blades, distal prismatic blades, polyhedral cores, bifaces, and bifacial thinning flakes. Many of the technological types, such as flakes, flake fragments and chunks, cross-cut the four different chipped stone tool industries. Unique technological types, such as prismatic blades, polyhedral cores, and bifacial thinning flakes, are found only in their perspective tool industries. Next, I will discuss the four chipped stone tool industries and their associated technological types and manufacturing processes.

**Chert Biface Industry**

The manufacture of a chert biface begins with a large chert flake referred to as a biface blank or macro-flake. This blank is reduced through direct and indirect percussion on both the dorsal and ventral sides until it has developed the shape desired. Usually, the shape of a biface at this stage of production is oval in transverse cross-section (Crabtree 1972:37). Once the initial shape of the biface is created, it is shaped and thinned further by removing a series of bifacial thinning flakes through both direct and indirect percussion. The first set of thinning flakes is often produced by percussion until the biface can only be shaped and thinned further through pressure flaking. The main by-products produced from the chert biface industry are bifacial thinning flakes. The bifacial thinning flakes retain the same shape throughout the reproduction process, but the size of flakes change as the biface is reduced. The technological types associated with the chert biface industry are: bifaces, bifacial thinning flakes, flakes, and macro-flakes.


Figure 10. Chert Bifaces from Str. B1.

**Bifaces** are formal tools that have been worked on two faces (Crabtree 1972:38) (Figure 10). On a biface, flakes removed from both faces until there is an edge along the entire circumference of the tool. Bifaces have an oval shape in plan view and are convex in cross-section.

**Bifacial thinning flakes** are flakes removed in the process of shaping and thinning of a biface or uniface. Bifacial thinning flakes have an acutely-angled platform, a shape that expands out toward the distal end (Whittaker 1994:185). Bifacial thinning flakes are very thin and are slightly curved in cross-section (Whittaker 1994:187).

**Macro-flakes** are "large flakes removed in performing a macro-core, as well as large flakes removed in conjunction with macro-blade manufacture" (Clark 1988:16).

Macro-flakes generally have the same characteristics as flakes, but they are much larger in their size and thickness.

**Chert and Obsidian Flake Industries**

Though the raw materials are different in the chert flake and obsidian flake industries, the production process to create flake tools is the same. Most flake industries in Mesoamerica were simple and unspecialized (Clark 1988:15). Simple flake tools are variable in size and shape but, for the most part, only a clean, sharp edge appears to have been required for these tools. The production of these tools did not follow a set procedure but were created as needed by individuals with little knapping experience (Clark 1988:16). The manufacture of flake tools is a two- or three-step reductive process (Clark 1988:15). The process begins with the selection of a chert nodule. Next, a platform is created by either splitting the nodule in half or by removing a platform preparation flake through direct percussion. This is usually done at the quarry or site or procurement. After the platform is created, direct percussion is used to remove flakes by striking the core with a percussor (Clark 1988:12). There are several artifact types produced in the simple flake industry. These artifacts types are: flakes, chunks, flake fragments, and fortuitous blades, cores, and exhausted cores.

A **flake** is "any mass of stone removed from a larger mass by the application of force—either intentional, accidentally, or by nature" (Crabtree 1972:64). Flakes are diagnostically characterized by having a platform and bulb of force at in their proximal end. The flake may be of any size or dimension, but these characteristics are dependent on how and when it was removed from the core (Figure 11).


Figure 11. Dorsal (a) and Ventral (b) view of Chert Flakes from Str. B1

**Flake Fragments** are similar in shape as flakes, but they lack the diagnostic platform and bulb of percussion at the proximal end (Clark 1988:16) (Figure 12).

**Chunks** are the angular, blocky fragments of a core sometimes referred to as shatter or thick flakes (Clark 1988:16) (Figure 13).

**Cores** are masses of "material often preformed by the worker to the desired shape to allow the removal of a definite type of flake or blade and contain negative flake


Figure 12. Dorsal (a) and Ventral (b) View of Flake Fragments.


Figure 13. Dorsal (a) and Ventral (b) View of Chunks from Str. B1.


Figure 14. Chert Cores From Str. B1.

scarring from the removal flakes" (Crabtree 1972:54) (Figure 14). When no further flakes can be removed, it is classified as an **exhausted core**. Sometimes an exhausted core is further reduced through bipolar percussion (direct percussion with an anvil) in which case the core is classified as a **bipolar core** (Clark 1988:18).

**Blades** are "a specialized flake with parallel or sub-parallel lateral edges" (Crabtree 1972:42). The length of the blade is longer than its width, usually at least twice as long as wide. A blade is plano-convex, triangulate, trapezoidal, or rectangular in cross-section. Blades are not produced randomly (Crabtree 1972:42).

**Fortuitous blades** are flakes that appear to be "random accidents of expedient knapping" rather than a purposeful tool, but they have the same general characteristic of a blade; they are twice as long as they are wide (Clark 1988:51).

**Obsidian Prismatic Blade Industry**

Unlike the chert flake industry, the production of prismatic blades requires a high-level of technical knowledge and experience to produce because this process involves several different steps and manufacturing techniques (Clark and Bryant 1997:115). The initial stages of production for prismatic blades are similar to those for the simple chert industry. The products removed in this stage are primarily **obsidian flakes, flake fragments**, and **fortuitous obsidian blades**. First, direct percussion is used to remove a platform preparation flake from the nodule. After the initial removal of the platform preparation flake, the core is referred to as a core perform (Clark and Bryant 1997:115). Once the platform is created, flakes and chunks are removed perpendicular to the platform.

To distinguish production sequences, two types of macro-cores are defined by Clark and Bryant in their core reduction sequence, macro-core I and macro-core II. Macro-cores I are formed by removing very large flakes, usually at the quarry site, and macro-core II are a later stage that correspond to the removal of macro-flakes (Clark and Bryant 1997:114). The objective in this stage is not only to remove flakes for tools but to shape the core for the removal of blades while preserving as much of the raw material as possible for blade production (Clark 1988:12). Once the core is properly shaped into a polyhedral core pressure flaking is used to remove blades. Pressure flaking pushes obsidian blades from the platform of a polyhedral core through the use of a flaking device (Clark 1982). The goal in this stage of production is to produce long obsidian blades which are triangular or trapezoidal in transverse cross section. As each blade is pressed


Figure 15. Dorsal (a) and Ventral (b) View of Obsidian Proximal Blade Fragments.

off, the core is rotated and a new set of blades are pressed off the core until no further blades can be pressed off and the core is exhausted (Clark and Bryant 1997:114).

**Prismatic blades** are "long, narrow specialized flakes with parallel sides generally triangulate or trapezoidal in cross-section and bearing two or three prism facets on the dorsal side" (Crabtree 1972:86). Blade fragments are classified as **proximal** (Figure 15)**, medial** (Figure 16)**,** or **distal blade segments** (Figure 17) according to what portion of the blade is found (Clark 1988:15). There are three main categories of blades produced from pressure flaking: **first, second, and final series blades** (Clark and Bryant


Figure 16. Dorsal (a) and Ventral (b) View of Medial Blade Segments.

1997:114). These blades are classified according to when they are removed from the polyhedral core. **First series blades** are short and wide blades that can be identified by the percussion scars that remain on their dorsal face but show pressure scars and bulbar characteristics on their ventral side (Clark and Bryant 1997:114).

**Second series blades** are longer and thinner than first series blades and have the same characteristics for percussion flaking on their ventral face, but the percussion scarring on the dorsal face is limited to the distal end of the blade (Clark and Bryant 1997).

**Final series blades** are long thin blades that do not contain any percussion scarring on their dorsal face (Clark and Bryant 1997:114). All prismatic blades examined from the collections of Blackman Eddy were classified as final series blades.

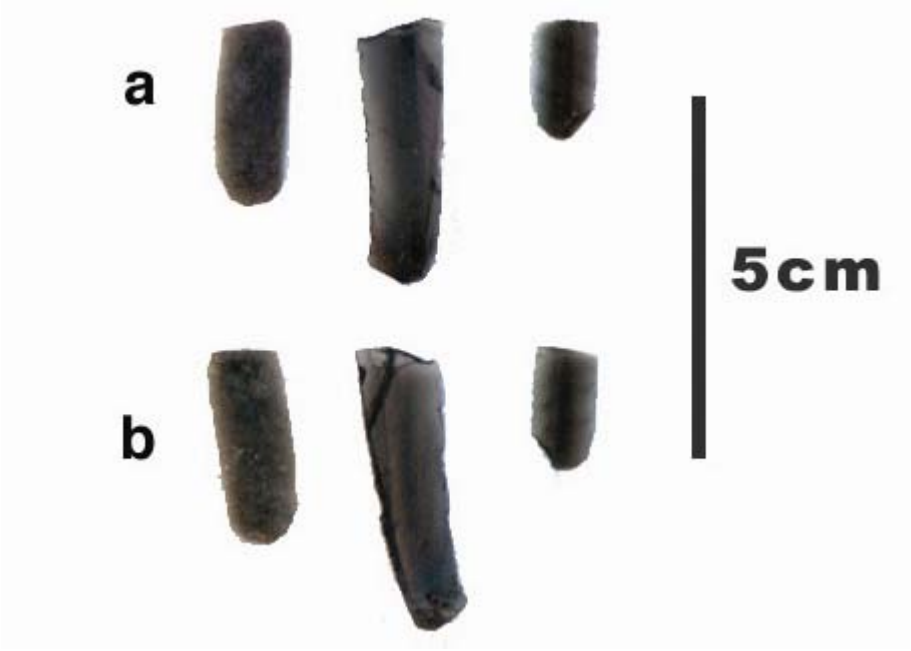


Figure 17. Dorsal (a) and Ventral (b) View of Distal Blade Segments.

A **Polyhedral core** is a core bearing multiple blade scars, cylindrical in cross-section (Crabtree 1972:84). Polyhedral cores are made for the manufacture of prismatic blades. **Exhausted polyhedral cores** are expended cores that can no longer produce blades through pressure flaking.

**Cortex**

Another production attribute examined in this study was the amount of cortex present on chipped stone artifacts. Cortex was a presence or absence attribute identified in artifacts having 50 percent or more of their dorsal side covered with cortex. This attribute was selected to help infer w the production of chipped stone tools from the different industries took place locally. If a high number of chipped stone artifacts have

cortex, then this indicates that nodules were brought into the site to be shaped into tools. If tools from the different industries have no cortex present on them, then it is possible that they were not produced locally at Blackman Eddy.

**Size and Weight**

Another production attribute used in this study was artifact size. This attributed can be used to help infer the size of cores and nodules used to produce tools in the various construction episodes. Because chipped stone tool manufacturing is a reductive process, the presence of large artifacts in significant quantities within a collection suggests that large-sized core were used to produce chipped stone tools. Though small flakes can be produced from large cores and nodules, the presence of only smaller-sized artifacts suggests that smaller cores and nodules were used to produce chipped stone artifacts at Blackman Eddy

All artifacts from Blackman Eddy were sorted into size categories by comparing them measuring their longest dimension along a line. Based on this method, all of the lithic artifacts sampled in this study were classified into one of four size categories: 1, 2, 3 and 4. All artifacts that had a maximum length or dimension equal to or less than 3 cm on their longest edge were classified as Size 1. All Size 2 chipped stone artifacts had a length or dimension between 3 and 6 cm. Size 3 chipped stone artifacts were those with a length between 6 and 9 cm in size. Size 4 artifacts were those that had a maximum length or dimension equal to or greater than 9 cm. By using this method to examine artifact size, I was able to sort and size a large number of artifacts in a relatively short period of time.

The final production attribute of this study was artifact weight. All artifacts sampled in this study were weighed on a digital scale. Unfortunately, some of the smaller sized artifacts weighed less than 0.1 grams and the scale could not detect their weight. As a result, artifacts that weighed less than 0.1 grams were assigned a weight of 0.05 grams. The weight of artifacts, like their size, can be used to infer the size of the core from which they were removed. The main assumption is that artifacts with higher weight were removed from cores with a larger mass.

**Functional Analysis**

The function of a chipped stone artifact refers to how it was used. Artifact function can be a very complicated, depending on the individual life-history of the artifact. Artifacts can be used and re-used in a variety of different ways, but these activities leave wear patterns on artifacts through frequent use. Use-wear analysis is a method employed to obtain an objective assessment of prehistoric stone tool use (Sheets 1975:370). Use-wear studies look at the function of tools to determine how tools may have been utilized. To understand tool use for the various chipped stone tool industries of Blackman Eddy, I examined artifacts for use-wear patterns along their edges.

In use-wear studies, replicated artifacts are used in a variety of activities. These activities cause micro-chipping wear patterns to develop on the tool's active edge. The wear patterns left on the replicated tools from known experimental tasks can then be compared to scar patterns found on prehistoric artifacts. The assumption in these studies is that similar micro-chipping patterns result from similar usages. At the suggestion of John Clark, several replicated tools were used to cut, drill, scrape and engrave wood and

slate. First, eight flakes were selected from the reference collection (two for each type of activity) and were then used in several use-wear activities to create wear on each tool. Next, I created a cutting use-wear pattern on two replicated chert flakes by moving the lateral edge of a chert flake across a wooden board in a back-and-forth motion 30- 50 times until a distinctive wear pattern was discernable to the naked eye.

To create scraping use-wear patterns, the lateral edges of two chert flakes were pressed and moved across a piece of lumber in a single direction 30- 50 times until noticeable scraping wear could be seen. Drill use-wear was produced by twisting two chert splinters into a single piece of slate until the drill's tip was significantly worn down and the distal end was smooth from shearing. Two Burins were created from two flakes selected from the reference collection. This was done by using the distal end of the flake as a platform and removing a burin spall parallel to the flake's lateral edge similar to the technique discussed by Don Crabtree (Crabtree 1972:48). After the burin tools were created, I moved the burin tip across a piece of lumber 30- 50 times until noticeable use-wear patterns developed on the burins tips.

The four categories of micro-chipping used in my study were scraping, cutting/sawing, engraving, and drilling (Tringham et al. 1974). Cutting use-wear patterns represent the one-way longitudinal movement of tools, and the distribution of chipping scars along the worked surface is uneven but not random (Tringham et al 1974:188). In sawing wear patterns (two-way movement), the scar distribution and characteristics are similar as cutting wear patterns, but scars occur in greater density across the edge of the worked material (Tringham et al. 1974:188). Drilling (boring) wear patterns form when the worked material is moved in a circular motion, held at angles of 70-90 degrees

(Tringham et al. 1974:189). Drilling scars include distinctive trapezoidal scars found especially on the point of projection rather than the tip of contact (Tringham et al. 1974:189). Drills also have a high amount of polish and striations across much of the surface and edges as well. Gravers are tools used to engrave materials and they are often found in the form of burins. Burins are chisel-like instruments derived from flakes or blades and they are made by removing an edge parallel to the instrument's long axis to form a right angle edge (Crabtree 1972:48). Use-wear on burin is found on the tip and has the same scarring patterns as cutting use-wear

**Thermal Alteration**

The final attribute of this study was thermal alteration. This was a presence of absence category used to identify the post-production burning of chert artifacts. The thermal alterations found on chert artifacts at Blackman Eddy were not associated with pre-production heat treatment of raw chert. Heat treatment of chert involves the slow heating and cooling of raw materials prior to the production process, allowing them to be flaked more easily while maintaining the integrity of the raw material. The presence of potlids, irregular cracks, and discolorization on a high number of chipped stone artifacts suggests that these artifacts were burned as part of trash middens before they were deposited as fill in the different construction phases of Str. B1.

Thermal alteration can be identified based on several characteristics. First, thermally-altered chert artifacts have altered colors, usually red or black. Second, burned chert artifacts have a high number of potlid fractures present on their dorsal and ventral surfaces. Potlids are round flakes that break off the stone's surface from heating and then

quick exposure to cooler temperatures after heating. Potlids look similar to flakes, but they lack platforms or bulbs of force (Whittaker 1994:73). Third, thermal alteration creates irregular cracks and breaks found away from the platform edge. These cracks and breaks are referred to as crazing. All of these characteristics of thermal alteration were found on a large number of chert chunks and flake fragments sampled from Structure B1.

**Discussion**

The purpose of this chapter was to outline the assumptions and methods used to excavate and examine the chipped stone artifacts of Blackman Eddy. All of the attributes coded in this study were selected to examine the two components of an industry: the raw materials used in production and the manufacturing techniques of production. Use-wear and thermal alteration were also studied to determine what tools were used for and how they were treated after their utility expired.

To study these three aspects of chipped stone tools, nine attributes were selected and coded for each artifact examined. The presence or absence of these attributes in the chipped stone tools selected from the different building episodes of Str. B1 of Blackman Eddy are indicators of certain raw materials and production techniques. Differences in these artifact attributes between the different construction episodes of Str. B1 represent changes in the various chipped stone tool industries of Blackman Eddy over time. If these changes in artifact attributes are significant, and if they correlate with the social changes mentioned in Chapter 1, then the null hypothesis of this study would be false. If there are no significant changes in artifact attributes over time, then the null hypothesis of this thesis would be supported. The next chapter examines the data collected on the artifacts

from the chipped stone tool industries of Blackman Eddy based on the artifacts sampled from Str. B1.

## Chapter 3- Results and Interpretations of the Chipped-stone Tool Industries of Blackman Eddy

The purpose of my thesis is to look at correlations between social changes and changes in the chipped stone tool industries of Blackman Eddy. My hypothesis is that the development/introduction of social changes at Blackman Eddy (as indicated by changes in architectural forms and styles) caused economic change in the various chipped stone tool industries (as reflected by change in the chipped stone artifacts). Therefore, I looked at changes in the attributes associated with the exchange, production, and function of chipped stone artifacts. The artifacts in this study were selected from fill associated with the seven construction episodes of Str. B1, and they were analyzed individually for the attributes discussed in Chapter 2. Each construction episode represents a temporal phase in the history of Blackman Eddy. The artifacts analyzed from the fill of each construction episode represent contemporary deposits of chipped stone materials. Change in artifact attributes from episode to episode represents change over time. First, I will discuss change in exchange patterns based on the raw material attributes. Second, I will look at the data on chipped stone tool production. Finally, I will examine the data on artifact function.

### Raw Material Exchange

The attributes selected to study the exchange of raw materials were raw material type, color, translucence, and patination. These attributes were selected to examine what types of raw materials were used in the production of chipped stone tools and to infer

| Raw Material | Obsidian | Chert | Quartz | Quartzite | Total |
|---|---|---|---|---|---|
| Episode 1 | 2 | 1277 | 21 | 8 | 1308 |
| Episode 2 | 0 | 291 | 9 | 2 | 302 |
| Episode 3 | 0 | 244 | 2 | 3 | 249 |
| Episode 4 | 2 | 350 | 1 | 3 | 356 |
| Episode 5 | 8 | 265 | 1 | 1 | 275 |
| Episode 6 | 0 | 111 | 2 | 2 | 115 |
| Episode 7 | 37 | 200 | 1 | 2 | 240 |
| Total | 49 | 2738 | 37 | 21 | 2845 |

Table 4. Raw Material Numbers per Construction Episode.

what types of raw materials were brought into Blackman Eddy through regional exchange. The four main raw material types used in the production of chipped stone tools at Blackman Eddy were obsidian, chert, quartz, and quartzite. Of all four raw material types, only quartzite and chert were found in each of the seven construction episodes (Table 4). The presence of chert and quartzite in deposits from each construction episode may indicate their consistent use as raw material source for chipped stone tools (chert) and as instruments used in the production of chipped stone tools (quartzite). Quartz artifacts were found in deposits associated with all construction episodes except Construction Episode 4, and it was also predominately used as production instruments in chipped stone tool production. Obsidian artifacts were found in fill associated with Construction Episodes 1, 4, 5, and 7. The sporadic presence of obsidian in the deposits of Str. B1 indicates that it was a rare raw material source at Blackman Eddy that may not have been easy to acquire.

The weighted averages of obsidian, quartz, chert, and quartzite artifacts was variable across the seven construction episodes, but there were a few interesting

observations from the data. To test for change over time, I used chi-square tests for each of the raw material types. There are two slightly different versions of the chi-squared test, though both are the same in principle (Shennan 1997:104). In the 1-sample test, collected data is compared to a theoretical population to see how good the correspondence is between the two distributions. The 1-sample chi-square test uses a set of observations divided into a number of mutually exclusive categories. A comparison is then made between the distribution of observations across the categories and the distribution of anticipated observations under some theoretically derived expectation, specified by the null hypothesis (Shennan 1997:106). The mutually exclusive categories in this study are the seven construction episodes. The theoretical expectation is the null hypothesis of this thesis:

$H_0$: there are no significant changes in artifact attributes across the seven construction episodes.

$H_1$: There are significant changes in artifact attributes across the seven construction episodes.

If there was no change in artifact attributes across the seven construction episodes, then the expected percentage of that attribute should be the same in each construction episode. The expected percentage was found by calculating the overall average of each attribute based on the observed data. A table of expected values was then created using the expected percentage and the total number of observed values. With the expected values and observed values in hand, I could compare the observed values with the expected values using the chi-square formula to see whether the difference between the observed and expected values was significant enough to reject the null hypothesis.

The calculated chi-square values were compared to a table of tabulated chi-square values at a 95 percent significance level (ά = 0.05), and six degrees of freedom (V = 6). The tabulated chi-square value at these parameters is 12.5916. Therefore:

If $X^2_{calc} \geq 12.5916$, then reject $H_0$

If $X^2_{calc} < 12.5916$, then accept $H_0$

The chi-square values for the four raw material types were mixed in their support or rejection of the null hypothesis. The calculated chi-square values for quartz and obsidian artifacts exceeded the expected value, therefore rejecting the null hypothesis. The calculated chi-square value for the percentage of obsidian was 296.53 and the chi-square value for quartz was 14.27. However, the chi-square values from chert and quartzite were less than the expected value, so I accepted the null hypothesis. However, the overall number of obsidian and quartzite artifacts was very low, and the chi-square value for these variables may be due to low sample size. These values were 4.26 and 3.21 respectively. This means that obsidian and quartz distributions changed significantly over time while chert and quartzite distributions did not.

The lack of change in chert percentages is significant because it may indicate that social change had little impact on the use of chert in chipped stone tool production over time. This is important because chert was the most widely-used raw material for the production of chipped stone tools at Blackman Eddy. The weighted average for chert chipped stone tools was consistently higher than the weighted averages of all other raw material types in each of the seven construction episodes. Between 83- 97 percent of all chipped stone artifacts found in deposits from the seven construction episodes were made of chert (Figure 18).


Figure 18. Percentage of Chert Artifacts per Construction Episode.

The change in the percentage of quartz and obsidian artifacts over time may have been caused by social change at Blackman Eddy. The weighted average of quartz appears to have decreased over time (Figure 19). One explanation for the decrease in quartz percentages may be due a shift in the use of quartz from a ritual function. The higher frequency of quartz associated with the early buildings of Str. B1 may have been part of a ritual paraphernalia and perhaps may have been used as divining stones (Brown 2003:105). Interesting, the percentage of quartz artifacts decreases as the percentage of obsidian increases over time.

The percentage of obsidian in the earliest construction episodes is quite low, and in many cases, non-existent. However, during and later part of the Middle Preclassic, the percentage of obsidian artifacts increased. This may be associated with social changes


Figure 19. Percentage of Quartz Artifacts per Construction Episode.

that occurred at the end of Construction Episode 2. During the final construction episode, a significant increase in percentage of obsidian artifacts was found, as the percentage of obsidian artifacts increased from around 3 percent or less to 15.42 percent of all chipped stone artifacts (Figure 20). Because there are no known obsidian sources in Belize, all obsidian was brought into this area through some type of regional exchange. The dramatic increase in the percentage of obsidian artifacts indicates that this raw material became more accessible to the individuals at Blackman Eddy during the Classic period. The change in the percentage of obsidian artifacts from deposits associated with Construction Episode 7 corresponds to social changes that occurred at Blackman Eddy between the Late Preclassic and Classic periods and may have been a direct result of it.

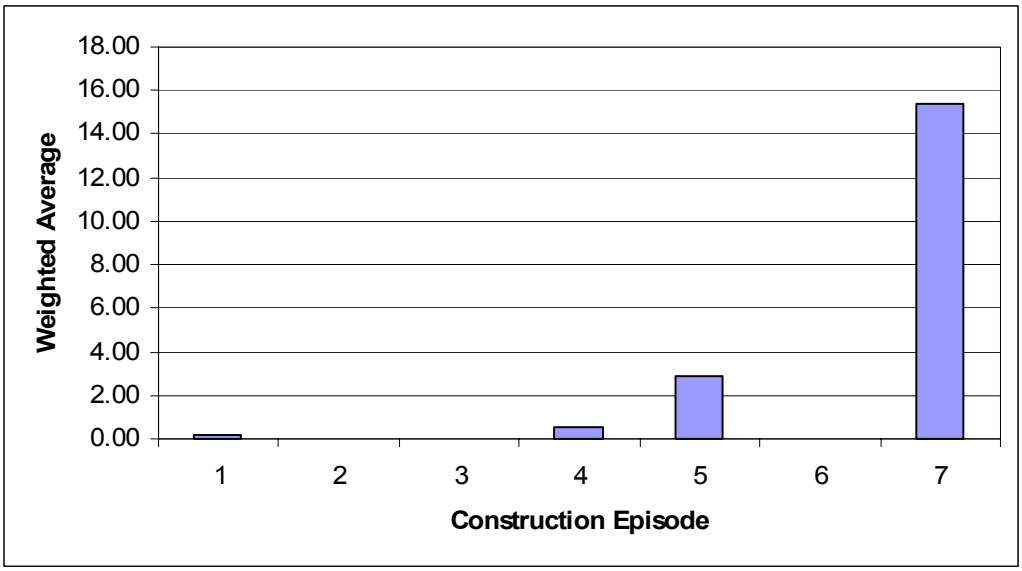


Figure 20. Percentage of Obsidian Artifacts per Construction Episode.

The analysis of the raw materials types at Blackman Eddy only provides information on what types of materials were used in the production of chipped stone tools. With the exception of obsidian, the analysis of raw material sources did not provide definitive information on the provenience of these materials. This information, which is needed to infer raw material exchange, came from the data on the other raw material attributes of this study.

Another raw material attribute used in this study is artifact color. Some raw material types have unique physical compositions that are caused by specific geographic conditions of a region. This physical variability may be expressed visually by differences in raw material color. Therefore, color often can be used as a way to infer the provenience of certain raw materials if the source location of the raw material is known. Several different colors were found for artifacts from the various deposits of Str. B1. The

different color attributes in this study were: caramel, chocolate, tan, tan-white, white, gray, gray-white, black, green, clear and red. Most of the colors (caramel, chocolate, tan, tan-white, white, gray, and gray-white) were colors associated with chert, while green, white, black, and clear colors were associated with obsidian, quartz, and quartzite.

**Color**

Chert artifacts from each of the seven construction episode deposits had a variety of different colors. All eight major colors associated with chert were found in each construction episode (Table 5). A wide variety of different chert sources were used to manufacture chert chipped stone artifacts at Blackman Eddy across its history. Caramel-colored chert appears to be the most widely used chert type in each of the seven construction episodes, averaging between 27 and 45 percent of all chert artifacts. Chi-square tests for the chert color types were mixed in their support of the null hypothesis.

Chi-square values for caramel, chocolate, gray, tan-white, and black were less than the expected value and appear to have changed very little across the various construction episodes. The calculated values for these colors were: caramel = 11.54; chocolate = 11.3; gray = 11.4; tan-white = 11.16; and black = 4.78. The calculated chi-square values for gray-white, white and tan indicate that these color types did change significantly over time. The calculated chi-square values for these colors were: gray-white = 19.74; white = 32.23; and tan = 37.94. However, the weighted averages for these colors are variable over time, and they did not correlate well to any of the periods of social change at Blackman Eddy. Though these changes were statistically significant, their variability indicates a true random pattern that does not support that these colors were affected by social change, and it appears that social change at Blackman Eddy had

| Color | Caramel | Chocolate | Gray | Red | Gray-white | White | Tan | Tan-white | Black | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 417 | 120 | 110 | 299 | 79 | 11 | 1 | 239 | 1 | 1277 |
| Episode 2 | 91 | 21 | 17 | 98 | 22 | 6 | 1 | 35 | 0 | 291 |
| Episode 3 | 72 | 24 | 19 | 61 | 13 | 10 | 6 | 39 | 0 | 244 |
| Episode 4 | 120 | 42 | 25 | 48 | 34 | 17 | 14 | 50 | 0 | 350 |
| Episode 5 | 80 | 18 | 21 | 38 | 31 | 14 | 6 | 56 | 1 | 265 |
| Episode 6 | 37 | 10 | 5 | 16 | 12 | 5 | 4 | 22 | 0 | 111 |
| Episode 7 | 91 | 10 | 9 | 37 | 9 | 6 | 2 | 36 | 0 | 200 |
| Total | 908 | 245 | 206 | 597 | 200 | 69 | 34 | 477 | 2 | 2738 |

Table 5. Chert Colors per Construction Episode.

little effect on the type of chert used to produce chipped stone tools. Furthermore, the data on chert artifact color does not bring any additional insight into the provenience of the different chert sources used at Blackman Eddy for chipped stone tool production. If the color of chert artifacts from Blackman Eddy is similar to the color of chert samples from the Belize River Valley, then it is likely that local chert sources were used to produce chert tools. The analysis of chert artifact translucence produced a similar result and conclusion.

All of the quartzite artifacts observed in this study were white in color. White is also a most common color for quartzite found in the Belize River Valley, and it is likely that all of the quartzite found at in the fill from the seven construction episodes of Str. B1 at Blackman Eddy was locally procured. The two quartz colors observed for the artifacts from Str. B1 were clear and white. Both of these colors are common for quartz artifacts in Belize River Valley, and it also seems likely that quartz artifacts at Blackman Eddy were locally procured. Interestingly, white-colored quartz appears to replace clear quartz over Eddy, then it would have been sought out and procured. As rituals changed over time,

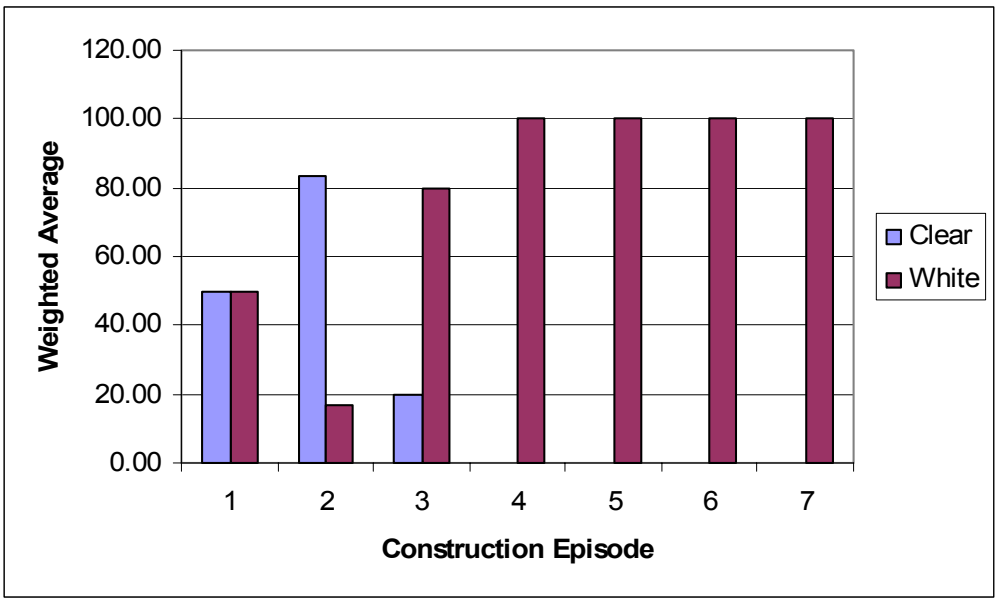


Figure 21. Quartz Color per Construction Episode.

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time (Figure 21). This change over time in quartz color, just after social changes associated with Construction Episode 3. The change in quartz color may be related to the shift in ritual importance of quartz. If clear quartz was used in early rituals at Blackman clear quartz percentages declined in subsequent structures as quartz became less important in ritual life at Blackman Eddy.

The two colors observed for obsidian artifacts were green and black. The majority of obsidian artifacts (N = 35) from the seven construction episode deposits were identified as black in color. The only change in color occurred during the last construction episode with the introduction of two green obsidian artifacts. Further visual analysis of the black-colored obsidian artifacts by Fred Nelson and John Clark indicated that the black obsidian artifacts from Blackman Eddy actually came from two different obsidian sources. The black obsidian artifacts from fill associated with Construction Episodes 1, 4, and 5 was visually identified as obsidian from the San Martin Jilotepeque

(SMJ) source in highland Guatemala. The Black obsidian from fill associated with Construction Episode 7 was identified by the as El Chayal obsidian also from highland Guatemala. The two green-colored obsidian artifacts were identified by the same analysts as obsidian from the Pachuca obsidian source in Hidalgo, Mexico. Based on the data from Blackman Eddy, obsidian exchanged into Blackman Eddy during the Middle Preclassic period came from the SMJ source. By the Classic period, most obsidian was exchanged into Blackman Eddy came from the El Chayal source in Guatemala, supplemented by a small amount of obsidian from Mexico.

Several models have been presented for obsidian exchange in Belize. In the first model, obsidian from the Early Classic, Late Classic, and Terminal Classic period deposits at Nohmul were analyzed for their provenience using neutron activation analysis (Hammond et al. 1984:818). The data from Nohmul was compared to similar data collected from various obsidian sources across Mesoamerica. Most of the obsidian from the Early Classic period at Nohmul was identified as obsidian from the El Chayal source (Hammond et al. 1984:818). During the Late Classic and Terminal Classic periods, the majority of the obsidian at Nohmul came from the Ixtepeque source in highland Guatemala (Hammond et al. 1984:818).

Based on these findings and similar findings at Cuello, a model for obsidian exchange routes was formulated. This model proposed that two separate routes, one for El Chayal and one for Ixtepeque, were used to transport obsidian from the Guatemalan highlands into the lowland areas. The former was an overland route used to transport El Chayal obsidian from its source in the highlands down the Pasion River, through Tikal, and across the Rio Hondo into Belize during the Early Classic period (Hammond et al.

1984:818). By the Late Classic period, a second costal route was used more frequently to transport obsidian from the Ixtepeque source, down the Montagua or Rio Dulce, and up the coast to the Yucatan Peninsula, with secondary routes running upstream the Hondo River from the Chetumal Bay in Belize (Hammond et al. 1984:818).

Further trace element analysis of obsidian artifacts from other sites in the eastern, central, and western lowland regions indicated that obsidian exchange was more complicated than the two-source, two-pronged model (Healy et al. 1984:225). First, El Chayal obsidian was found in several coastal and island sites in Belize, suggesting that some obsidian from the El Chayal source was moved along the coast (Healy et al. 1984:225). Also, trace element analysis of obsidian from Middle and Late Preclassic deposits in Belize indicated that SMJ obsidian was exchanged in significant quantities during the Preclassic (Brown et al. 2004:227; McSwain 1991:194). SMJ obsidian appears to be the dominant obsidian source utilized by most lowland areas during the Middle Preclassic, as demonstrated by the high percentage of SMJ obsidian found in Preclassic deposits at Tikal, the Peten lakes areas, and the Belize River Valley (Ford et al. 1994; Moholy-Nagy and Nelson 1990; Nelson et al. 1978; Rice 1984).

During the Late Preclassic, a shift from SMJ obsidian to El Chayal obsidian occurred at most lowland sites, including Blackman Eddy. This may have been the result of the rise of Kaminaljuyu as a major ceremonial center and the decline of the Olmec on the Pacific coast (Nelson and Clark 1998:289). These events let to an increase in the supply of El Chayal obsidian in the lowland areas. El Chayal began to replace SMJ obsidian in most of the eastern lowland sites during the Late Preclassic, and it came to be

the dominate source of obsidian used in the eastern lowland regions by the Early Classic period (Nelson and Clark 1998:292).

The presence of green obsidian at Blackman Eddy suggests that Pachuca obsidian controlled by Teotihuacán was exchanged into the eastern lowlands during the Classic periods. The Classic period was a time of major political and economic expansion for Teotihuacan and included the production of significant quantities of green obsidian tools and products used in regional exchange (Sanders and Santley 1984). In addition to the work at Blackman Eddy, archaeological work at other sites in the eastern lowlands has also recovered green obsidian from Mexico. At the site of Altun Ha, a large cache containing 245 green chipped-stone "eccentrics" and 13 large bifacially-flaked stemmed blades was found in an early Classic period tomb within Structure F-8 (Pendergast 1971:456).

The obsidian data from Blackman Eddy support Nelson and Clark's model of obsidian exchange for the eastern Maya lowlands. However, this model should be used as a general view of obsidian exchange for the region and does not represent all of the ways obsidian was likely exchanged across time and space from the various sources in Guatemala and Mexico. The obsidian data from other sites in Belize indicate that a wide variety of sources was used at different times. This may have been an intentional strategy on the part of individuals living in the eastern lowland areas used to ensure supply by using a diverse set of sources and exchange routes.

| Translucence | Present | Absent | Total |
|---|---|---|---|
| Episode 1 | 849 | 428 | 1277 |
| Episode 2 | 194 | 97 | 291 |
| Episode 3 | 135 | 109 | 244 |
| Episode 4 | 196 | 154 | 350 |
| Episode 5 | 122 | 143 | 265 |
| Episode 6 | 61 | 50 | 111 |
| Episode 7 | 117 | 83 | 200 |
| Total | 1674 | 1064 | 2738 |

Table 6. Chert Translucence per Construction Episode.

**Translucence**

Another raw material attribute used in this study is translucence. This was a presence/absence category used predominately for chert artifacts. Because chert clarity may be an indication of particular chert sources, changes in the percentage of translucent chert artifacts in seven construction episodes deposits may be indicative of change in the exchange of chert over time. The weighted average for translucent artifacts from each construction episode was variable, but there were no discernable trend over time for the use of translucent chert in chipped stone tool production (Table 6). Chi-square values for chert translucence were higher than the expected value ($X^2_{calc} = 28.13$), so the variability across the seven construction episodes was significant. However, the change in percentage over time does not correlate to social change. Like chert color, no conclusions can be made in regards to the regional exchange of chert based on translucence.

However, I believe that most of the translucent chert artifacts examined in this study were not brought into the site through regional exchange. In the analysis of chert nodules collected from Blackman Eddy, most samples examined were translucent,


Figure 22. Chert Patination per Construction Episode.

indicating that translucent chert was locally available (Chapter 2). If translucent chert can be procured locally, then it is likely that most of the translucent chert artifacts sampled from Str. B1 were produced using local sources.

**Patination**

The final chert raw material attribute examined in this study was patination. Patination was a presence or absence category for chert artifacts. Because chert from distinct sources weather at different rates, the presence of patina on chert may indicate different chert sources and regional chert exchange. The weighted average of chert artifacts with patina from deposits in each of the seven construction episode increased over time until the final construction episode (Figure 22). Chi-square tests for chert patination indicated that the change in patination percentage over time was very

significant ($X^2_{calc}$ = 247.63). Clearly, the change in patination percentage over time was not due to random sampling alone. If patinated chert were regionally exchanged into Blackman Eddy, then the percentage of chert exchanged increased over time until it declined during the Classic period. However, the pattern for chert patina found at Blackman Eddy may be caused by rise of Colha as a major production center of chert artifacts rather than social change at Blackman Eddy.

First, patina was found on more chert samples from Colha than any other region. This means that the chert from sources in the northern region likely weather at faster rate than sources from other regions. Second, the trend for patinated-chert artifacts at Blackman Eddy correlates with the expansion of the Colha chert industries. Chert tools were produced at Colha during the Middle Preclassic period, with large-scale workshop production beginning during the Late Preclassic period (Hester 1985:197). Chert artifacts from these Late Preclassic workshops have been found in many different sites across much of northern Belize, including Pultrozer Swamp, Cuello, and Cerros (Hester 1985; McAnay 2001; McSwain 1991; Lewenstein 1994). This indicates that there was a broad exchange network for chert tools produced at Colha in the north and opens the possibility for exchange network in the south. A significant increase in the percentage of patinated chert artifacts over time, with a dramatic increase in patinated chert in the Late Preclassic period deposits of Str. B1, may be signs of that exchange network.

The drop in the percentage of patinated chert during the Classic period can also be explained by events at Colha. Based on ceramic evidence, there may have been a hiatus in chert tool production of as much as 300 years at Colha during the Early Classic period (Shafer and Hester 1983:529). If there was a decline in production, there may have also

been a decline in the exchange of chert from Colha. During the Classic period at Blackman Eddy, the percentage of patinated chert artifacts dropped from 35.48 percent of all chert artifacts to 3.73 percent. This drop in patinated chert by nearly 32 percent may have been caused by the changes in chert production at Colha.

Based on the analysis of attributes associated with raw material exchange, it is clear that all of the obsidian artifacts at Blackman Eddy were made from materials that were brought into the region. While the change from the use of SMJ to El Chayal obsidian may be due to factors other than social change at Blackman Eddy, the increase in the percentage of obsidian artifacts found in deposits associated with Construction Episode 7 could have been a direct result of social changes that occurred between the Late Preclassic and Early Classic periods. Analysis of the raw material attributes for quartz and quartzite indicate that both of these raw materials were likely procured from local materials not brought into Blackman Eddy through regional exchange, but the change in quartz color and percentage after the third construction episode may have resulted from social change. There were no significant changes in quartzite that correspond to social changes at Blackman Eddy.

The evidence for the regional exchange of chert is mixed. While artifact color was an important analytical attribute for obsidian, quartz, and quartzite, it had very little analytical importance for chert. While there were some significant variations in several chert colors and chert translucence over time, there were no detectable trends in that correspond to social change at Blackman Eddy. Furthermore, the proveniences of chert artifacts could not be determined by color or translucence. Since most of the chert artifacts were visually similar to collected samples from the Belize River Valley, it seems

likely that most of the chert used to produce the chert artifacts from Str. B1 at Blackman Eddy was procured from local sources in the Belize River Valley.

The presence of a significant amount of chert artifacts with patina indicates that local supplies of chert may have been augmented through the regional exchange of chert from sources near the site Colha. Chi-square tests indicated that variation in patina percentages between the seven construction episodes was very significant. While the increasing percentage of patinated chert per construction episode corresponds to social change over time at Blackman Eddy, it is also possible that these changes were caused by events at the site of Colha. In the next section, I will examine the production of chipped stone tools at Blackman Eddy for what types of tools were likely produced at Blackman Eddy, how production may have changed over time and possible correlations between production change and social change.

**Chipped Stone Tool Production**

Four production attributes were selected to examine the production of chipped stone artifacts from Str. B1 at Blackman Eddy. These attributes were: technological type, cortex, weight, and artifact size. The first attribute I will discuss is technological type. Technological types are part of a classification system that organizes artifacts according to how and when they were made in the manufacturing sequence. The presence of certain technological types at a site can be used to infer whether or not particular manufacturing sequences and procedures may have taken place locally. There are four chipped stone tool industries at Blackman Eddy. These are the chert flake industry, obsidian flake, chert

| Technological Types | Flakes | Flake Fragments | Cores | Chunks | Fortuitous Blades | Bifaces | Bifacial Thinning Flakes | Adzes | Sum |
|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 534 | 692 | 14 | 22 | 15 | 0 | 0 | 0 | 1277 |
| Episode 2 | 99 | 152 | 24 | 10 | 2 | 2 | 2 | 0 | 291 |
| Episode 3 | 105 | 116 | 5 | 16 | 2 | 0 | 0 | 0 | 244 |
| Episode 4 | 186 | 142 | 6 | 13 | 0 | 2 | 1 | 0 | 350 |
| Episode 5 | 114 | 141 | 4 | 5 | 1 | 0 | 0 | 0 | 265 |
| Episode 6 | 53 | 44 | 2 | 10 | 2 | 0 | 0 | 0 | 111 |
| Episode 7 | 79 | 104 | 4 | 5 | 1 | 6 | 0 | 1 | 200 |
| | 1170 | 1391 | 59 | 81 | 23 | 10 | 3 | 1 | 2738 |

Table 7. Chert Technological Types per Construction Episode.

biface, and obsidian prismatic blade industries. The different technological types of each industry were discussed in Chapter 2.

**Chert and Obsidian Flake Industries**

Based on the percentage of chert artifacts found in Str. B1, the chert flake industry was the largest chipped stone tool industry at Blackman Eddy. This was a simple and unspecialized industry characterized by the production of flake tools from chert cores using direct percussion. The main technological types associated with the chert flake industry are: flakes, chunks, flake fragments, and fortuitous blades. These technological types were found in fill associated with each of the seven construction episodes of Str. B1 (Table 7). The presence of each technological type associated with chert flake production in fill from each construction episode indicates that chert chipped stone tools were likely produced at Blackman Eddy throughout its history in a manner similar to that described

| Technological Types | Flakes | Flake Fragments | Cores | Chunks | Fortuitous Blades | Bifaces | Bifacial Thinning Flakes | Adzes |
|---|---|---|---|---|---|---|---|---|
| Episode 1 | 41.82 | 54.19 | 1.10 | 1.72 | 1.17 | 0.00 | 0.00 | 0.00 |
| Episode 2 | 34.02 | 52.23 | 8.25 | 3.44 | 0.69 | 0.69 | 0.69 | 0.00 |
| Episode 3 | 43.03 | 47.54 | 2.05 | 6.56 | 0.82 | 0.00 | 0.00 | 0.00 |
| Episode 4 | 53.14 | 40.57 | 1.71 | 3.71 | 0.00 | 0.57 | 0.29 | 0.00 |
| Episode 5 | 43.02 | 53.21 | 1.51 | 1.89 | 0.38 | 0.00 | 0.00 | 0.00 |
| Episode 6 | 47.75 | 39.64 | 1.80 | 9.01 | 1.80 | 0.00 | 0.00 | 0.00 |
| Episode 7 | 39.50 | 52.00 | 2.00 | 2.50 | 0.50 | 3.00 | 0.00 | 0.01 |

Table 8. Percentage of Chert Artifacts per Construction Episode.

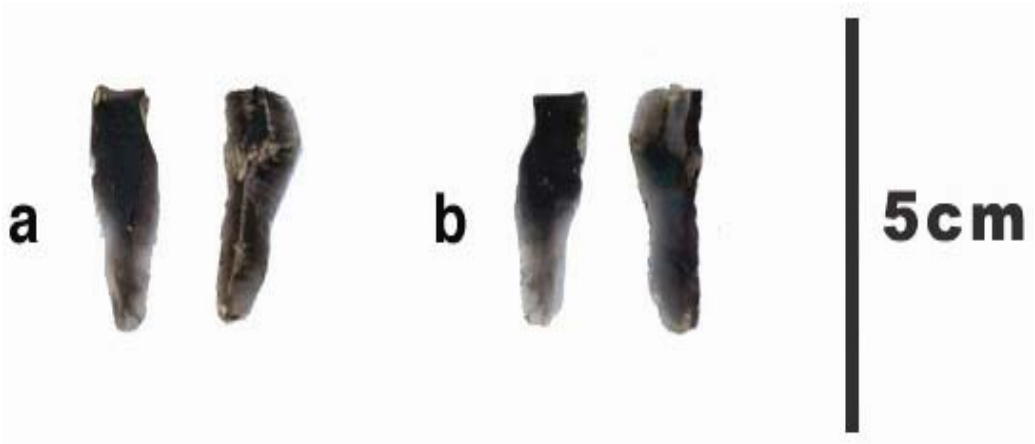


Figure 23. Dorsal (a) and Ventral (b) View of Obsidian Flakes.

over time (Table 8). While there was some change over time in chert flake production, it was not likely affected by social change.

The obsidian flake industry was also a simple unspecialized industry that used the same productive techniques as the chert flake industry, and it had the same technological types. However, analysis of the various obsidian flake artifacts from Blackman Eddy clearly indicated that these tools were not likely produced at Blackman Eddy. Only six obsidian flakes and obsidian flake fragments were found in Str. B1. Interestingly, two obsidian flake fragments were found in fill associated with the first construction episode. These flake fragments had an average length of 18.88 mm, an average width of 13.04 mm, and an average thickness of 2.05 mm. Both of these obsidian flakes were relatively short. The weight of these flakes could not be detected by the scale, so the weight was estimated to be 0.05 grams for each flake. One of the obsidian flakes lacked its proximal end, so it could not be determined if it was produced by percussion or pressure. However, the other flake did have its proximal end and the bulb of percussion on the ventral side suggests that it was produced by direct percussion (Figure 23). This is an important find because it is similar the data on blade production from Cahal Pech.

Excavations at Cahal Pech have recovered obsidian percussion blades with similar shapes, contexts, and radio-carbon dates as the early flakes from Blackman Eddy (Awe and Healy 1994:194; Garber et al. 2001:44). Archaeologists examining the obsidian artifacts at Cahal Pech concluded that they were produced by percussion and not pressure flaking (Awe and Healy 1994:197). The other four obsidian flakes were found in deposits associated with Construction Episode 7. These flakes were all intact and had an

average length of 26.07 mm, and average width of 21.33 mm, and an average thickness of 5.96 mm. The average weight of the obsidian flakes was 4 g.

**Chert Biface Industry**

The third chipped stone tool industry at Blackman Eddy is the chert biface industry. This industry is more complicated than either the chert or obsidian flake tool industries, and it requires a higher level of skill to effectively manufacture tools. Biface production uses both percussion and pressure techniques, and it is extremely easy to break the biface in the latter stages of production. These factors may have limited the production of bifaces to individuals who had significant experience manufacturing them. The technological types associated with the chert biface industry are: bifaces, bifacial thinning flakes, chunks, flakes and macro-flakes. One of the problems in analyzing the chert biface industry is that many of the technological types (flakes, macro-flakes, and chunks) overlap with the chert biface industry. Though the presence of these types may indicate biface production, the most important technological types that indicate local production are bifacial thinning flakes.

During the survey work of 2003, chert bifacial thinning flakes were found in significant numbers at Colha and El Pilar. Both of these sites were the location of significant chert biface production (Hester 1985; Ford and Olsen 1989). Based on this evidence, there should be a large number of chert bifacial thinning flakes at Blackman Eddy if bifaces were produced at the site. At Blackman Eddy, only three bifacial thinning flakes were found among artifacts sampled from Str. B1. This low number of bifacial thinning flakes for the entire sample of chert chipped stone artifacts strongly indicates

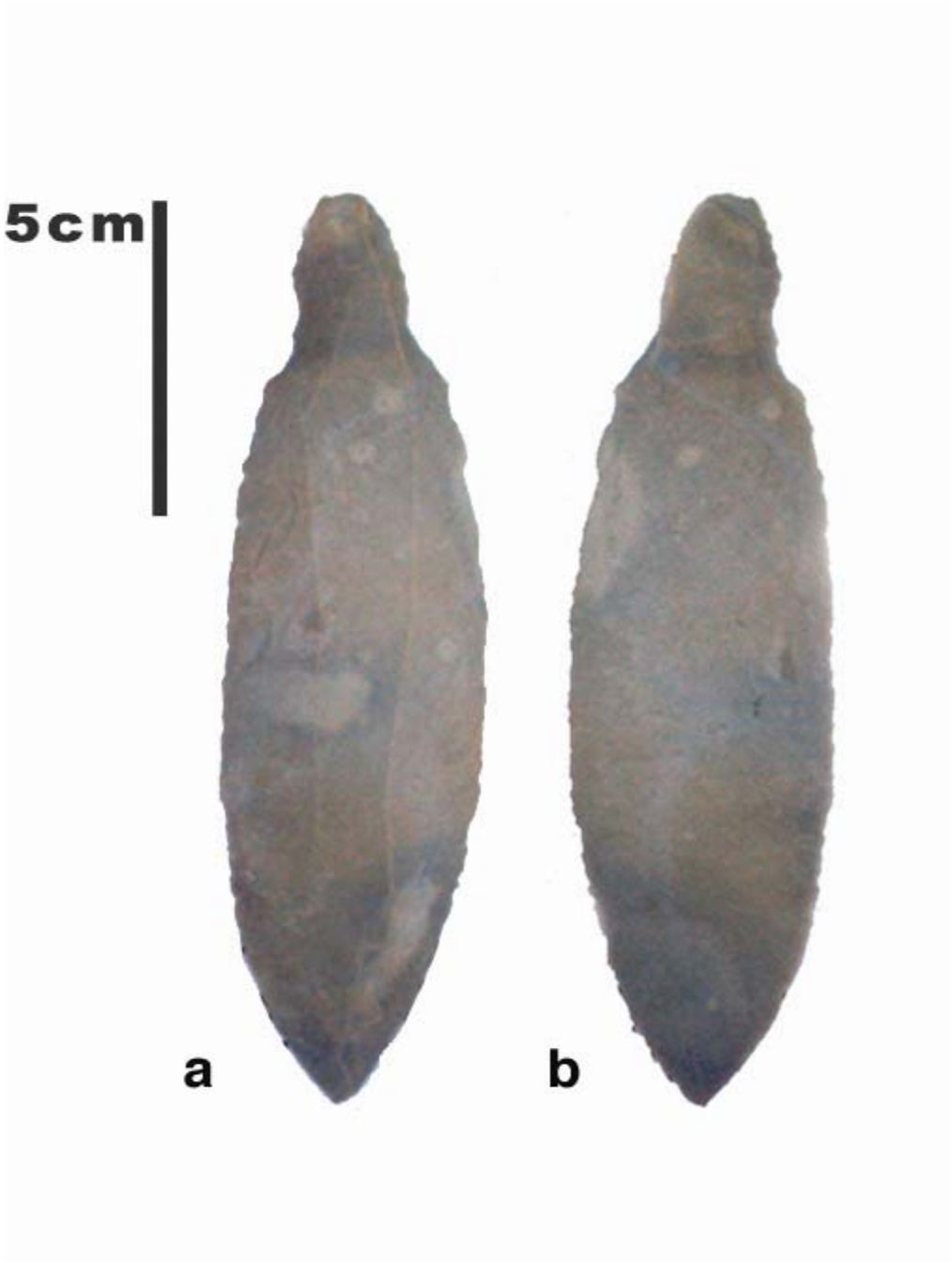


Figure 24. Dorsal (a) and Ventral View of Chert Macro-flake from Str. B1.

that chert biface production was not a common production process at Blackman Eddy.

If bifaces were produced at Blackman Eddy, then it is likely that this industry was restricted to a specific area at the site, and/or that the bifacial thinning flakes were not recycled as construction fill for Str. B1. Another possibility is that biface production at Blackman Eddy may have been a type of specialized production, and, in this case, would have been directly affected by social change at Blackman Eddy. However, the notion of specialization is highly speculative until more evidence from the site can be produced. The lack of more artifacts associated with biface production at Blackman Eddy makes it is difficult conclusively discern any change in the production of chert bifaces over time, though it is most likely that that social change at Blackman Eddy does not appear to have facilitated the local production of chert bifaces.

Ten bifaces from Blackman Eddy were examined as part of this study. These bifaces were found in the second, fourth, and seventh construction episode fills. These ten bifaces had an average length of 84.16 mm, of 48.71 mm, and thickness of 30.14 mm. The average weight of these artifacts was 116.11 g. Most of the bifaces found in Str. B1 were large, thick, and covered with cortex, giving these bifaces an unfinished appearance. There were a few artifacts from Blackman Eddy that appear to have been finely-made. One of these artifacts is a single chert macro-blade found in the same cache as the two obsidian blades from Construction Episode 7. The macro-blade is long, flat, and tapers from the distal tip to the top of the base (Figure 24). It measured 146 mm long, 38 mm wide, and 9.1 mm in thickness. A large negative flake scar runs along most of the dorsal face, indicating that a flake was likely removed from the blade before it was shaped into

its final form. Also, the stem of the macro-blade was the location for the blade's bulb of percussion and represents the artifact's proximal end.

There were no flake scars on the ventral side of the blade except at the stem, and there were only a handful of bifacial thinning scars on the dorsal side. This indicates that the macro-blade was not extensively shaped by bifacial flaking and was most likely given its shape through direct percussion while holding the blade at or near 90 degree angle. The macro-blade was chipped on both the left and right sides, and extensive chipping at the proximal end of it on both the dorsal and ventral faces created the stem of the blade. The macro-blade was manufactured by a productive technology used extensively found at Colha in the Middle and Late Preclassic periods, and it may be evidence for the exchange of chert tools between Colha and Blackman Eddy. If so, the macro-blade found at Blackman Eddy suggests that Colha chert exchange networks may have been established before chert tools were mass produced at Colha during the Late Preclassic period.

**Obsidian Prismatic Blade Industry**

The fourth chipped stone tool industry at Blackman Eddy is the obsidian prismatic blade industry. This was the most complicated chipped stone tool industry examined in this study. The production of obsidian prismatic blades is a multi-step process that requires a high level of technical knowledge and training. The initial stages of production for prismatic blades are similar to those for the simple obsidian flake industry. The products removed in this stage are primarily obsidian flakes, flake fragments, chunks, and obsidian blades. The technological types associated with the latter stages of obsidian

| Technological Types | Flakes | Medial Prismatic Blades | Distal Prismatic Blades | Proximal Prismatic Blades | Cores | Chunks | Flake Fragments | Fortuitous Blades | Total |
|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Episode 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Episode 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Episode 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Episode 5 | 0 | 3 | 0 | 5 | 0 | 0 | 0 | 0 | 8 |
| Episode 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Episode 7 | 4 | 22 | 2 | 9 | 0 | 0 | 0 | 0 | 37 |
| Total | 6 | 27 | 2 | 14 | 0 | 0 | 0 | 0 | 49 |

Table 9. Obsidian Technological Types per Construction Episode.

prismatic blade production are: polyhedral cores, prismatic blades, prismatic blade fragments, and exhausted polyhedral cores.

The only technological types associated with the production of obsidian prismatic blades that were found in deposits associated with the seven construction episodes of Str. B1 were proximal, distal, and medial prismatic blade fragments (Table 9). Though each of these fragments was from different segments of obsidian prismatic blades, all of these blade fragments had a similar flat look in profile and prism or trapezoidal shape cross-section. The proximal blade fragments had an average length of 31.2 mm, width of 9.01 mm, and thickness of 2.52 mm. The weight of these blade segments was estimated to be 0.05 g. The medial blade fragments were slightly larger in their dimensions than the proximal blade fragments. The medial blades had an average length of 20.25 mm, width of 9.72 mm, and thickness of 2.56 mm. The average weight for medial prismatic blade fragments was 0.14 g. The distal blade fragments had an average length of 33.36 mm, width of 10.67 mm, and the average thickness was 2.97 mm. These distal blade fragments had an average weight of 0.92 g. The lack of any other technological types strongly indicates that prismatic blade fragments found at Blackman Eddy were not produced at

the site. The obsidian artifacts found in Str. B1 were most likely exchanged into the site as either complete prismatic blades or prismatic blade fragments. Therefore, social change at Blackman Eddy would not have had an impact on the production of obsidian prismatic blades.

**Cortex**

The second production attribute used in this study was cortex. Cortex is the remains of the outer rind of a nodule selected for chipped stone production. The presence of cortex on an artifact suggests that the artifact was removed from its core early in the production sequence. Therefore, the presence of a large number of artifacts with cortex at a particular site may be an indication of local chipped stone tool production. Cortex was a presence or absence category. Cortex was found on quartz, quartzite, and chert artifacts, but it was not found on obsidian artifacts. The lack of cortex on any obsidian artifacts strengthens the conclusion that these artifacts were not produced at Blackman Eddy.

Cortex was found on both quartz and quartzite artifacts from Str. B1. The high percentage of quartzite artifacts with cortex from fill associated with each construction episodes supports the conclusion that most quartzite artifacts from Str. B1 were hammerstones, hammerstone flakes, or hammerstone flake fragments. Furthermore, cortex on these artifacts had noticeable battering use-wear. This type of use-wear is usually associated with direct percussion. Several quartz and quartzite artifacts were found in fill with hammerstones used in the production of chipped stone tools. The only exception to this are the several quartz flakes found in association with ritual deposits from the first construction episode. For each construction episode, only flakes,


Figure 25. Percentage of Cortical Chert per Construction Episode.

flake fragments, and hammerstones were found for quartz and quartzite artifacts. No quartz and quartzite cores were found in the artifacts sampled from Str. B1. There were no detectable trends over time in weighted averages of quartz and quartzite artifacts with cortex from the seven construction episodes, indicating that social change at Blackman Eddy had little impact on the use of quartz or quartzite.

Cortex was also observed on a significant number of chert artifacts (N = 752). The presence of cortex on 22- 39 percent (roughly one-third) of all chert artifacts from deposits associated with the seven construction episodes does support the conclusion that chert flake tools were likely produced at Blackman Eddy over time (Figure 25). The Chi-square value for the percentage of chert artifacts with cortex exceeded the expected chi-square value ($X^2_{calc}$ = 365.11), indicating that the change in cortex percentage over time was significant. The percentage of cortical chert increased over time steadily over time

| Chert Size | 1 | 2 | 3 | 4 | Total |
|---|---|---|---|---|---|
| Episode 1 | 231 | 617 | 276 | 153 | 1277 |
| Episode 2 | 37 | 169 | 58 | 27 | 291 |
| Episode 3 | 30 | 113 | 60 | 33 | 236 |
| Episode 4 | 5 | 116 | 77 | 52 | 250 |
| Episode 5 | 32 | 77 | 62 | 94 | 265 |
| Episode 6 | 0 | 30 | 45 | 36 | 111 |
| Episode 7 | 13 | 129 | 19 | 39 | 200 |
| Total | 348 | 1251 | 597 | 434 | 2630 |

Table 10. Chert Artifact Size per Construction Episode

until the Classic Despite the increase in artifact size over time, indicating that chert tool production did increase over time. Social change over time may have had some impact on chert chipped stone tool production at Blackman Eddy, but this impact does not appear to have been as strong as expected.

**Artifact Size**

The third production attribute analyzed in this study is artifact size. The size of chipped stone artifacts is an important analytical attribute because it can aid in determining the size of the core from which an artifact was produced. Because chipped stone production is a reductive process, large cores produce large flakes and small cores produce small flakes. All four size types were documented for chert artifacts from most of the construction episode deposits. The presence of all four size types among the chert artifacts from Str. B1 also suggests that chert artifacts were produced from both large and small chert cores (Table 10). However, the highest percentage of chert artifacts were


Figure 26. Percentage of Size 1 Artifacts per Construction Episode.

either size type 2 or 3, indicating that the majority of chert cores used to produce chipped stone tools were small to medium-sized cores. The estimated size of the cores from Structure B1 is similar to the size of chert cores found in surveys conducted in the Belize River Valley. This line of evidence also suggests that the cores used to produce chert tools at Blackman Eddy were relatively small. Chi-square values for each of the four size types were larger than the expected values, indicating that variation in chert artifact size across the seven construction episodes was significant. However, the percentage of size 2, 3, and 4 artifacts per construction episode was quite random with no discernable trends. Size 1 artifacts did decrease in their percentage per episode over time (Figure 26). This indicates that cores may have been discarded in later periods before their maximum yield was reached. If this was the case, then the disposal of cores before their utility expired indicates that the supply of chert available for tool production may have

| Obsidian Size | 1 | 2 | 3 | 4 | Sum |
|---|---|---|---|---|---|
| Episode 1 | 0 | 2 | 0 | 0 | 2 |
| Episode 2 | 0 | 0 | 0 | 0 | 0 |
| Episode 3 | 0 | 0 | 0 | 0 | 0 |
| Episode 4 | 0 | 2 | 0 | 0 | 2 |
| Episode 5 | 1 | 3 | 2 | 2 | 8 |
| Episode 6 | 0 | 0 | 0 | 0 | 0 |
| Episode 7 | 4 | 29 | 4 | 0 | 37 |
| Total | 5 | 36 | 6 | 2 | 49 |

Table 11. Obsidian Artifact Size per Construction Epsiode.

increased over time at Blackman Eddy. It is not known whether the increase in chert availability over time was caused by social change, but there is a possibility that it did. Obsidian artifacts were found in all four size types, but only a few artifacts were of the larger size 2 (Table 11). Though these artifacts were not produced at Blackman Eddy, the data suggest that the obsidian prismatic blades and flakes were likely produced from small to medium-sized cores.

**Artifact Weight**

The final production attribute used in this study is artifact weight. The average weight of artifacts can be used to infer the size of the core from which it was removed. The main assumption is that artifacts with greater weight were removed from cores with a larger mass. In comparing the weighted average of this attribute for artifacts from deposits associated with the seven construction episodes, the averages are variable and no clear trends emerge in the weight of quartz, quartzite, and obsidian artifacts over time.

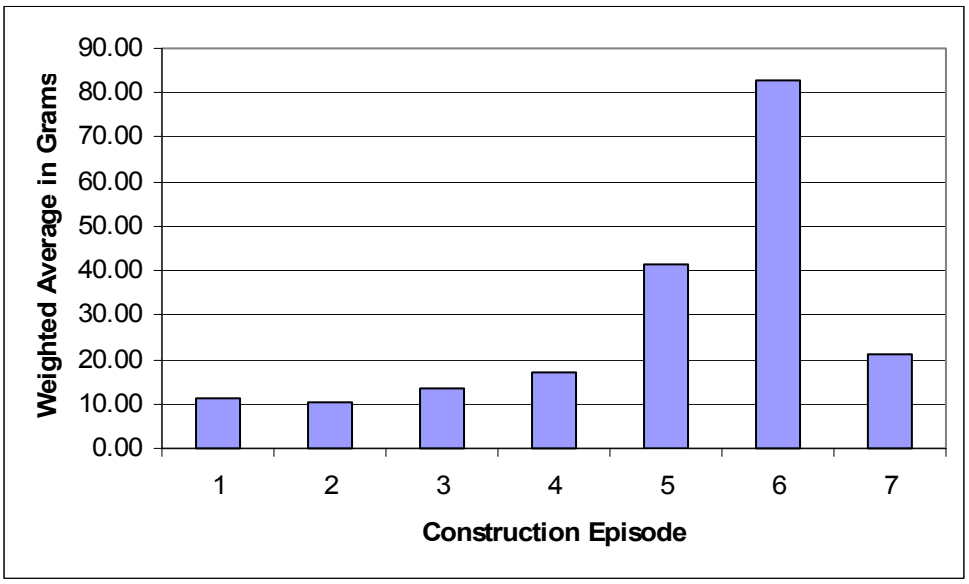


Figure 27. Average Weight of Chert Artifacts per Construction Episode.

There was an interesting trend for the average weight of chert artifacts over time at Blackman Eddy. Analysis of chert weight per construction episode indicated that the average weight of chert artifacts at Blackman Eddy increased across the first six construction episodes and then decreased during the seventh (Figure 27). A 1-sample chi-square test for chert weight indicated that variation between the observed and expected weight per episode was significant enough to reject the null hypothesis. The trend found for chert artifact weight over time is very similar to the trend observed for patinated artifacts at Blackman Eddy and may be related to it. The average weight of patinated chert artifacts per construction shows a similar trend as the average weight for chert artifacts per construction episode, though it is slightly more variable (Figure 28). This seems to indicate that the size of the patinated cores increased over time and may indicate that the size of patinated chert cores used to produce chipped stone tools at Blackman

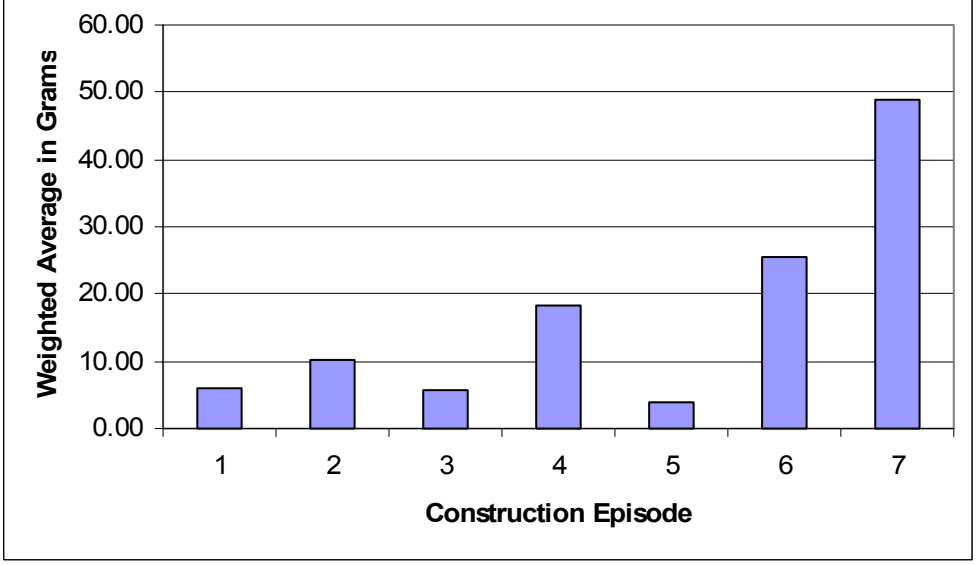


Figure 28. Average Weight of Patinated Chert per Construction Episode.

Eddy increased over time based on the average weight of patinated chert artifacts from deposits associated with the seven construction episodes. The cause for this pattern may be the development of Colha as a major center for the production and exchange of chert and chert tools.

Based on the analysis of the obsidian, quartz, quartzite, and chert chipped-stone artifacts, only the chert flake industry had enough evidence to support the local production of tools at Blackman Eddy. In deposits from each of the seven construction episodes, all of the technological types associated with the production of chert flake tools were found in significant quantities. The size of these artifacts indicates that they were produced from small to mid-size chert cores, and the presence of cortex on a large percentage of chert artifacts indicates that these artifacts were likely produced at Blackman Eddy. These artifacts were likely produced through direct percussion using

| Use-wear | Cut/sawing | Scraping | Engraving | Drilling |
|---|---|---|---|---|
| Episode 1 | 84 | 16 | 26 | 3 |
| Episode 2 | 24 | 6 | 15 | 1 |
| Episode 3 | 17 | 0 | 3 | 4 |
| Episode 4 | 28 | 12 | 1 | 2 |
| Episode 5 | 37 | 9 | 4 | 0 |
| Episode 6 | 11 | 4 | 2 | 0 |
| Episode 7 | 11 | 4 | 1 | 0 |
| Total | 212 | 51 | 52 | 10 |

Table 12. Chert Use-wear per Construction Episode.

quartz and quartzite hammerstones procured locally. The production data collected on artifacts from deposits associated with the seven construction episode deposits also suggest that there was little change in chert flake production over time. While variation was statistically significant, these patterns did not correspond to social changes for most of the productive attributes. This means that social change at Blackman Eddy seems to have had little affect on the production of chert flake tools.

**Chipped Stone Function**

Functional studies examine artifacts to see how they may have been utilized. The attributes selected in this study to examine artifact function were artifact use-wear and thermal alteration. Artifact use-wear was studied through the analysis of the micro-wear pattern along their edges. The four use-wear categories are: scraping, cutting/sawing, engraving, and drilling. For chert artifacts, cutting/sawing, engraving, and scraping use-wear patterns were found on artifacts from all seven construction episode deposits (Table 12). Cutting /sawing use-wear was the most common use-wear type found on artifacts


Figure 29. Percentage of Chert Artifacts with Drilling Use-wear per Episode.

sampled from deposits associated with the seven construction episodes, followed by scraping and engraving use-wear. Drilling use-wear patterns were found only on chert artifacts from the first four construction episode deposits. The number of drills found in deposits from each construction episodes was quite low, so the lack of drills in the last three construction episode deposits is likely due to their overall low percentage per construction episode (Figure 29). Chert artifacts with drill use-wear patterns formed 1.6 percent, or less, of the total number of chert artifacts sampled from Str. B1.

Chi-square statistics on use-wear over time indicated that the variation for burins and drills was significant ($X^2_{calc}$ = 22.87 and 15.1) but that the variation in cutting and scraping tools was not ($X^2_{calc}$ = 1.93 and 10.16). This means that the percentage of chert tools used to cut and scrape did not change significantly over time, while the percentage of tools used to engrave and drill did change. In particular, the percentage of chert


Figure 30. Percentage of Chert Artifacts with Engraving Use-wear per Episode.

chipped stone tools used for engraving and drilling activities decreased, particularly after the third construction episode (Figure 30). Many of these drills and engravers were found in association with an assortment of freshwater and oceanic shells, possibly indicating the presence of an ornamental shell industry at Blackman Eddy (Cochran 2005). If it can be proven that a shell industry did exist at Blackman Eddy, then it would be an example of local craft specialization at the site. The decline of this industry at the end of the Middle Preclassic period may have occurred during a period of social change at the site. Two possibilities for the decline of the local shell industry at Blackman Eddy may have been the introduction of new types of elite regalia or the importation of shell ornaments from outside the site.

The variability and randomness in percentage of both cutting and scraping use-wear categories for chert artifacts suggests that these tools were used in a variety of tasks

| Use-wear | Cut/sawing | Scraping | Engraving | Drilling | Total |
|---|---|---|---|---|---|
| Episode 1 | 0 | 0 | 0 | 0 | 0 |
| Episode 2 | 0 | 0 | 0 | 0 | 0 |
| Episode 3 | 0 | 0 | 0 | 0 | 0 |
| Episode 4 | 2 | 0 | 0 | 0 | 2 |
| Episode 5 | 2 | 0 | 0 | 0 | 2 |
| Episode 6 | 0 | 0 | 0 | 0 | 0 |
| Episode 7 | 6 | 3 | 0 | 0 | 9 |
| Total | 10 | 3 | 0 | 0 | 13 |

Table 13. Obsidian Use-wear per Construction Episode.

and were not created for any type of specialized activity. Furthermore, the lack of any clear change over time in the use-wear percentages for the seven construction episodes indicates that social change at Blackman Eddy did not have a significant impact on the cutting and scraping activities based on the use-wear patterns on chert flake tools.

A handful of obsidian artifacts from Str. B1 had noticeable use-wear patterns (Table 13). All of these artifacts were from deposits associated with Construction Episode 7. The lack of use-wear on obsidian artifacts from other construction episodes is likely due to sample size. Both cutting/sawing and scraping use-wear patterns were found on obsidian artifacts. All of the obsidian artifacts were found in a ritual deposit associated with Str. B1.2, and the use-wear patterns on them suggest that they may have been used in ritual activity in the Classic period.

**Thermal Alteration**

The second functional attribute used in this study was thermal alteration. Thermal alteration is the post-production burning of chert artifacts. Thermally-altered chert


Figure 31. Percentage of Thermally-altered Chert per Construction Episode.

artifacts were found in fill sampled from all seven construction episodes (Table 11). The weighted average of thermally-altered chert artifacts was variable from construction episode to episode. Chi-square statistics on the percentage of thermally-altered chert artifacts indicate that the variation is statistically significant enough to reject the null hypothesis. The calculated chi-square value for thermally-altered chert was 32.75.

While change in the percentage of thermally-altered chert was significant, there were no trends over time that corresponded to social change at Blackman Eddy. In fact, the percentage of thermally-altered chert artifacts was relatively high for each construction episode, ranging from 26-47 percent of the total amount of chert artifacts sampled (Figure 31). The high percentage of thermal alteration for chert artifacts in each construction episode suggests that a significant percentage chert artifacts sampled from

Str. B1 were burned before they were deposited in the various buildings suggesting that these artifacts may have been originally been associated with domestic households. If the majority of chert tools did come from domestic trash middens, then this study is primarily looking at chipped stone tools produced at the household level.

**Discussion of Chipped Stone Data**

As stated at the beginning of this chapter, the purpose of my thesis is to look at the chipped stone artifacts from Str. B1 of Blackman Eddy for changes in the exchange, production, or function of chipped stone artifacts over time and see whether any changes correlate with the social changes inferred from the architectural patterns discussed in Chapter 1. The first social change at Blackman Eddy occurred during the third construction episode when large, public rectangular platforms replaced small, domestic circular structures. Several deposits and features associated with these buildings also suggest that building function changed from domestic rituals to public feasting rituals. This change in building form and function seems to indicate that an early chiefdom may have emerged at Blackman Eddy during the Middle Preclassic period.

The second social change at Blackman Eddy occurred in Classic period during the seventh construction episode of Str. B1. At this time, large pyramid structures replaced rectangular platform structures and single dedicatory caches replace public ritual events. Both of these changes suggest that a highly stratified social hierarchy emerged at Blackman Eddy, possibly associated with the integration of the site into the hierarchy of a regional polity, such as a large chiefdom or state. If this model for Blackman Eddy is

correct, then there should be noticeable changes in the chipped stone tool industries of Blackman Eddy that correspond to the third and the seventh construction episodes.

In this study, several attributes were selected to infer the production, function, and exchange of chipped stone artifacts from deposits associated with the seven construction episodes of Str. B1. Differences in these attributes between the seven construction episodes represent industrial change over time. Three significant changes in the raw material attributes over time that correspond with social change at Blackman Eddy are the change in the type of obsidian found at Blackman Eddy, the increase in the percentage of obsidian artifacts, and the increase of chert artifacts with patination.

During Blackman Eddy's history, the percentage of obsidian artifacts in deposits from the seven construction episode increased over time. For the Middle Preclassic period, only a small and sporadic number of obsidian artifacts have been found. During the Classic period, the percentage and number of obsidian artifacts increased substantially. The increase in obsidian during the Classic period correlates in time with change to a stratified social hierarchy at Blackman Eddy. With the adoption of a highly stratified society at Blackman Eddy, social, political, and economic power would be more concentrated into fewer hands, giving local elites an increased ability to access greater quantities of exotic materials such as obsidian.

Another important change over time is the change in the type of obsidian found at Blackman Eddy. In the first six construction episodes, all obsidian artifacts found in Str. B1 were from the SMJ obsidian source. In the seventh construction episode, most of the obsidian artifacts were from the El Chayal source, supplemented by obsidian from the Pachuca source. While the change in obsidian sources correlates with social change at

Blackman Eddy, this change may be due to socio-political developments in the highland area of Guatemala and the Pacific Gulf Coast.

The final important raw material change over time at Blackman Eddy is the increasing percentage of chert artifacts with patination. In this study, chert patination was a distinguishing feature of non-local chert, possibly from the Belize Zone near the site of Colha. Over time, percentage of chert artifacts with patination increases. Also, the average weight of patinated artifacts per construction episode has a very similar pattern. This indicates that the size of chert cores, as well as the number of chert cores from Colha, increased over time beginning in the Middle Preclassic period until Classic period. While social change over time at Blackman Eddy may have facilitated greater access to non-local chert supplies, I believe that the change in the percentage of chert patination, like the change in obsidian sources, was most likely caused by factors outside of Blackman Eddy.

Overall, there is little change in the raw material attributes of the artifacts sampled from Str. B1, and this suggests that there few significant changes in raw material attributes corresponding to social changes at Blackman Eddy. Particularly, there are no discernable changes in raw material exchange that correspond to the initial social changes that occurred during Construction Episode 3. However, changes in several raw material attributes during Construction Episode 7 suggest that social change at the site did have an impact on the exchange of obsidian. Therefore, the data on raw material exchange only slightly rejects the null hypothesis of this thesis.

Based on my analysis of the production attributes for chipped stone artifacts from Str. B1 at Blackman Eddy, only the chert flake industry had sufficient evidence to

suggest that the artifacts found in each of the seven construction episodes deposits were locally manufactured. There was not enough evidence from the data collected in this study to support the local production of artifacts associated with the obsidian flake, obsidian prismatic blade, or chert biface industries. Based on this conclusion, the only chipped stone industry at Blackman Eddy that would have been directly affected by social change over time would be the chert flake industry. However, there were no detectable changes in any of the production attributes associated with the chert flake across the seven construction episodes, and it appears that chert flake tools were consistently produced over time using the same manufacturing techniques. This lack of discernable change over time in the production of chert flake tools supports the null hypothesis.

Analysis of the functional attributes across the seven construction episodes indicated that there was very little change in artifact function over time. The variation in use-wear among chert tools were used in domestic settings. The high percentage of thermally-altered chert artifacts in deposits from the seven construction episodes suggests that these artifacts were likely burned in trash middens before being recycled as construction fill for the various buildings of Str. B1. There were no significant changes in chert tool function over time based on the analysis of chert artifacts from the seven construction episode deposits. Though several obsidian artifacts analyzed from deposits associated with the seventh construction episode did have noticeable use-wear patterns, no noticeable use-wear patterns were found on obsidian artifacts from deposits in the previous construction episodes. The reason for the distinction in use-wear patterns for Construction Episode 7 deposits may be due to the larger sample size of obsidian artifacts

collected from deposits associated with this episode. All quartz and quartzite artifacts appear to be either hammerstones or hammerstone flakes that may have been used to produce chipped stone tools. However, there were no significant patterns in the functional attributes of these artifacts over time. This lack of change over time in the functional attributes of the artifacts from Str. B1 supports null hypothesis of this thesis.

The hypothesis of this thesis is that the development/introduction of stratified society at Blackman Eddy (as indicated changes in architectural forms and styles) facilitated changes in the various chipped stone tool industries (as reflected by change in the chipped stone artifacts). The null hypothesis of this study is that social change will not lead to significant changes in the chipped stone artifacts from Blackman Eddy. The data collected on the exchange, production, and function of artifacts from the chipped stone tool industries of Blackman Eddy conflict in their support of the null hypothesis. In some cases, artifact variation between construction episodes was not statistically significant. In many statistically significant cases, the variation was random or did not correlate to periods of social change at Blackman Eddy. In the few cases where the null hypothesis was rejected and a patterned correlation with social change was found, there were many external factors that likely contributed to the chipped stone tool variation besides social change at Blackman Eddy. This means that social change does not appear to have had a great impact on the chipped stone tool industries at Blackman Eddy. Interestingly, there are several explanations for why the data provided contradictory evidence for and against the null hypothesis.

One explanation for the ambiguities in the data may be that the null hypothesis is correct and my assumptions about social change leading to economic change are false.

My analysis of the labor costs associated with construction of buildings from each of the seven construction episodes indicated that there was only a slight increase in labor costs until the seventh construction episode. These slight increases in labor costs over time may indicate that the earliest social changes at Blackman Eddy did not significantly increase the socio-political and economic power its emergent elite class. Because social change at Blackman Eddy may not have brought significant changes to the local economy, there would not be a detectable change in the various chipped stone artifacts. This would explain why there was very little change in the chipped stone artifact attributes during Construction Episode 3 when large rectangular platform construction began at Blackman Eddy. However, this explanation does not explain the later correlation between the variation in obsidian artifact attributes and the architectural data from Construction Episode 7.

Another explanation for the conflicting data is the different nature of the chert flake and obsidian artifacts found in the various construction episode deposits. The chert flake industry at Blackman Eddy produced the largest percentage of tools found in Str. B1 and appears to have been the most widely used tool at Blackman Eddy. Based on the analysis of production and function attributes, most of the chert artifacts found in Str. B1 were produced and used in domestic settings from locally available raw materials. Social change may not have as strong an impact on domestic economic activities because elite management over domestic activities is highly variable across pre-capitalist societies, ranging from non-existent to all-encompassing (Brumfiel and Earl 1987:4). The low technological requirements needed to produce flake tools and the relative availability of chert in the Belize River Valley may have made it improbable for elites at Blackman

Eddy to control the exchange and production of most of the chert tools found at the site and may have provided little incentive for them to do so. If local elites were not involved in managing domestic activities at Blackman Eddy, including the procurement and production of chert flake tools, then social change at Blackman Eddy would not bring significant changes in the production, function, or exchange of chert flake artifacts.

The most likely types of chipped stone artifact to be affected by social change are those artifacts whose production and/or exchange can be controlled by an elite class. Rulers and would-be rulers take a more active interest in the production, procurement, and distribution of wealth than subsistence because wealth is the means by which rulers define their own social status and the status of others (Brumfiel and Earle 1987:4). Obsidian artifacts and chert artifacts with patination are two types of artifacts at Blackman Eddy whose production and exchange may have been controlled by elite sponsorship at Blackman Eddy.

First, there are no known obsidian deposits in Belize. In areas where there are little or no outcrops of obsidian, all raw obsidian must be imported. This creates a premium cost for obsidian based on the high transportation costs. The cost to import obsidian artifacts into Blackman Eddy may have been beyond the ability of most individual households to support on a regular basis. A similar argument can be made for the transportation cost of patinated chert from Colha, though the transportation cost of these items would likely have been lower than those associated with obsidian exchange. With the development of an elite class at Blackman Eddy, obsidian artifacts and Colha chert may have been imported in increasing quantities due to the ability of elites and would-be-elites to pool resources to facilitate exchange of such items.

Besides transportation costs, the production costs of some types of tools may have been controlled by elites and aggrandizers through specialized production. Specialization is "the production of alienable, durable goods for non-dependent consumption" (Clark and Parry 1994:297). Based on this definition, all societies at various levels of complexity have some form of specialization. This is because specialization is not a single phenomenon with a single cause but incorporates various economic relationships (Earle 2000:128). The type of specialization that I would like to consider in this thesis is attached specialization. Attached specialization is the production of goods or special services under the sponsorship of a patron, typically elite such as a chief or lord, who retains control over the use and distribution of these goods (Brumfiel and Earle 1987:5). By controlling the production and distribution of certain items of social importance, elites and would-be elites can maintain or gain social status through attached specialization. In Mesoamerica, elites and aggrandizers may have sponsored the production of obsidian prismatic blades as a means to increase or sustain their social status.

Obsidian prismatic blade production is one type of technology that can be easily controlled by elites and emerging elites. The technology used to produce prismatic blades is neither portable, flexible, nor easily mastered (Clark 1987:268). The high costs involved to train individuals to produce obsidian prismatic blades may have been beyond the economic ability of individual households to support in areas where obsidian is not readily available for several reasons. First, the creation of prismatic blades takes time to learn in order to produce effectively useful prismatic blades. Craftsmen must develop excellent hand-eye coordination and personal motor skills to make repetitive blows in a

regular manner and to overcome knapping errors without ruining the core used for blade production (Clark 1987:268).

Second, blades cannot be produced on the fly; effective blade production requires special tools and set up time to create. Third, blade-making skills need to be maintained over time by craftsmen, and the lack of practice, even over a short span of time, weakens the craftsman's abilities (Clark 1987:267). Effective prismatic blade makers must make enough blades on a regular basis to maintain skill levels and this requires a steady flow of raw materials. If a blade specialist does not produce blades on a regular basis, these skills will deteriorate over time. Though blades were not produced at Blackman Eddy, the overall import cost of these artifacts may have included the production costs as well, making it nearly impossible for average households to import. The chipped stone data from Blackman Eddy support this idea because obsidian prismatic blades were not exchanged into Blackman Eddy before the emergence of an early chiefdom at the site.

In conclusion, chipped stone artifacts associated with domestic economic activities at Blackman Eddy support the null hypothesis and artifacts associated with elite sponsorship refute the null hypothesis. As a result of social change over time at Blackman Eddy, a wide variety of exotic goods, particularly obsidian and chert from Colha, were brought into the site under the sponsorship of an elite class. However, there is little evidence from the chipped stone artifacts of Str. B1 that supports the idea that Blackman Eddy had direct control over the production or regional exchange of these artifacts. The next chapter offers a more complete view of the regional exchange of obsidian and chert with the analysis of the distribution of obsidian and chert chipped stone artifacts from several other sites in Belize.

## Chapter 4- Regional Look at Chipped Stone Tool Production

The previous chapter examined the production of chipped stone tools at Blackman Eddy from the Middle Preclassic through the Classic periods. One conclusion from this study of chipped stone artifacts in each of the seven construction episodes of Str. B1 is the continual and overwhelming use of local chert in the production of chert tools. The production of chert tools changed very little over time and does not appear to have been influenced by social change at Blackman Eddy. The second conclusion was that the number of obsidian artifacts per construction episode increased over time, with a dramatic spike occurring during the Classic period. The increase in the number and percentage of obsidian artifacts per construction episode indicates that the exchange of obsidian increased over time and may have been caused by the integration of Blackman Eddy into a highly-stratified social hierarchy such as a paramount chiefdom or state. A similar trend was also observed for the percentage of patinated chert artifacts per construction episode.

What is not known is whether these conclusions were unique to Blackman Eddy or whether they were part of a greater regional economic pattern of stone tool production and exchange. In order to better understand the socio-economic changes that occurred during the Preclassic and Classic periods, the chipped stone tools industries of five contemporary sites of Blackman Eddy in the eastern lowland region of Belize were examined. The focus of this study was on the chert and obsidian tools manufactured and exchanged in each of these sites. Three of these sites, Cuello, Colha, and Cerros, are

located in the northern region of Belize. The other two sites, Barton Ramie and Cahal Pech, are located in the Belize River Valley.

**Colha**

Colha was originally documented in 1973 by the British Museum Cambridge University Corozal Project of 1973-1974. After its initial discovery, extensive excavations and archaeological studies were undertaken at Colha. Ceramic correlations and radiocarbon dates from Colha indicated that the site was occupied from about 1000 B.C. to A.D. 1250 (Shafer and Hester 1983:521). Colha covers an area of about 4 square kilometers and has a modest ceremonial center of several small structures with four to five courtyards (Shafer and Hester 1983:521). Colha is not a very large site and was classified as a small major center. What makes Colha unique is not the size or scale of its architecture but its extremely high frequency of chert tools and by-products.

Chert was the most widely used raw material type at Colha across its occupation. One reason for the high percentage of chert tools at Colha is a result of the large quantities of high-grade chert found there. Chert nodules are found in weathered outcrops along Rancho Creek, up to 1 m. wide and almost 1 m. thick (Shafer and Hester 1983:521). The evidence supporting the manufacture of chert tools at Colha is quite convincing. First, the physical characteristics of the raw chert nodules at or near Colha are identical to the chert artifacts from Colha. Second, the number of chert tools and chert tool by-products recovered from archaeological settings is significant. Finally, a large number of exhausted cores were found in pazuelas and house mounds in Colha (Shafer and Hester 1983:521). The large number of chert tools at Colha has led archaeologists to

determine that Colha was a major center for chert tool production, and archaeologists have found and classified 31 Preclassic chipped-stone workshops at Colha (Shafer and Hester 1983:528). A variety of formal chert tool types have been documented at Colha, including stemmed macro-blades, tranchet-bit tools, oval bifaces, and T-shaped tools (Hester 1991:194). These formal tools (particularly the stemmed macro-blades) were exchanged across much of the northern region of Belize and other areas in Mesoamerica (Clark and Lee 1979; Hester 1991; Mohol-Nagy 1976). The production of formal chert tools at Colha began sometime during the Middle Preclassic period (Hammond et al. 1991; Hester 1985; McAnny 1989). However, it was during the Late Preclassic period when production increased dramatically at Cuello (Shafer and Hester 1983:535).

Though much smaller in number, obsidian has also been found in the Preclassic and Classic period deposits at Colha (Brown et al. 2004:226). From the Preclassic deposits, 148 obsidian artifacts found in several different Colha contexts have been analyzed to determine their source (Brown et al. 2004:227; Table 11). Results from this analysis indicate that the three main sources of Preclassic obsidian were El Chayal (N = 42), SMJ (N = 35), and Ixtepeque (N = 26). Based on ceramic evidence, the obsidian sampled from Colha was organized according to Preclassic sub-phases (Middle, Late, and Terminal) to look for trends over time (Brown et al. 2004:230). The results show that SMJ obsidian was an important Preclassic commodity at Colha, but there was a significant drop in the number and percentage of SMJ obsidian during the Late and Terminal Preclassic periods (Brown et al. 2004:232). The rise of El Chayal obsidian and the decline of SMJ obsidian at Colha continued at in an almost inverse relationship, as SMJ obsidian practically disappears by the Late Classic period (Brown et al. 2004:232).

| Period | SMJ | El Chayal | Ixtepeque | Total |
|---|---|---|---|---|
| Early Middle Preclassic | 14 | 7 | 1 | 22 |
| Late Middle Preclassic | 16 | 19 | 22 | 57 |
| Late Preclassic | 5 | 16 | 3 | 24 |
| Classic | 2 | 103 | 94 | 199 |

Table 11. Colha Obsidian Artifacts and Sources, after Brown 2004.

**Cuello**

Cuello was also found through survey work conducted by the British Museum Cambridge University Corozal Project of 1973-1974 (Hammond et al. 1991:8). The excavations at Cuello found a significant amount of preclassic pottery, including Mammon sherds from the Middle Preclassic and Chicanel sherds from the Late Preclassic (Hammond et al. 1991:8). Like Colha, preclassic chipped-stone tools were found at Cuello, and they have been studied to understand Preclassic tool production and exchange. The two most important raw material types documented in the Cuello chipped stone tools were chert (N = 2,135) and obsidian (N = 360) (McSwain and Johnson 1991:160).

The chert from Cuello was classified into two general categories based on physical characteristics. The first category was called Colha chert and was characterized by a fine-grained gray or brown chert that was occasionally banded (McSwain and

Johnson 1991:160). As the name suggests, this chert had physical characteristics similar to chert found in Colha and its surrounding quarries. The second chert category, designated other, includes a rough white chert and a translucent chert of white, brown, and gray (McSwain and Johnson 1991:160). Both of these types of chert were used in the production of chipped stone tools during the Preclassic period, but a higher percentage of Colha variety chert was present in Cuello's Late Preclassic deposits (McSwain and Johnson 1991:169; Table 12).

The presence of chert tool manufacturing debris in both the Middle and Late Preclassic deposits at Cuello for both the local and Colha varieties of chert indicated that the manufacture of tools made from both Colha and local chert took place at Cuello during the Middle and Late Preclassic periods (McSwain 1991:193). Also, the presence of cortex on a large number of chert artifacts from the Middle and Late Preclassic deposits at Cuello also support the idea of local production for chert tools. Cortex was present on 19 percent of chert artifacts from the early Middle Preclassic, 11 percent of late Middle Preclassic chert artifacts, and on 14 percent of all Late Preclassic chert artifacts (McSwain 1991:193).

Several different types of chert tools were found in the preclassic deposits at Cuello, and these were divided into a two-level, inter-related system (McSwain and Johnson 1991:161). Examples of first-level tools are oval bifaces, tranchet-bit tools, and stemmed macro-blades. Another important tool found at Cuello was chert blades that were trapezoidal in cross section. Interestingly, no blade cores were found at Cuello, and it is not known whether blades were produced locally or exchanged as finished tools. The second level consisted of tools made from chert by-products. This level includes

| Period | Colha | Other | Total |
|---|---|---|---|
| Early Middle Preclassic | 117 | 212 | 329 |
| Late Middle Preclassic | 78 | 233 | 311 |
| Late Preclassic | 619 | 658 | 1277 |
| Total | 814 | 1103 | 1917 |

Table 12. Colha and Other Chert Artifacts at Cuello, after McSwain and Johnson 1991.

expedient tools and tools made from recycled formal tools. The low number of formal tools found at Cuello suggests that secondary chert tools were much more prominent than the first category, though both primary and secondary tools were found in Middle and Late Preclassic deposits at Cuello (McSwain and Johnson 1991:171).The evidence for chert tool production over time is one of continuity in tool types and production processes (McSwain and Johnson 1991:172).

Despite the high level of continuity across the Preclassic, there were some significant changes in the tool industry between the Middle and Late Preclassic periods at Cuello. One of the trends is an increase in Colha variety tools between the Middle and Late Preclassic periods, particularly oval bifaces (McSwain and Johnson 1991:172). About 40 percent of the Early Middle Preclassic chert artifacts were made from Colha-like chert and 60 percent was manufactured from local varieties (McSwain and Johnson 1991:168). The percentage of Colha chert dropped during the Late Middle Preclassic to about 32 percent but rose during the Late Preclassic to 49 percent of the total number of chert artifacts (McSwain and Johnson 1991:169). The increase in Colha variety tools at

Cuello took place at the same time as large-scale production of chert tools began at Colha. The evidence from both sites strongly suggests a system of exchange for chert tools during the Late Preclassic period.

The second most widely used raw material for chipped stone tool production at Cuello was obsidian. However, the amount of obsidian found at Cuello is much smaller than the amounts of chert tools from both the Middle and Late Preclassic periods (McSwain and Johnson 1991:169). Some of the obsidian found at Cuello is quite early, dating to the Bladen IIIA Phase (800- 600 B.C.). The main obsidian sources were identified for both the Middle and Late Preclassic period deposits at Cuello were: El Chayal, Ixtepeque and SMJ (McSwain 1991:194). Though the actual percentages of each site were different in each phase, there does not appear to have been a preference for any of the obsidian sources during the Middle and Late Preclassic periods at Cuello (McSwain 1991:194). Obsidian sourcing from the Cuello samples suggests that obsidian exchange at Cuello was complicated and varied during the Preclassic period, and it may have arrived in Cuello through different exchange routes than those of other sites in the eastern lowland region.

Several different obsidian technological types were found at Cuello, including 12 flakes, 4 blades cores, 225 blades, and 12 biface fragments (McSwain and Johnson 1991:169; Table 13). Prismatic blades are the most common type found in both the Middle and Late Preclassic deposits at Cuello, forming nine percent of the total obsidian found in Mammon deposits and 86 percent in Chicanel deposits, and the number of prismatic blades increased over time (McSwain and Johnson 1991:169). In Mammon phase deposits, only four prismatic blades were found (McSwain and Johnson 1991:169).

| Period | Blades | Flakes | Cores | Bifaces |
|---|---|---|---|---|
| Middle Preclassic | 6 | 0 | 0 | 0 |
| Late Preclassic | 38 | 4 | 0 | 0 |
| Early Classic | 49 | 0 | 0 | 0 |
| Late Classic | 30 | 3 | 0 | 0 |
| Unknown | 102 | 5 | 4 | 1 |
| Total | 225 | 12 | 4 | 1 |

Table 13. Obsidian Artifacts at Cuello, after McSwain and Johnson 1991.

From later Chicanel deposits at Cuello, 38 obsidian blades were found (McSwain and Johnson 1991:169).

The presence of blade cores at Cuello suggests that obsidian blades were produced at this site, but obsidian prismatic blade manufacture was limited. No large obsidian macro-flakes have been found at Cuello. This suggests that cores were exchanged into Cuello as prismatic cores. Obsidian appears to have been a valuable resource at Cuello. Blades were not the only tools produced from blade cores at Cuello as several of the obsidian flakes found have production characteristics suggesting that they were removed from exhausted cores after the production of prismatic blades (McSwain and Johnson 1991:170). It is not known exactly when blade production occurred at Cuello because none of the blade cores was found in dated contexts (McSwain and Johnson 1991:170).

**Cerros**

Cerros is a costal site located in brackish waters between Laguna Seca and The Chetumal Bay (Freidel et al. 1986:1). Cerros had a meteoric rise and fall completely within the Late Preclassic period. This rise and fall is largely due to its location near Late Preclassic Caribbean trade routes that changed during the Classic Period away from Cerros (Freidel et al. 1986:1). The occupation of Cerros has been divided into three phases: The Ixtabai Phase (300-200 B.C.), the C'oh Phase (200- 50 B.C.), and the Tulix Phase (50 B.C. - A.D. 150).

Excavations within deposits of each of the three phases of Cerros have recovered a substantial amount of data for the Late Preclassic period. 51 chipped stone tools were analyzed from excavations that date to Ixtabai Phase (Lewenstein 1984:247). Of these 51 chipped stone tools, only four artifacts were made of obsidian, and the remaining artifacts were made from chert (Lewenstein 1984:273). Chert tools were found in a variety of different forms: oval bifaces, tranchet-bit tools, adzes, and macro-flakes. Many of these tools are similar in their design and manufacture to the chert tools from Colha, making it likely that these chert tools were imported from Colha to Cerros as part of an exchange system (Lewenstein 1984:248). This exchange system involved the importation of mass-produced, finished chert tools to Cerros from Colha. Use-wear analysis on Ixtabai tools indicated a large number of tools were used for domestic, everyday tasks

51 stone tools were analyzed from C'oh Phase contexts (Lewenstein 1984:278; Table 14). During this phase, fewer oval bifaces and finished tools were recovered from structures and middens, and the quality of the chipped stone tools during this phase

| Period | Obsidian | Chert | Total |
|---|---|---|---|
| Ixtabai | 4 | 47 | 51 |
| C'oh | 4 | 47 | 51 |
| Tulix | 53 | 301 | 354 |
| Classic | 24 | 226 | 354 |

Table 14. Obsidian and Chert Artifacts from Cerros; after Lewenstein 1984.

declined. Unlike the Ixtabai Phase chert tools, the C'oh phase chert artifacts are not standardized, and many of these tools (particularly the chert bifaces) are unfinished and crude in appearance (Lewenstein 1984:293). The decrease in quality and quantity of mass-produced tools during this phase signals that fewer chert tools were being imported from Colha into Cerros as more expedient chert tools were produced locally (Lewenstein 1984:293). Tool use-wear patterns during the C'oh phase showed an increase in the number of scrapers, gravers, and perforators, and there was a slight drop in adzes and oval bifaces (Lewenstein 1984:293). Obsidian blades are present in C'oh phase contexts, but their numbers are low as well.

354 chipped stone tools were analyzed from Tulix Phase contexts. 291 of these artifacts were made of chert and 53 were made from obsidian. There is a marked 20 percent increase in the percentage of obsidian used at Cerros, and use-wear was found on twice as many obsidian artifacts than in either the Ixtabai or C'oh Phases (Lewenstein 1984:278). The increase in obsidian consumption were attributed to a large sample size for the Tulix Phase and an overall increase in chipped stone tool consumption tools by a larger population (Lewenstein 1984:278).

**Barton Ramie**

Barton Ramie is located in the Belize River valley about 15 kilometers northeast from the town of San Ignacio. The site is on the north bank of the Belize River, along part of an oxbow meander between the towns of Spanish Lookout and Mount Hope (Willey et al. 1965:31). This site is about 3 km west of Blackman Eddy. Excavations at Barton Ramie occurred after a large tract of land was cleared, revealing an extensive Maya settlement. Barton Ramie has a long occupation sequence from the Middle Preclassic through the Classic period. Relative dating of the structures has been conducted based on the ceramics found within excavations, allowing archaeologists to place the 262 structures mapped for the site in a temporal order. What makes Barton Ramie an interesting site is that it does not have a site core. Only one structure at Barton Ramie, BR-180, was classified as a temple structure (Willey et al. 1965:34).

A wide variety and number of chipped stone tools were examined during the course of the archaeological excavations at Barton Ramie. Chipped stone tools were classified into four categories: utilitarian chert, utilitarian obsidian, ceremonial chert, and ceremonial obsidian (Willey et al. 1965:410). Tools were classified into one of these four classes based on where they were found: burials, ritual caches, or middens. They were also sub-divided according to their physical attributes. The two most common raw material types used in the manufacture of stone tools found at Barton Ramie were obsidian and chert, referred to as "flint" by Willey.

Chert was the most common raw material used for the production of chipped stone tools at Barton Ramie. Though no assessment of informal chert tools or debitage was done during the excavations, 3,000 pieces of "chert scrap" were found at the site

(Willey et al. 1965:440). The chert colors found at Barton Ramie were: white, honey, lavender-bluish, gray-white, gray, dark brown, and purplish-white. All of these colors and physical characteristics were also observed for the chert artifacts from Blackman Eddy and for the chert nodules sampled from the Belize River Valley. The similarity in chert color between Barton Ramie, Blackman Eddy, and the survey samples suggests that the inhabitants of Barton Ramie (like those at Blackman Eddy) were using chert sources in the Belize River Valley for the manufacture of chipped stone tools.

Utilitarian chert scrapers, adzes, choppers, drills, knives, and punches were found in each of the different temporal deposits at Barton Ramie. Most of these tools were likely made through household production and do not appear to be mass-produced like the chert tools from Colha. For example, the utilitarian bifaces from Barton Ramie are crudely shaped and are very thick. These bifaces have little or no bifacial thinning, and only the edges appear to have any extensive modification from pecking (Willey et al. 1965:410).

Like the utilitarian chert, the ceremonial chert appears to have been made from local chert supplies, though the quality and craftsmanship of these tools is much higher than utilitarian tools. Most of the evidence for ceremonial chert comes from the Classic and Late Classic deposits (Willey et al. 1965:446). Several chert stemmed macro-blades and stemmed bifaces do date to the Late Preclassic. The stemmed macro-blades, referred to as plano convex stemmed knives, are similar to the Colha variety stemmed macro-blades but date much later than the Late Preclassic Colha types (Hester 1991:198). The presence of larger numbers of ceremonial chert tools from the Classic period may be an indication of part-time craft specialization sponsored by an elite class at Barton Ramie.

Obsidian was also recovered from excavations at Barton Ramie, but it was found in much smaller quantities than the chert. The only type of obsidian found at Barton Ramie is a gray-black variety used in the manufacture of both utilitarian and ceremonial obsidian tools (Willey et al. 1965:423). All ceremonial obsidian artifacts, particularly eccentrics, were found either in Classic or Late Classic period deposits at Barton Ramie, whereas utilitarian obsidian artifacts were found in each of the temporal phases of Barton Ramie. The most common utilitarian obsidian artifacts found at Barton Ramie were prismatic blade fragments. The number of blades increases over time, reaching a climax of 442 blades in the Late Classic period (Willey et al. 1965:445). The actual evidence for obsidian production at Barton Ramie is sparce. There are no large obsidian flakes, chunks, or flake fragments in any of the different deposits. Several obsidian cores were found at Barton Ramie, but these date to the Classic and Late Classic periods (Willey et al. 1965:442). It is likely that prismatic blades were produced at Barton Ramie during the Classic and Late Classic periods but there is no evidence for obsidian blade production during the Middle or Late Preclassic periods. Based on this evidence, Preclassic obsidian tools were likely exchanged into Barton Ramie but not produced there.

**Cahal Pech**

Cahal Pech is a medium-sized Maya site located in the Belize River Valley on the outskirts of San Ignacio and consists of 34 structures in seven plazas (Lee and Awe 1994:25). This site is about 20 km south-southwest of Blackman Eddy. Cahal Pech has a long occupational history that spans the Middle Preclassic through the Postclassic period, with the vast majority of construction beginning during the Late Preclassic period (Healy

and Awe 1994:195). The most common raw material used in the production of stone tools at Cahal Pech during its occupation was chert. Initial analysis of chert chipped stone tools was completed for lithic artifacts recovered from excavations into Plaza A during the 2004 BVAP field season. This analysis indicated that chert is the most frequent raw material type used for the manufacture of chipped stone tools during the different temporal phases of Cahal Pech's history. A wide variety of colors was found for the chert artifacts from Cahal Pech, all of which were similar to the chert colors observed in the chert samples from the Belize River Valley and the chert artifacts from Blackman Eddy.

Obsidian artifacts from Cahal Pech have been classified into two categories: obsidian blades and obsidian flakes (Awe et al. 1992:2). Obsidian blades were discovered on floors from the late Middle Preclassic and Late Preclassic periods (Awe and Healy 1994). A few of the flakes contain small amounts of cortex and all of the flakes a variable in shape and form (Awe and Healy 1994:197). The flakes were probably manufactured from spall cores using direct percussion and bipolar production (Awe and Healy 1994:197).

Prismatic blades first appear at Cahal Pech on floors associated with the late Middle Preclassic periods (Awe and Healy 1994:197). Further evidence for the adoption of prismatic blades at Cahal Pech during the Middle Preclassic is the discovery of a blade core at the Cas Pek group (a contemporary Middle Preclassic location on the periphery of Cahal Pech). Another piece of evidence was an obsidian prismatic blade core found in a Late Middle Preclassic deposit (Lee and Awe 1994:197).

Another change that occurred between the early Middle Preclassic and the late Middle Preclassic and Late Preclassic periods at Cahal Pech is the obsidian sources used

in the manufacture of obsidian artifacts. The obsidian flakes from early Middle Preclassic Pech originated from the El Chayal quarries in the Guatemala highlands (Awe and Healy 1994:202). Obsidian used at Cahal Pech during the late Middle Preclassic period and subsequent periods comes primarily from the San Martin Jilotepeque source (Awe and Healy 1994:202).

**Discussion of the Regional Study of Chipped- Stone Tool Industries**

Several general conclusions can be made for the chipped stone tool industries of the eastern lowland area of Belize during the Preclassic and Classic periods. First, chert was the most important raw material used in the manufacture of chipped stone tools across all periods of time in both the areas in the north and the Belize River Valley. With the rise of Colha in northern Belize as a major chert production center during the Late Preclassic, finished chert tools were exchanged across most the northern region. This is clearly seen at Cuello and Cerros where a large increase in both formal tools of Colha style and color were found in Late Preclassic deposits. There is also evidence from the sites of Barton Ramie and Blackman Eddy suggesting that tools and raw materials from Colha made their into the Belize River Valley, though in much smaller numbers when compared to sites in the north. At Blackman Eddy, the presence of a chert macro-blade made in a style similar to Colha blades was found in an early Middle Preclassic deposit. Also, a significant percentage of patinated chert, likely from sources in the north near Colha, was present in deposits associated with the Middle and Late Preclassic periods (Figure 32). Several Colha-like tools were found in Barton Ramie, but these deposits dated to the Classic period or later. However, the exchange of Colha variety tools did not

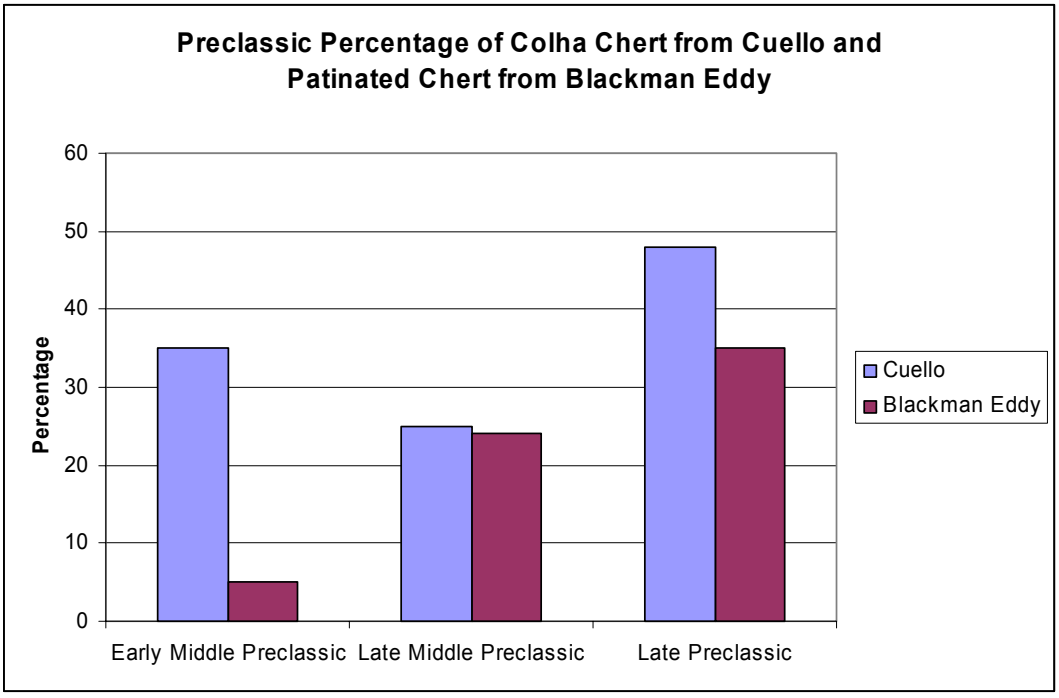


Figure 32. Preclassic Percentage of Colha Chert from Cuello and Patinated Chert from Blackman Eddy.

completely replace local manufacture of chert tools at any of the sites examined in this study.

The second conclusion relates to the exchange of obsidian into the Belize River Valley and the northern region of Belize. Obsidian exchanges began very early, possibly during the early part of the Middle Preclassic (1000- 800 B.C.). Most of the evidence from the north and south of Belize suggests that blade production may have been extremely limited to only a few sites in the region. There is some evidence for the manufacture of prismatic blades in the north based on the evidence from Cuello in the north, though the proveniences of the four obsidian blade cores from the site are not

known (McSwain and Johnson 1991:170). In the south, evidence from Cahal Pech suggests that obsidian tools were produced at the site from obsidian cores imported from the highland region. During the Middle Preclassic, obsidian flakes were produced from obsidian cores using direct percussion and bipolar percussion. During the Late Middle Preclassic, the production of obsidian prismatic blades replaced the production of flake tools.

Based on the data from the eastern Maya lowland sites of this study, several trends are apparent for the exchange of obsidian. First, San Martin Jilotepeque obsidian appears to have been the dominant source for obsidian tools used during the Middle Preclassic. During the Late Preclassic and Classic periods, El Chayal becomes the main source in most sites. However, this pattern was not uniform across the entire region. El Chayal may have been exchanged more in the north, based on the evidence from Cuello and Colha. Also, trace element analysis of the obsidian from Cahal Pech indicated that the trend was reversed: El Chayal obsidian was used during the early Middle Preclassic and was replaced by SMJ obsidian during the late Middle Preclassic. All of this indicates that the exchange of obsidian was more complex than what most current models indicate, though the general trends for exchange appear to be correct based on data.

Second, there is a noticeable increase in the number of obsidian artifacts over time at each of these sites. During the Late Preclassic, obsidian was brought into the northern region and the Belize River Valley in larger quantities than they were during the Middle Preclassic period. The increase in obsidian may be linked to increasing populations and formalized social hierarchies for both the northern region of Belize and the Belize River Valley. The trend found for localized chert production, and the increase in the supply of

obsidian prismatic blades is similar to the trends found at Blackman Eddy during the Middle and Late Preclassic. The only exception found in the larger region that was not documented at Blackman Eddy was the exchange of Colha variety chert tools in the north during the Late Preclassic

## Chapter 5- Summary and Conclusions

The purpose of my thesis is to look at social change at Blackman Eddy and its economic impact based on the chipped stone tool and architectural data from the Preclassic and Classic periods. Social change at Blackman Eddy is inferred from shifts in the architectural patterns and function of Structure B1 (Brown 2003). Under this assumption, rises in social complexity are linked to public architecture and the roles that these building played in society (Brown 2003:1). For Blackman Eddy, three important changes in social relations occurred during the site's occupation, as inferred from changes in architectural patterns of Str. B1. To test the three-stage model of social development at Blackman Eddy, the chipped stone tool industries of the site were examined for significant change over time. Because economic activities are integrated within the larger societies of which they are a part, social changes should create noticeable economic changes in the archaeological record. The hypothesis of this thesis is that social change at Blackman Eddy (as indicated by changes in the architectural characteristics and functions of the various buildings associated with Str. B1) caused changes in the chipped stone tool industries (as reflected by the changes the chipped stone artifact attributes). The null hypothesis to be tested in this thesis is that social change at Blackman Eddy did not cause significant changes in the chipped stone tool industries of Blackman Eddy.

Blackman Eddy has a history of occupation that dates from the early Middle Preclassic period (around 1200 B.C.) through the Postclassic period (A.D. 900). The first buildings of Str. B1 were small, domestic circular structures built with low labor costs.

During the latter part of Middle Preclassic, building form changed from circular structures to more labor-intensive, rectangular platforms. The labor costs associated with platform construction increased with each subsequent building episode. The higher costs indicate that many of the non-domestic structures were community undertakings that involved the pooling of labor from several households. The increase in construction costs and change in structure design marked a shift from domestic residences to public buildings and may have signified the establishment of an emergent chiefdom at Blackman Eddy. However, the estimated building volume from episode to episode was not very high and indicated that the increases in labor costs over time may not have been as significant as previously thought, indicating that elite power at Blackman Eddy may have grown slowly over time after the initial establishment of chiefdom and may have been limited during the Middle Preclassic period. If the power of the chief was limited at Blackman Eddy, then the impact of social change at the site may have not had as much of an impact on economic activity until the Late Preclassic when rectangular platforms were replaced by large pyramid structures.

In the final construction episodes of Str. B1, large pyramid structures replaced rectangular platforms as social stratification intensified at Blackman Eddy. Stucco masks, multi-tiered platforms, and in-set staircases were found associated with the final three construction episodes of Str. B1. These new architectural characteristics may indicate that Blackman Eddy was incorporated into the socio-political structure of a paramount chiefdom or state during the Late Preclassic or early Classic period. The two major changes in architectural style and form in Str. B1 occurred during the third and seventh construction episode, and they were assumed to be evidence of social change at

Blackman Eddy. Important changes in the chipped stone tool industries of the site should occur in and around these periods of change.

The four chipped stone tool industries at Blackman Eddy are the chert flake, obsidian flake, chert biface, and obsidian prismatic blade industries. The attributes examined for artifacts within each of these industries were: raw material type, color, patination, translucence, technological type, cortex, size, use-wear, and thermal alteration. Chi-square tests indicated that much of the patterned variation in artifact attributes across the seven construction episodes was significant. However, in most of these cases, the variation did not correlate to the periods of social change at Blackman Eddy, or the variation was caused by external factors.

Based on the analysis of the artifact attributes associated with the production of chipped stone tools, the only industry at Blackman Eddy that had conclusive evidence for the local production of chipped stone tools was the chert flake industry. This was likely a non-specialized household activity outside the control of local elites. Social change at Blackman Eddy had no direct impact on how chert flake tools were procured, made, or used over time. Also, there is little evidence to support the proposition of local manufacture of chert bifaces at Blackman Eddy. Though several bifaces were recovered in excavations from the seven construction episodes, the lack of bifacial thinning flakes in the archaeological record indicates that most biface production took place outside of Blackman Eddy. Using the data collected from survey work and the analysis of chert artifact color, chert flake tools were most likely produced from sources within the Belize River Valley. The only non-local variety of chert at Blackman Eddy was likely the patinated chert imported from Colha. Change in the percentage of patinated chert over

time was statistically significant and correlated to social change at Blackman Eddy. This increase in patinated chert over time was caused by the rise of Colha as a major chert production center in the eastern lowlands. Colha chert tools have been found in the Middle and Late Preclassic deposits at the sites of Cuello, Cerros, Barton Ramie, Cahal Pech, and Blackman Eddy. At all of the sites examined in this study, Colha chert never completely replaced the local production of chert tools using local sources. While Colha chert never dominated household economies at the sites examined here, it is possible that it was used as a type of gift given by elites to acquire social status and power from their constituents. As elite power grew over time, their ability to exchange for increasing amounts of chert from Colha would have grown, increasing the demand for Colha chert and chert tools over time.

Obsidian was another important resource exchanged at Blackman Eddy during the Middle Preclassic, Late Preclassic, and Classic periods. During the early Middle Preclassic, most of the obsidian came from the San Martin Jilotepeque (SMJ) source. During the Late Preclassic, obsidian from the El Chayal source was exchanged in greater quantity. By the Classic period, El Chayal obsidian dominated trade routes, supplemented by obsidian from the Ixtepeque source in Guatemala and obsidian central Mexico.

All of the obsidian tools found at Blackman Eddy were likely exchanged as finished products and were not produced locally. No obsidian by-products associated with the manufacture of obsidian flakes or prismatic blades have been found in deposits from Str. B1. However, the small amount of obsidian data from Blackman Eddy appears to support the idea that a shift in obsidian technology that occurred during the late Middle

Preclassic when obsidian flake tools production was supplanted by the production of obsidian prismatic blades.

Overall, social change at Blackman Eddy did not have as great an impact on the chipped stone tool industries as expected. Clearly, some chipped stone tool industries were more affected by social change than others. The reason for this difference is likely the different nature of the chipped stone industries. The chert flake and biface industries production were likely household activities where each household controlled the procurement, production, and use of chert tools, while the obsidian flake and prismatic blade industries were facilitated directly by the exchange networks of an emergent elite class.

Elites in prehistoric societies play a vital role in the emergence of complex economic activity, but they are also the primary beneficiaries of economic activity. These individuals consciously and strategically use economic activities to maintain social inequality, strengthen relationships with other elites, and create new institutions of control (Brumfiel and Earle 1987:3). Elite wealth is to finance a variety of activities, including the building of large structures and competitive gift giving. The emergence of an elite class at Blackman Eddy impacted the development of the obsidian chipped-stone tool industry because it helped facilitate both the importation of obsidian tools and the production of prismatic blades. The production of prismatic blades is generally beyond the means of the average household and may have required the financial resources of an elite chief to pay the costs associated with both the production and exchange of prismatic blades. Also, elites at Blackman Eddy would have had social ties to other important political centers which gave them increased access to exotic goods, such as obsidian,

from distant regions. If the exchange and production of obsidian tools used at Blackman Eddy was controlled by an elite class, there would be noticeable changes in obsidian artifact attributes that correlate with social change.

However, obsidian and Colha imports never completely replaced the local household production of chipped stone tools at Blackman Eddy. This means that individuals could perform essential daily tasks at the site without the use of obsidian or chert from Colha. If obsidian and Colha chert were non-essential items, then the power and prestige gained through these elite-sponsored activities may not have been all that great. Obsidian and chert from Colha were likely used by elites at Blackman Eddy as novelty items used to gain social debts that individuals could easily comply with when asked. These favors may have been "collected" by elites for the construction of larger public buildings at the site, but that appear does not appear to have been oppressive in terms of labor power employed in such tasks until the Classic period.

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# Appendix

## Raw Numbers and Weighted Average of Attributes

### Raw Materials:

Raw Numbers

| Raw Material | Obsidian | Chert | Quartz | Quartzite | Total |
|---|---|---|---|---|---|
| Episode 1 | 2 | 1277 | 21 | 8 | 1308 |
| Episode 2 | 0 | 291 | 9 | 2 | 302 |
| Episode 3 | 0 | 244 | 2 | 3 | 249 |
| Episode 4 | 2 | 350 | 1 | 3 | 356 |
| Episode 5 | 8 | 265 | 1 | 1 | 275 |
| Episode 6 | 0 | 111 | 2 | 2 | 115 |
| Episode 7 | 37 | 200 | 1 | 2 | 240 |
| Total | 49 | 2738 | 37 | 21 | 2845 |

Weighted Averages

| Raw Material | Obsidian | Chert | Quartz | Quartzite | Total |
|---|---|---|---|---|---|
| Episode 1 | 0.15 | 97.63 | 1.61 | 0.61 | 100.00 |
| Episode 2 | 0.00 | 96.36 | 2.98 | 0.66 | 100.00 |
| Episode 3 | 0.00 | 97.99 | 0.80 | 1.20 | 100.00 |
| Episode 4 | 0.56 | 98.31 | 0.28 | 0.84 | 100.00 |
| Episode 5 | 2.91 | 96.36 | 0.36 | 0.36 | 100.00 |
| Episode 6 | 0.00 | 96.52 | 1.74 | 1.74 | 100.00 |
| Episode 7 | 15.42 | 83.33 | 0.42 | 0.83 | 100.00 |
| Average | 2.72 | 95.22 | 1.17 | 0.89 | 100.00 |

### Chert Color:

Raw Numbers

| Color | Caramel | Chocolate | Gray | Red | Gray-white | White | Tan | Tan-white | Black | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 417 | 120 | 110 | 299 | 79 | 11 | 1 | 239 | 1 | 1277 |
| Episode 2 | 91 | 21 | 17 | 98 | 22 | 6 | 1 | 35 | 0 | 291 |
| Episode 3 | 72 | 24 | 19 | 61 | 13 | 10 | 6 | 39 | 0 | 244 |
| Episode 4 | 120 | 42 | 25 | 48 | 34 | 17 | 14 | 50 | 0 | 350 |
| Episode 5 | 80 | 18 | 21 | 38 | 31 | 14 | 6 | 56 | 1 | 265 |
| Episode 6 | 37 | 10 | 5 | 16 | 12 | 5 | 4 | 22 | 0 | 111 |
| Episode 7 | 91 | 10 | 9 | 37 | 9 | 6 | 2 | 36 | 0 | 200 |
| Total | 908 | 245 | 206 | 597 | 200 | 69 | 34 | 477 | 2 | 2738 |

Weighted Averages

| Color | Caramel | Chocolate | Gray | Red | Gray-white | White | Tan | Tan-white | Black | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 32.65 | 9.40 | 8.61 | 23.41 | 6.19 | 0.86 | 0.08 | 18.72 | 0.08 | 100.00 |
| Episode 2 | 31.27 | 7.22 | 5.84 | 33.68 | 7.56 | 2.06 | 0.34 | 12.03 | 0.00 | 100.00 |
| Episode 3 | 29.51 | 9.84 | 7.79 | 25.00 | 5.33 | 4.10 | 2.46 | 15.98 | 0.00 | 100.00 |
| Episode 4 | 34.29 | 12.00 | 7.14 | 13.71 | 9.71 | 4.86 | 2.26 | 21.13 | 0.00 | 100.00 |
| Episode 5 | 30.19 | 6.79 | 7.92 | 14.34 | 11.70 | 5.28 | 2.26 | 21.13 | 0.38 | 100.00 |
| Episode 6 | 33.33 | 9.01 | 4.50 | 14.41 | 10.81 | 4.50 | 3.60 | 19.82 | 0.00 | 100.00 |
| Episode 7 | 45.50 | 5.00 | 4.50 | 18.50 | 4.50 | 3.00 | 1.00 | 18.00 | 0.00 | 100.00 |
| Average | 33.82 | 8.46 | 6.62 | 20.44 | 7.97 | 3.52 | 1.72 | 18.12 | 0.07 | 100.00 |

## Obsidian Color:

Total Number

| Color | Black | Green | Total |
|---|---|---|---|
| Episode 1 | 2 | 0 | 2 |
| Episode 2 | 0 | 0 | 0 |
| Episode 3 | 0 | 0 | 0 |
| Episode 4 | 8 | 0 | 8 |
| Episode 5 | 2 | 0 | 2 |
| Episode 6 | 0 | 0 | 0 |
| Episode 7 | 35 | 2 | 37 |
| Total | 47 | 2 | 49 |

Weighted Averages

| Color | Black | Green | Total |
|---|---|---|---|
| Episode 1 | 100 | 0 | 100 |
| Episode 2 | 0 | 0 | 0 |
| Episode 3 | 0 | 0 | 0 |
| Episode 4 | 100 | 0 | 100 |
| Episode 5 | 0 | 0 | 0 |
| Episode 6 | 0 | 0 | 0 |
| Episode 7 | 94.59 | 5.41 | 100 |

## Quartz Color:

Total Number

| Color | Clear | White | Total |
|---|---|---|---|
| Episode 1 | 5 | 5 | 10 |
| Episode 2 | 5 | 1 | 6 |
| Episode 3 | 1 | 4 | 5 |
| Episode 4 | 0 | 1 | 1 |
| Episode 5 | 0 | 2 | 2 |
| Episode 6 | 0 | 3 | 3 |
| Episode 7 | 0 | 1 | 1 |
| Total | 11 | 17 | 28 |

Weighted Averages

| Color | Clear | White | Total |
|---|---|---|---|
| Episode 1 | 50.00 | 50.00 | 100.00 |
| Episode 2 | 83.33 | 16.67 | 100.00 |
| Episode 3 | 20.00 | 80.00 | 100.00 |
| Episode 4 | 0.00 | 100.00 | 100.00 |
| Episode 5 | 0.00 | 100.00 | 100.00 |
| Episode 6 | 0.00 | 100.00 | 100.00 |
| Episode 7 | 0.00 | 100.00 | 100.00 |
| Average | 21.90 | 78.10 | 100.00 |

## Chert Translucence

Total Num

| Translucence | Translucent | Opaque | Total |
|---|---|---|---|
| Episode 1 | 861 | 447 | 1308 |
| Episode 2 | 202 | 100 | 302 |
| Episode 3 | 131 | 118 | 249 |
| Episode 4 | 163 | 193 | 356 |
| Episode 5 | 160 | 115 | 275 |
| Episode 6 | 86 | 29 | 115 |
| Episode 7 | 154 | 86 | 240 |
| Total | 1757 | 1088 | 2845 |

Weighted Averages

| Translucence | Translucent | Opaque | Total |
|---|---|---|---|
| 1 | 65.83 | 34.17 | 100.00 |
| 2 | 66.89 | 33.11 | 100.00 |
| 3 | 52.61 | 47.39 | 100.00 |
| 4 | 45.79 | 54.21 | 100.00 |
| 5 | 58.18 | 41.82 | 100.00 |
| 6 | 74.78 | 25.22 | 100.00 |
| 7 | 64.17 | 35.83 | 100.00 |
| Average | 428.24 | 271.76 | 700.00 |

## Chert Technological Types:

Total Number

| Technological Types | Flakes | Flake Fragments | Cores | Chunks | Fortuitous Blades | Bifaces | Bifacial Thinning Flakes | Adzes | Total |
|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 534 | 692 | 14 | 22 | 15 | 0 | 0 | 0 | 1277 |
| Episode 2 | 92 | 159 | 24 | 10 | 2 | 2 | 2 | 0 | 291 |
| Episode 3 | 106 | 115 | 5 | 16 | 2 | 0 | 0 | 0 | 244 |
| Episode 4 | 181 | 147 | 6 | 13 | 0 | 2 | 1 | 0 | 350 |
| Episode 5 | 111 | 144 | 4 | 5 | 1 | 0 | 0 | 0 | 265 |
| Episode 6 | 53 | 44 | 2 | 10 | 2 | 0 | 0 | 0 | 111 |
| Episode 7 | 77 | 106 | 4 | 5 | 1 | 6 | 0 | 1 | 200 |
| Total | 1154 | 1407 | 59 | 81 | 23 | 10 | 3 | 1 | 2738 |

Weighted Averages

| Technological Types | Flakes | Flake Fragments | Cores | Chunks | Fortuitous Blades | Bifaces | Bifacial Thinning Flakes | Adzes | Total |
|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 41.82 | 54.19 | 1.10 | 1.72 | 1.17 | 0.00 | 0.00 | 0.00 | 100.00 |
| Episode 2 | 31.62 | 54.64 | 8.25 | 3.44 | 0.69 | 0.69 | 0.69 | 0.00 | 100.00 |
| Episode 3 | 43.44 | 47.13 | 2.05 | 6.56 | 0.82 | 0.00 | 0.00 | 0.00 | 100.00 |
| Episode 4 | 51.71 | 42.00 | 1.71 | 3.71 | 0.00 | 0.57 | 0.29 | 0.00 | 100.00 |
| Episode 5 | 41.89 | 54.34 | 1.51 | 1.89 | 0.38 | 0.00 | 0.00 | 0.00 | 100.00 |
| Episode 6 | 47.75 | 39.64 | 1.80 | 9.01 | 1.80 | 0.00 | 0.00 | 0.00 | 100.00 |
| Episode 7 | 38.50 | 53.00 | 2.00 | 2.50 | 0.50 | 3.00 | 0.00 | 0.01 | 99.51 |
| Average | 42.39 | 49.28 | 2.63 | 4.12 | 0.77 | 0.61 | 0.14 | 0.00 | 99.93 |

## Obsidian Technological Types

Total Number

| Techno-logical Type | Flakes | Medial Prismatic Blades | Distal Prismatic Blades | Proximal Prismatic Blades | Cores | Chunks | Flake Fragments | Fortuitous Blades | Total |
|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Episode 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Episode 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Episode 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Episode 5 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Episode 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Episode 7 | 4 | 22 | 3 | 22 | 0 | 0 | 0 | 0 | 51 |
| Total | 6 | 24 | 3 | 22 | 0 | 0 | 0 | 0 | 55 |

Weighted Averages

| Techno-logical Type | Flakes | Medial Prismatic Blades | Distal Prismatic Blades | Proximal Prismatic Blades | Cores | Chunks | Flake Fragments | Fortuitous Blades | Total |
|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 |
| Episode 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Episode 3 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Episode 4 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 |
| Episode 5 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 |
| Episode 6 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 |
| Episode 7 | 7.84 | 43.14 | 5.88 | 43.14 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 |
| Average | 15.41 | 20.45 | 0.84 | 6.16 | 0.00 | 0.00 | 0.00 | 0.00 | 42.86 |

## Cortical Chert:

Total Number

| Cortex | Present | Absent | Total |
|---|---|---|---|
| Episode 1 | 294 | 983 | 1277 |
| Episode 2 | 69 | 222 | 291 |
| Episode 3 | 89 | 155 | 244 |
| Episode 4 | 123 | 227 | 350 |
| Episode 5 | 94 | 171 | 265 |
| Episode 6 | 43 | 68 | 111 |
| Episode 7 | 55 | 145 | 200 |
| Total | 767 | 1971 | 2738 |

Weighted Averages

| Cortex | Present | Absent | Total |
|---|---|---|---|
| Episode 1 | 23.02 | 76.98 | 100.00 |
| Episode 2 | 23.71 | 76.29 | 100.00 |
| Episode 3 | 36.48 | 63.52 | 100.00 |
| Episode 4 | 35.14 | 64.86 | 100.00 |
| Episode 5 | 35.47 | 64.53 | 100.00 |
| Episode 6 | 38.74 | 61.26 | 100.00 |
| Episode 7 | 27.50 | 72.50 | 100.00 |
| Average | 31.44 | 68.56 | 100.00 |

## Chert Use Wear:

Total Number

| Use-wear | Cut/sawing | Scraping | Engraving | Drilling | Total |
|---|---|---|---|---|---|
| Episode 1 | 84.00 | 16.00 | 26.00 | 3.00 | 129.00 |
| Episode 2 | 24.00 | 6.00 | 15.00 | 1.00 | 46.00 |
| Episode 3 | 17.00 | 0.00 | 3.00 | 4.00 | 24.00 |
| Episode 4 | 28.00 | 12.00 | 1.00 | 2.00 | 43.00 |
| Episode 5 | 37.00 | 9.00 | 4.00 | 0.00 | 50.00 |
| Episode 6 | 11.00 | 4.00 | 2.00 | 0.00 | 17.00 |
| Episode 7 | 11.00 | 4.00 | 1.00 | 0.00 | 16.00 |
| Total | 212.00 | 51.00 | 52.00 | 10.00 | 325.00 |

Weighted Averages

| Use-wear | Cut/sawing | Scraping | Engraving | Drilling | Total |
|---|---|---|---|---|---|
| Episode 1 | 65.12 | 12.40 | 20.16 | 2.33 | 100.00 |
| Episode 2 | 52.17 | 13.04 | 32.61 | 2.17 | 100.00 |
| Episode 3 | 70.83 | 0.00 | 12.50 | 16.67 | 100.00 |
| Episode 4 | 65.12 | 27.91 | 2.33 | 4.65 | 100.00 |
| Episode 5 | 74.00 | 18.00 | 8.00 | 0.00 | 100.00 |
| Episode 6 | 64.71 | 23.53 | 11.76 | 0.00 | 100.00 |
| Episode 7 | 68.75 | 25.00 | 6.25 | 0.00 | 100.00 |
| Average | 65.81 | 17.13 | 13.37 | 3.69 | 100.00 |

## Obsidian Use-wear:

Total Number

| Use-wear | Cut/sawing | Scraping | Engraving | Drilling | Total |
|---|---|---|---|---|---|
| Episode 1 | 0 | 0 | 0 | 0 | 0 |
| Episode 2 | 0 | 0 | 0 | 0 | 0 |
| Episode 3 | 0 | 0 | 0 | 0 | 0 |
| Episode 4 | 2 | 0 | 0 | 0 | 2 |
| Episode 5 | 2 | 0 | 0 | 0 | 2 |
| Episode 6 | 0 | 0 | 0 | 0 | 0 |
| Episode 7 | 6 | 3 | 0 | 0 | 9 |
| Total | 10 | 3 | 0 | 0 | 13 |

Weighted Averages

| Use-wear | Cut/sawing | Scraping | Engraving | Drilling | Total |
|---|---|---|---|---|---|
| Episode 1 | 0 | 0 | 0 | 0 | 0 |
| Episode 2 | 0 | 0 | 0 | 0 | 0 |
| Episode 3 | 0 | 0 | 0 | 0 | 0 |
| Episode 4 | 100 | 0 | 0 | 0 | 100 |
| Episode 5 | 100 | 0 | 0 | 0 | 100 |
| Episode 6 | 0 | 0 | 0 | 0 | 0 |
| Episode 7 | 66.67 | 33.33 | 0 | 0 | 100 |
| Average | 66.67 | 33.33 | 0.00 | 0.00 | 100.00 |

**Thermal Alteration:**

Total Number

| Thermal Alteration | Present | Absent | Total |
|---|---|---|---|
| Episode 1 | 424 | 884 | 1308 |
| Episode 2 | 138 | 164 | 302 |
| Episode 3 | 120 | 129 | 249 |
| Episode 4 | 127 | 229 | 356 |
| Episode 5 | 87 | 188 | 275 |
| Episode 6 | 44 | 71 | 115 |
| Episode 7 | 74 | 166 | 240 |
| Total | 1014 | 1831 | 2845 |

Weighted Averages

| Thermal Alteration | Present | Absent | Total |
|---|---|---|---|
| Episode 1 | 32.42 | 67.58 | 100.00 |
| Episode 2 | 45.70 | 54.30 | 100.00 |
| Episode 3 | 48.19 | 51.81 | 100.00 |
| Episode 4 | 35.67 | 64.33 | 100.00 |
| Episode 5 | 31.64 | 68.36 | 100.00 |
| Episode 6 | 38.26 | 61.74 | 100.00 |
| Episode 7 | 30.83 | 69.17 | 100.00 |
| Average | 37.53 | 62.47 | 100.00 |

## Chi-Square Calculations

**Formula**: $X^2 = (O - E)^2 / E$ **Where:** O = observed value
E = expected value

### Raw Materials:

Total Number

| Raw Material | Obsidian | Chert | Quartz | Quartzite | Total |
|---|---|---|---|---|---|
| Episode 1 | 2 | 1277 | 21 | 8 | 1308 |
| Episode 2 | 0 | 291 | 9 | 2 | 302 |
| Episode 3 | 0 | 244 | 2 | 3 | 249 |
| Episode 4 | 2 | 350 | 1 | 3 | 356 |
| Episode 5 | 8 | 265 | 1 | 1 | 275 |
| Episode 6 | 0 | 111 | 2 | 2 | 115 |
| Episode 7 | 37 | 200 | 1 | 2 | 240 |
| Total | 49 | 2738 | 37 | 21 | 2845 |

Expected Values

| Raw Material | Obsidian | Chert | Quartz | Quartzite | Total |
|---|---|---|---|---|---|
| Episode 1 | 22.53 | 1258.81 | 17.01 | 9.65 | 1308.00 |
| Episode 2 | 5.20 | 290.64 | 3.93 | 2.23 | 302.00 |
| Episode 3 | 4.29 | 239.64 | 3.24 | 1.84 | 249.00 |
| Episode 4 | 6.13 | 342.61 | 4.63 | 2.63 | 356.00 |
| Episode 5 | 4.74 | 264.66 | 3.58 | 2.03 | 275.00 |
| Episode 6 | 1.98 | 110.67 | 1.50 | 0.85 | 115.00 |
| Episode 7 | 4.13 | 230.97 | 3.12 | 1.77 | 240.00 |
| Total | 49.00 | 2738.00 | 37.00 | 21.00 | 2845.00 |

(O-E)

| Raw Material | Obsidian | Chert | Quartz | Quartzite |
|---|---|---|---|---|
| Episode 1 | -20.53 | 18.19 | 3.99 | -1.65 |
| Episode 2 | -5.20 | 0.36 | 5.07 | -0.23 |
| Episode 3 | -4.29 | 4.36 | -1.24 | 1.16 |
| Episode 4 | -4.13 | 7.39 | -3.63 | 0.37 |
| Episode 5 | 3.26 | 0.34 | -2.58 | -1.03 |
| Episode 6 | -1.98 | 0.33 | 0.50 | 1.15 |
| Episode 7 | 32.87 | -30.97 | -2.12 | 0.23 |

$(O-E)^2$

| Raw Material | Obsidian | Chert | Quartz | Quartzite |
|---|---|---|---|---|
| Episode 1 | 421.40 | 331.01 | 15.91 | 2.74 |
| Episode 2 | 27.05 | 0.13 | 25.73 | 0.05 |
| Episode 3 | 18.39 | 19.05 | 1.53 | 1.35 |
| Episode 4 | 17.07 | 54.60 | 13.18 | 0.14 |
| Episode 5 | 10.65 | 0.12 | 6.64 | 1.06 |
| Episode 6 | 3.92 | 0.11 | 0.25 | 1.33 |
| Episode 7 | 1080.20 | 959.37 | 4.50 | 0.05 |

**Raw Materials (Cont.):**

$(O-E)^2 / E$

| Raw Material | Obsidian | Chert | Quartz | Quartzite |
|---|---|---|---|---|
| Episode 1 | 18.71 | 0.26 | 0.94 | 0.28 |
| Episode 2 | 5.20 | 0.00 | 6.55 | 0.02 |
| Episode 3 | 4.29 | 0.08 | 0.47 | 0.73 |
| Episode 4 | 2.78 | 0.16 | 2.85 | 0.05 |
| Episode 5 | 2.25 | 0.00 | 1.86 | 0.52 |
| Episode 6 | 1.98 | 0.00 | 0.17 | 1.56 |
| Episode 7 | 261.32 | 4.15 | 1.44 | 0.03 |
| Chi-Square | 296.53 | 4.66 | 14.27 | 3.21 |

$V = 6; \infty = 0.05$

**Chi-Square Calculations for Chert Colors:**

| Color (O) | Caramel | Chocolate | Gray | Red | Gray-white | White | Tan | Tan-white | Black | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 417 | 120 | 110 | 299 | 79 | 11 | 1 | 239 | 1 | 1277 |
| Episode 2 | 91 | 21 | 17 | 98 | 22 | 6 | 1 | 35 | 0 | 291 |
| Episode 3 | 72 | 24 | 19 | 61 | 13 | 10 | 6 | 39 | 0 | 244 |
| Episode 4 | 120 | 42 | 25 | 48 | 34 | 17 | 14 | 50 | 0 | 350 |
| Episode 5 | 80 | 18 | 21 | 38 | 31 | 14 | 6 | 56 | 1 | 265 |
| Episode 6 | 37 | 10 | 5 | 16 | 12 | 5 | 4 | 22 | 0 | 111 |
| Episode 7 | 91 | 10 | 9 | 37 | 9 | 6 | 2 | 36 | 0 | 200 |
| Total | 908 | 245 | 206 | 597 | 200 | 69 | 34 | 477 | 2 | 2738 |

Expected Values

| Color | Caramel | Chocolate | Gray | Red | Gray-white | White | Tan | Tan-white | Black |
|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 431.89 | 108.09 | 84.49 | 260.98 | 101.79 | 45.00 | 21.91 | 231.34 | 0.83 |
| Episode 2 | 98.42 | 24.63 | 19.25 | 59.47 | 23.20 | 10.25 | 4.99 | 52.72 | 0.19 |
| Episode 3 | 82.52 | 20.65 | 16.14 | 49.87 | 23.20 | 8.60 | 4.19 | 44.20 | 0.16 |
| Episode 4 | 118.37 | 29.63 | 23.16 | 71.53 | 27.90 | 12.33 | 6.01 | 63.41 | 0.23 |
| Episode 5 | 89.62 | 22.43 | 17.53 | 54.16 | 21.12 | 9.34 | 4.55 | 48.01 | 0.17 |
| Episode 6 | 37.54 | 9.40 | 7.34 | 22.69 | 8.85 | 3.91 | 1.90 | 20.11 | 0.07 |
| Episode 7 | 67.64 | 16.93 | 13.23 | 40.87 | 15.94 | 7.05 | 3.43 | 36.23 | 0.13 |
| Total | 926.00 | 231.76 | 181.16 | 559.57 | 221.99 | 96.48 | 46.99 | 496.01 | 1.78 |

(O-E)

| Color | Caramel | Chocolate | Gray | Red | Gray-white | White | Tan | Tan-white | Black |
|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | -14.89 | 11.91 | 25.51 | 38.02 | -22.79 | -34.00 | -20.91 | 7.66 | 0.17 |
| Episode 2 | -7.42 | -3.63 | -2.25 | 38.53 | -1.20 | -4.25 | -3.99 | -17.72 | -0.19 |
| Episode 3 | -10.52 | 3.35 | 2.86 | 11.13 | -10.20 | 1.40 | 1.81 | -5.20 | -0.16 |
| Episode 4 | 1.63 | 12.37 | 1.84 | -23.53 | 6.10 | 4.67 | 7.99 | -13.41 | -0.23 |
| Episode 5 | -9.62 | -4.43 | 3.47 | -16.16 | 9.88 | 4.66 | 1.45 | 7.99 | 0.83 |
| Episode 6 | -0.54 | 0.60 | -2.34 | -6.69 | 3.15 | 1.09 | 2.10 | 1.89 | -0.07 |
| Episode 7 | 23.36 | -6.93 | -4.23 | -3.87 | -6.94 | -1.05 | -1.43 | -0.23 | -0.13 |

$(O-E)^2$

| Color | Caramel | Chocolate | Gray | Red | Gray-white | White | Tan | Tan-white | Black |
|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 221.57 | 141.83 | 650.70 | 1445.41 | 519.42 | 1155.89 | 437.43 | 58.69 | 0.03 |
| Episode 2 | 55.01 | 13.19 | 5.08 | 1484.41 | 1.43 | 18.10 | 15.95 | 313.89 | 0.04 |
| Episode 3 | 110.70 | 11.20 | 8.16 | 123.96 | 103.96 | 1.97 | 3.29 | 27.07 | 0.03 |
| Episode 4 | 2.65 | 153.13 | 3.40 | 553.65 | 37.22 | 21.78 | 63.90 | 179.70 | 0.05 |
| Episode 5 | 92.62 | 19.63 | 12.02 | 261.09 | 97.55 | 21.73 | 2.11 | 63.89 | 0.68 |
| Episode 6 | 0.29 | 0.37 | 5.50 | 44.69 | 9.94 | 1.19 | 4.39 | 3.58 | 0.01 |
| Episode 7 | 545.66 | 48.01 | 17.92 | 15.01 | 48.19 | 1.10 | 2.05 | 0.05 | 0.02 |

$(O-E)^2/E$

| Color | Caramel | Chocolate | Gray | Red | Gray-white | White | Tan | Tan-white | Black |
|---|---|---|---|---|---|---|---|---|---|
| Episode 1 | 0.51 | 1.31 | 7.70 | 5.54 | 5.10 | 25.69 | 19.96 | 0.25 | 0.03 |
| Episode 2 | 0.56 | 0.54 | 0.26 | 24.96 | 0.06 | 1.76 | 3.19 | 5.95 | 0.19 |
| Episode 3 | 1.34 | 0.54 | 0.51 | 2.49 | 4.48 | 0.23 | 0.78 | 0.61 | 0.16 |
| Episode 4 | 0.02 | 5.17 | 0.15 | 7.74 | 1.33 | 1.77 | 10.64 | 2.83 | 0.23 |
| Episode 5 | 1.03 | 0.88 | 0.69 | 4.82 | 4.62 | 2.33 | 0.46 | 1.33 | 3.97 |
| Episode 6 | 0.01 | 0.04 | 0.75 | 1.97 | 1.12 | 0.30 | 2.30 | 0.18 | 0.07 |
| Episode 7 | 8.07 | 2.84 | 1.35 | 0.37 | 3.02 | 0.16 | 0.60 | 0.00 | 0.13 |
| Chi-Square | 11.54 | 11.31 | 11.40 | 47.88 | 19.74 | 32.23 | 37.94 | 11.16 | 4.78 |

$V = 6; \infty = 0.05$

**Chi-Square Calculations for Translucent Chert Artifacts:**

| Translucence | Present (O) | Absent | Total | Expected Value (E) | (O-E) | $(O-E)^2$ | $(O-E)^2/E$ |
|---|---|---|---|---|---|---|---|
| Episode 1 | 849 | 428 | 1277 | 736.96 | 112.04 | 12552.96 | 17.03 |
| Episode 2 | 194 | 97 | 291 | 167.94 | 26.06 | 679.12 | 4.04 |
| Episode 3 | 135 | 109 | 244 | 140.81 | -5.81 | 33.76 | 0.24 |
| Episode 4 | 196 | 154 | 350 | 201.99 | -5.99 | 35.88 | 0.18 |
| Episode 5 | 122 | 143 | 265 | 152.93 | -30.93 | 956.66 | 6.26 |
| Episode 6 | 61 | 50 | 111 | 64.06 | -3.06 | 9.36 | 0.15 |
| Episode 7 | 117 | 83 | 200 | 115.42 | 1.58 | 2.50 | 0.02 |
| Total | 1674 | 1064 | 2738 | | | Chi-Square = | 27.92 |

$V = 6; \infty = 0.05$

**Chi-Square Calculations for Patinated Chert Artifacts:**

| Construction Episode | Patinated (O) | Non-patinated | Total | Expected Value (E) | (O-E) | $(O-E)^2$ | $(O-E)^2/E$ |
|---|---|---|---|---|---|---|---|
| Episode 1 | 29 | 1279 | 1308 | 138.85 | -109.85 | 12067.02 | 86.91 |
| Episode 2 | 34 | 268 | 302 | 32.06 | 1.94 | 3.76 | 0.12 |
| Episode 3 | 36 | 213 | 249 | 26.43 | 9.54 | 91.01 | 3.44 |
| Episode 4 | 104 | 252 | 356 | 37.79 | 66.21 | 4383.76 | 116.00 |
| Episode 5 | 50 | 225 | 275 | 29.19 | 20.81 | 433.06 | 14.83 |
| Episode 6 | 40 | 75 | 115 | 12.21 | 27.79 | 772.28 | 63.26 |
| Episode 7 | 9 | 231 | 240 | 25.48 | -16.48 | 271.59 | 10.66 |
| Total | 302 | 2543 | 2845 | 302.00 | | Chi-Square = | 295.23 |

V = 6; ∞ = 0.05

**Chi-Square Calculations for Cortical Chert Artifacts:**

| Construction Episode | Present (O) | Absent | Total | Expected Values (E) | (O-E) | $(O-E)^2$ | $(O-E)^2/E$ |
|---|---|---|---|---|---|---|---|
| Episode 1 | 294 | 983 | 1277 | 401.96 | 270.98 | 73430.16 | 182.68 |
| Episode 2 | 69 | 222 | 291 | 91.48 | 45.29 | 2051.18 | 22.42 |
| Episode 3 | 89 | 155 | 244 | 76.71 | 52.52 | 2758.35 | 35.96 |
| Episode 4 | 123 | 227 | 350 | 110.03 | 87.86 | 7719.38 | 70.16 |
| Episode 5 | 94 | 171 | 265 | 83.31 | 58.53 | 3425.76 | 41.12 |
| Episode 6 | 43 | 68 | 111 | 34.90 | 4.26 | 18.15 | 0.52 |
| Episode 7 | 55 | 145 | 200 | 62.88 | 27.50 | 756.25 | 12.03 |
| Total | 767 | 1971 | 2738 | | | Chi-Square = | 364.89 |

V = 6; ∞ = 0.05

**Chi-Square Calculations for Thermally-altered Chert Artifacts:**

| Construction Episode | Present (O) | Absent | Total | Expected Values (E) | (O-E) | $(O-E)^2$ | $(O-E)^2/E$ |
|---|---|---|---|---|---|---|---|
| Episode 1 | 294 | 983 | 1277 | 401.96 | 270.98 | 73430.16 | 182.68 |
| Episode 2 | 69 | 222 | 291 | 91.48 | 45.29 | 2051.18 | 22.42 |
| Episode 3 | 89 | 155 | 244 | 76.71 | 52.52 | 2758.35 | 35.96 |
| Episode 4 | 123 | 227 | 350 | 110.03 | 87.86 | 7719.38 | 70.16 |
| Episode 5 | 94 | 171 | 265 | 83.31 | 58.53 | 3425.76 | 41.12 |
| Episode 6 | 43 | 68 | 111 | 34.90 | 4.26 | 18.15 | 0.52 |
| Episode 7 | 55 | 145 | 200 | 62.88 | 27.50 | 756.25 | 12.03 |
| Total | 767 | 1971 | 2738 | | | Chi-Square = | 364.89 |

V = 6; ∞ = 0.05

**Chi-Square Calculations for Chert Artifacts with Use-wear:**

| Use-wear | Cut/sawing | Scraping | Engraving | Drilling | Total |
|---|---|---|---|---|---|
| Episode 1 | 84.00 | 16.00 | 26.00 | 3.00 | 129.00 |
| Episode 2 | 24.00 | 6.00 | 15.00 | 1.00 | 46.00 |
| Episode 3 | 17.00 | 0.00 | 3.00 | 4.00 | 24.00 |
| Episode 4 | 28.00 | 12.00 | 1.00 | 2.00 | 43.00 |
| Episode 5 | 37.00 | 9.00 | 4.00 | 0.00 | 50.00 |
| Episode 6 | 11.00 | 4.00 | 2.00 | 0.00 | 17.00 |
| Episode 7 | 11.00 | 4.00 | 1.00 | 0.00 | 16.00 |
| Total | 212.00 | 51.00 | 52.00 | 10.00 | 325.00 |

Expected Values

| Use-wear (E) | Cut/sawing | Scraping | Engraving | Drilling |
|---|---|---|---|---|
| Episode 1 | 84.90 | 22.09 | 17.25 | 4.76 |
| Episode 2 | 30.27 | 7.88 | 6.15 | 1.70 |
| Episode 3 | 15.80 | 4.11 | 3.21 | 0.89 |
| Episode 4 | 28.30 | 7.36 | 5.75 | 1.59 |
| Episode 5 | 32.91 | 8.56 | 6.69 | 1.84 |
| Episode 6 | 11.19 | 2.91 | 2.27 | 0.63 |
| Episode 7 | 10.53 | 2.74 | 2.14 | 0.59 |

**Chi-Square Calculations for Chert Artifacts with Use-wear (Cont.):**

(O-E)

| Use-wear | Cut/sawing | Scraping | Engraving | Drilling |
|---|---|---|---|---|
| Episode 1 | -0.90 | -6.09 | 8.75 | -1.76 |
| Episode 2 | -6.27 | -1.88 | 8.85 | -0.70 |
| Episode 3 | 1.20 | -4.11 | -0.21 | 3.11 |
| Episode 4 | -0.30 | 4.64 | -4.75 | 0.41 |
| Episode 5 | 4.09 | 0.44 | -2.69 | -1.84 |
| Episode 6 | -0.19 | 1.09 | -0.27 | -0.63 |
| Episode 7 | 0.47 | 1.26 | -1.14 | -0.59 |

$(O-E)^2$

| Use-wear | Cut/sawing | Scraping | Engraving | Drilling |
|---|---|---|---|---|
| Episode 1 | 0.81 | 37.12 | 76.56 | 3.09 |
| Episode 2 | 39.37 | 3.53 | 78.30 | 0.49 |
| Episode 3 | 1.45 | 16.89 | 0.04 | 9.70 |
| Episode 4 | 0.09 | 21.49 | 22.56 | 0.17 |
| Episode 5 | 16.75 | 0.19 | 7.21 | 3.40 |
| Episode 6 | 0.04 | 1.18 | 0.07 | 0.39 |
| Episode 7 | 0.22 | 1.59 | 1.30 | 0.35 |

$(O-E)^2/E$

| Use-wear | Cut/sawing | Scraping | Engraving | Drilling |
|---|---|---|---|---|
| Episode 1 | 0.01 | 1.68 | 4.44 | 0.65 |
| Episode 2 | 1.30 | 0.45 | 12.73 | 0.29 |
| Episode 3 | 0.09 | 4.11 | 0.01 | 10.96 |
| Episode 4 | 0.00 | 2.92 | 3.92 | 0.11 |
| Episode 5 | 0.51 | 0.02 | 1.08 | 1.84 |
| Episode 6 | 0.00 | 0.41 | 0.03 | 0.63 |
| Episode 7 | 0.02 | 0.58 | 0.61 | 0.59 |
| Chi-Square | 1.94 | 10.16 | 22.82 | 15.07 |

$V = 6$; $\infty = 0.05$

**Key Codes for Index of Artifacts from Blackman Eddy**

Raw Material
C = Chert
O = Obsidian
X = Quartzite
Q = Quartz

Use-wear
C = Cut
S = Scrape
D = Drill
E = Engrave

Translucence
O = Opaque
T = Translucent

Technological Type
A = Adze
B = Biface
C = Core
F = Flake
FF = Flake Fragment
FB = Fortuitous Blade
H = Hammerstone
HF = Hammerstone Flake
K = Chunk
MPB = Medial Prismatic Blade
PPB = Proximal Prismatic Blade
DPB = Distal Prismatic Blade

Color
C = Caramel
D = Chocolate
R = Red
X = Gray
Z = White
W = Gray-white
T = Tan
X = Tan-white
B = Black
G = Green

| Number | Lot Number | Structure | Raw Material | Color | Trans-lucence | Thermal Alteration | Patination | Cortex | Length | Width | Thickness | Weight | Edge Wear | Techno-logical Type | Size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19D-6-0000 | B1-02 | C | X | O | No | No | No | | | | 36 | | F | 3 |
| 3 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 8 | | FF | 2 |
| 4 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | | | | 6 | | F | 3 |
| 5 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 6 | | FF | 2 |
| 6 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 7 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 8 | 19D-6-0000 | B1-02 | C | X | O | No | No | No | | | | 8 | | F | 2 |
| 9 | 19D-6-0000 | B1-02 | C | C | O | No | No | No | | | | 3 | | F | 2 |
| 10 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 11 | 19D-6-0000 | B1-02 | C | X | O | No | No | No | | | | 5 | | F | 2 |
| 12 | 19D-6-0000 | B1-02 | C | C | O | No | No | No | | | | 0.5 | | FF | 2 |
| 13 | 19D-6-0000 | B1-02 | C | C | O | No | No | No | | | | 2 | | FF | 2 |
| 14 | 19D-6-0000 | B1-02 | C | C | O | No | No | No | | | | 0.5 | | FF | 1 |
| 15 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 3 | | FF | 3 |
| 17 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | | | | 3 | C | FF | 2 |
| 18 | 19D-6-0000 | B1-02 | C | C | O | No | No | No | | | | 2 | C | FF | 2 |
| 19 | 15N-21-0000 | B1-03-A | C | C | T | No | No | No | 51.46 | 11.62 | 14.21 | 17 | C | F | 4 |
| 21 | 20A-21-1045 | B1-13 | O | B | T | No | No | No | 19 | 15 | 2 | 0.5 | | MPB | 2 |
| 22 | 20A-21-1046 | B1-08 | Q | C | T | No | No | No | | | | 4 | | FF | 2 |
| 23 | 20D-18-1057 | B1-08 | C | C | T | No | No | No | 24 | 6 | 5 | 0.5 | D | FF | 2 |
| 24 | 20A-22-1064 | B1-13 | C | C | T | No | No | No | 41 | 11 | 5 | 2 | D | FF | 3 |
| 26 | 20A-21-1056 | B1-08 | C | X | O | No | No | No | 27 | 8 | 3 | 0.5 | D | FF | 2 |
| 27 | 20A-21-1056 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 28 | 20A-21-1056 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 30 | 20D-19-1058 | B1-08 | C | R | T | No | No | No | | | | 5 | | FF | 2 |
| 31 | 20D-19-1058 | B1-08 | C | R | T | No | No | No | | | | 0.5 | | FF | 2 |
| 33 | 20A-21-1050 | B1-08 | C | X | O | No | No | No | 60 | 43 | 57 | 50 | | B | 4 |
| 35 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 26 | | F | 4 |
| 38 | 15N-21-0000 | B1-03-A | C | X | O | No | No | No | | | | 15 | | F | 2 |
| 42 | 15N-22-0000 | B1-03-C | C | X | T | No | No | No | | | | 8 | | F | 2 |
| 44 | 15N-23-0000 | B1-02 | C | X | O | No | No | No | | | | 8 | | F | 2 |
| 46 | 19D-9-0000 | B1-02 | L | Z | O | No | No | No | | | | 788 | | C | 4 |
| 50 | 19D-9-0000 | B1-02 | C | X | T | No | No | No | | | | 9 | | F | 2 |
| 51 | 19D-9-0000 | B1-02 | C | X | O | No | No | No | | | | 14 | | F | 2 |
| 52 | 19D-9-0000 | B1-02 | C | X | O | No | No | No | 33.83 | 32.7 | 7.97 | 8 | C | F | 2 |
| 53 | 19D-9-0000 | B1-02 | C | X | O | No | No | No | | | | 5 | | FF | 3 |
| 54 | 19D-9-0000 | B1-02 | C | X | O | No | No | No | | | | 6 | | F | 3 |
| 55 | 19D-9-0000 | B1-02 | C | X | T | No | No | No | | | | 4 | | F | 2 |
| 56 | 19D-9-0000 | B1-02 | C | X | T | No | No | No | | | | 3 | | F | 2 |
| 57 | 19D-9-0000 | B1-02 | C | X | O | No | No | No | | | | 7 | | F | 2 |
| 60 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 107 | | C | 4 |
| 83 | 19D-9-0000 | B1-02 | C | D | T | No | No | No | | | | 2 | | FF | 1 |
| 86 | 19D-9-0000 | B1-02 | C | C | O | No | No | No | | | | 24 | | FF | 2 |
| 88 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | 45.47 | 40.14 | 12.15 | 20 | C | F | 2 |
| 90 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 11 | | F | 3 |
| 92 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 93 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | 40.01 | 30.76 | 6.6 | 6 | C | FF | 2 |
| 94 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 1 | | F | 2 |
| 95 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 4 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 96 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 97 | 19D-9-0000 | B1-02 | C | C | O | No | No | No | | | | 8 | | F | 2 |
| 100 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 9 | | F | 2 |
| 102 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 103 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 7 | | FF | 2 |
| 105 | 19D-9-0000 | B1-02 | C | C | O | No | No | No | | | | 7 | | FF | 2 |
| 106 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 107 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 108 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 109 | 19D-9-0000 | B1-02 | C | C | O | No | No | No | | | | 4 | | F | 2 |
| 112 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 113 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 115 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 2 | | FF | 1 |
| 118 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 2 | | FF | 1 |
| 119 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | 25.71 | 21.17 | 6.78 | 5 | S | F | 2 |
| 120 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 55 | | K | 4 |
| 138 | 19D-9-0000 | B1-02 | C | Z | O | No | No | No | 64.78 | 37 | 14.89 | 29 | S | F | 4 |
| 139 | 19D-9-0000 | B1-02 | C | Z | O | No | No | No | | | | 4 | | FF | 2 |
| 141 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | 28.37 | 22.25 | 8.43 | 4 | C | FF | 2 |
| 142 | 19D-9-0000 | B1-02 | C | Z | O | No | No | No | | | | 2 | | FF | 2 |
| 144 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 145 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 146 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 148 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 9 | | F | 2 |
| 150 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 0.5 | | F | 1 |
| 152 | 19D-9-0000 | B1-02 | C | X | T | No | No | No | | | | 1 | | FF | 1 |
| 153 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 154 | 19D-9-0000 | B1-02 | C | C | T | No | No | No | | | | 0.5 | | F | 1 |
| 155 | 19D-9-0000 | B1-02 | C | X | T | No | No | No | | | | 0.5 | | FF | 1 |
| 156 | 19D-9-0000 | B1-02 | C | D | T | No | No | No | | | | 4 | | F | 2 |
| 157 | 19D-9-0000 | B1-02 | C | D | T | No | No | No | | | | 4 | | F | 2 |
| 160 | 19D-9-0000 | B1-02 | C | D | O | No | No | No | | | | 3 | | FF | 2 |
| 163 | 19D-9-0000 | B1-02 | C | W | T | No | No | No | | | | 5 | | FF | 2 |
| 166 | 19D-9-0000 | B1-02 | C | W | O | No | No | No | | | | 14 | | FF | 4 |
| 167 | 19D-9-0000 | B1-02 | C | W | O | No | No | No | | | | 4 | | FF | 2 |
| 169 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 87 | | K | 4 |
| 170 | 19D-6-0000 | B1-02 | C | Z | O | No | No | No | | | | 50 | | K | 4 |
| 171 | 19D-6-0000 | B1-02 | C | D | T | No | No | No | | | | 21 | | FF | 4 |
| 176 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | | | | 2 | | FF | 2 |
| 177 | 19D-18-0000 | B1-08 | C | D | T | No | No | No | | | | 158 | | C | 4 |
| 178 | 19D-18-0000 | B1-08 | Q | Z | T | No | No | No | | | | 2 | | FF | 2 |
| 179 | 19D-18-0000 | B1-08 | Q | Z | T | No | No | No | | | | 3 | | FF | 2 |
| 180 | 19D-18-0000 | B1-08 | C | X | T | No | No | No | | | | 2 | | F | 2 |
| 181 | 19D-18-0000 | B1-08 | C | X | T | No | No | No | | | | 2 | | F | 2 |
| 182 | 19D-18-0000 | B1-08 | C | X | T | No | No | No | | | | 3 | | FF | 2 |
| 183 | 19D-18-0000 | B1-08 | C | X | O | No | No | No | | | | 8 | | F | 2 |
| 185 | 19D-18-0000 | B1-08 | C | G | O | No | No | No | | | | 0.5 | | FF | 1 |
| 186 | 19D-18-0000 | B1-08 | C | D | O | No | No | No | | | | 7 | | K | 2 |
| 187 | 19D-18-0000 | B1-08 | C | W | T | No | No | No | | | | 3 | | FF | 2 |
| 188 | 19D-18-0000 | B1-08 | C | W | T | No | No | No | | | | 2 | | FF | 2 |
| 189 | 19D-18-0000 | B1-08 | C | W | T | No | No | No | | | | 7 | | FF | 3 |
| 190 | 19D-18-0000 | B1-08 | C | X | O | No | No | No | | | | 66 | | F | 4 |
| 200 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 7 | | FF | 2 |
| 210 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 12 | | F | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 211 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 30 | | F | 4 |
| 212 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | 31.73 | 19.58 | 6.2 | 4 | C | F | 2 |
| 215 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | 31.89 | 27.01 | 14.33 | 9 | S | FF | 3 |
| 216 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 217 | 19D-18-0000 | B1-08 | C | D | T | No | No | No | | | | 38 | | F | 4 |
| 219 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 16 | | F | 3 |
| 220 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | 36.53 | 35.59 | 10.01 | 9 | C | F | 3 |
| 221 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 5 | | B | 3 |
| 224 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 5 | | FF | 2 |
| 225 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 5 | | B | 3 |
| 226 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 227 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 228 | 19D-18-0000 | B1-08 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 229 | 19D-18-0000 | B1-08 | C | C | O | No | No | No | | | | 1 | | FF | 2 |
| 230 | 19D-18-0000 | B1-08 | C | C | O | No | No | No | | | | 4 | | FF | 2 |
| 231 | 19D-18-0000 | B1-08 | C | C | O | No | No | No | | | | 2 | | F | 2 |
| 232 | 19D-18-0000 | B1-08 | C | C | O | No | No | No | | | | 17 | | K | 3 |
| 235 | 20I-10-0000 | B1-12 | C | C | T | No | No | No | 23.48 | 12.62 | 3.19 | 1 | C | F | 2 |
| 236 | 20I-10-0000 | B1-12 | C | C | O | No | No | No | | | | 5 | | F | 3 |
| 239 | 20I-10-0000 | B1-12 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 242 | 20I-10-0000 | B1-12 | C | G | O | No | No | No | | | | 2 | | FF | 2 |
| 243 | 20I-10-0000 | B1-12 | C | X | T | No | No | No | | | | 6 | | FF | 2 |
| 244 | 20I-10-0000 | B1-12 | C | X | O | No | No | No | 26.39 | 16.5 | 5.63 | 2 | C | F | 2 |
| 246 | 20I-10-0000 | B1-12 | Q | Z | O | No | No | No | | | | 7 | | HF | 2 |
| 258 | 20I-9-0000 | B1-12 | C | X | O | No | No | No | | | | 3 | | F | 2 |
| 259 | 20I-9-0000 | B1-12 | C | X | O | No | No | No | | | | 3 | | FF | 2 |
| 260 | 20I-9-0000 | B1-12 | C | X | O | No | No | No | | | | 3 | | FF | 2 |
| 261 | 20I-9-0000 | B1-12 | C | X | O | No | No | No | | | | 0.5 | | FF | 2 |
| 262 | 20I-9-0000 | B1-12 | C | X | O | No | No | No | | | | 3 | | FF | 2 |
| 263 | 20I-9-0000 | B1-12 | Q | Z | O | No | No | No | | | | 0.5 | | FF | 1 |
| 266 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | 30.32 | 29.11 | 6.87 | 5 | C | F | 2 |
| 267 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 268 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | | | | 11 | | K | 3 |
| 269 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 270 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 271 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 273 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | | | | 8 | | FF | 2 |
| 274 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | | | | 4 | | K | 2 |
| 275 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | 32.19 | 10.6 | 2.54 | 0.5 | C | F | 2 |
| 276 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 277 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 278 | 20I-9-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 279 | 20I-9-0000 | B1-12 | C | C | O | No | No | No | | | | 0.5 | | FF | 2 |
| 280 | 20I-9-0000 | B1-12 | C | C | O | No | No | No | | | | 2 | | FF | 2 |
| 281 | 20I-7-0000 | B1-12 | C | W | O | No | No | No | | | | 148 | | F | 4 |
| 282 | 20I-7-0000 | B1-12 | Q | Z | O | No | No | No | | | | 48 | | F | 4 |
| 283 | 20I-7-0000 | B1-12 | Q | Z | O | No | No | No | | | | 4 | | F | 2 |
| 284 | 20I-7-0000 | B1-12 | Q | Z | O | No | No | No | | | | 123 | | H | 4 |
| 286 | 20I-7-0000 | B1-12 | C | C | T | No | No | No | 65.12 | 46.28 | 11.57 | 34 | C | F | 4 |
| 288 | 20I-7-0000 | B1-12 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 289 | 20I-7-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 291 | 20I-7-0000 | B1-12 | C | C | T | No | No | No | | | | 5 | | F | 3 |
| 293 | 20I-7-0000 | B1-12 | C | D | T | No | No | No | | | | 9 | | F | 3 |
| 306 | 20I-4-0000 | B1-12 | C | C | T | No | No | No | | | | 10 | | F | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 307 | 20I-4-0000 | B1-12 | C | C | T | No | No | No | | | | 5 | | FF | 2 |
| 308 | 20I-4-0000 | B1-12 | C | C | T | No | No | No | | | | 8 | | F | 2 |
| 309 | 20I-4-0000 | B1-12 | C | D | O | No | No | No | | | | 6 | | FF | 3 |
| 310 | 20I-4-0000 | B1-12 | C | D | O | No | No | No | | | | 2 | | FF | 2 |
| 312 | 20I-4-0000 | B1-12 | C | C | T | No | No | No | 52.87 | 29.66 | 8.76 | 9 | C | F | 4 |
| 313 | 20I-4-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 314 | 20I-4-0000 | B1-12 | C | X | O | No | No | No | | | | 3 | | F | 2 |
| 315 | 20I-4-0000 | B1-12 | C | X | O | No | No | No | | | | 8 | | F | 3 |
| 316 | 20I-4-0000 | B1-12 | C | X | O | No | No | No | 36.19 | 28.34 | 7.74 | 8 | C | F | 3 |
| 317 | 20I-4-0000 | B1-12 | Q | Z | T | No | No | No | | | | 1 | | F | 2 |
| 318 | 20I-4-0000 | B1-12 | C | C | T | No | No | No | | | | 1 | | F | 1 |
| 320 | 20I-6-0000 | B1-12 | C | W | O | No | No | No | | | | 1 | | FF | 2 |
| 45 | 15N-23-0000 | B1-02 | C | R | O | Yes | No | No | 31.88 | 18.85 | 12.04 | 6 | C | FF | 2 |
| 62 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | No | | | | 15 | | F | 2 |
| 67 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | No | | | | 7 | | FF | 2 |
| 68 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | No | | | | 13 | | FF | 3 |
| 72 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | No | | | | 6 | | F | 2 |
| 73 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | No | | | | 5 | | FF | 2 |
| 74 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | No | | | | 4 | | FF | 2 |
| 75 | 19D-9-0000 | B1-02 | C | G | O | Yes | No | No | | | | 7 | | FF | 2 |
| 80 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | No | | | | 5 | | F | 2 |
| 82 | 19D-9-0000 | B1-02 | C | G | O | Yes | No | No | | | | 8 | | F | 2 |
| 85 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | No | | | | 10 | | FF | 3 |
| 123 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | No | | | | 5 | | F | 2 |
| 124 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 125 | 19D-9-0000 | B1-02 | C | G | O | Yes | No | No | | | | 3 | | FF | 2 |
| 126 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | No | | | | 2 | | F | 2 |
| 127 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 128 | 19D-9-0000 | B1-02 | C | Z | O | Yes | No | No | 48.16 | 23.33 | 3.79 | 6 | C | FF | 4 |
| 129 | 19D-9-0000 | B1-02 | C | X | O | Yes | No | No | | | | 3 | | F | 2 |
| 130 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 131 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 133 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 134 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 147 | 19D-9-0000 | B1-02 | C | C | T | Yes | No | No | | | | 2 | | FF | 2 |
| 164 | 19D-9-0000 | B1-02 | C | W | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 165 | 19D-9-0000 | B1-02 | C | W | O | Yes | No | No | | | | 1 | | FF | 2 |
| 168 | 19D-9-0000 | B1-02 | C | W | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 175 | 19D-6-0000 | B1-02 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 194 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | No | | | | 7 | | FF | 3 |
| 196 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | No | | | | 10 | | FF | 3 |
| 199 | 19D-18-0000 | B1-08 | C | W | O | Yes | No | No | | | | 7 | | FF | 3 |
| 201 | 19D-18-0000 | B1-08 | C | W | O | Yes | No | No | | | | 2 | | F | 2 |
| 202 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 203 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 205 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | F | 1 |
| 207 | 19D-18-0000 | B1-08 | C | E | O | Yes | No | No | | | | 1 | | FF | 2 |
| 213 | 19D-18-0000 | B1-08 | C | C | T | Yes | No | No | | | | 4 | | FF | 2 |
| 222 | 19D-18-0000 | B1-08 | C | C | T | Yes | No | No | | | | 11 | | F | 3 |
| 245 | 20I-10-0000 | B1-12 | C | R | T | Yes | No | No | | | | 10 | | FF | 3 |
| 249 | 20I-9-0000 | B1-12 | C | B | O | Yes | No | No | 35.59 | 21.75 | 4.72 | 3 | D | FF | 3 |
| 250 | 20I-9-0000 | B1-12 | C | B | O | Yes | No | No | | | | 4 | | FF | 2 |
| 251 | 20I-9-0000 | B1-12 | C | R | T | Yes | No | No | | | | 1 | | F | 2 |
| 253 | 20I-9-0000 | B1-12 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 254 | 20I-9-0000 | B1-12 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 272 | 20I-9-0000 | B1-12 | C | C | T | Yes | No | No | 25.99 | 21.16 | 9.41 | 4 | C | FF | 2 |
| 296 | 20I-4-0000 | B1-12 | C | R | T | Yes | No | No | | | | 9 | | F | 3 |
| 298 | 20I-4-0000 | B1-12 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 299 | 20I-4-0000 | B1-12 | C | R | O | Yes | No | No | 30.01 | 16.17 | 3.48 | 2 | C | FF | 2 |
| 302 | 20I-4-0000 | B1-12 | C | X | O | Yes | No | No | | | | 7 | | F | 3 |
| 303 | 20I-4-0000 | B1-12 | C | C | O | Yes | No | No | | | | 5 | | FF | 2 |
| 304 | 20I-4-0000 | B1-12 | C | C | T | Yes | No | No | 17.15 | 7.79 | 2.54 | 0.5 | | FF | 1 |
| 323 | 20I-6-0000 | B1-12 | C | W | T | No | No | No | | | | 0.5 | | FF | 1 |
| 324 | 20I-6-0000 | B1-12 | C | W | T | No | No | No | 18.72 | 16.59 | 7.52 | 2 | C | FF | 1 |
| 325 | 20I-6-0000 | B1-12 | C | D | T | No | No | No | | | | 4 | | FF | 3 |
| 327 | 20I-6-0000 | B1-12 | C | D | T | No | No | No | | | | 2 | | F | 2 |
| 328 | 20I-6-0000 | B1-12 | C | D | T | No | No | No | | | | 16 | | F | 4 |
| 330 | 20I-6-0000 | B1-12 | C | X | O | No | No | No | 45.22 | 44.22 | 12.12 | 28 | C | F | 4 |
| 331 | 20I-6-0000 | B1-12 | C | X | T | No | No | No | | | | 10 | | FF | 3 |
| 334 | 20I-6-0000 | B1-12 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 335 | 20I-6-0000 | B1-12 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 336 | 20I-6-0000 | B1-12 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 337 | 20I-6-0000 | B1-12 | C | X | T | No | No | No | | | | 0.5 | | FF | 1 |
| 338 | 20I-6-0000 | B1-12 | C | X | T | No | No | No | | | | 2 | | F | 2 |
| 339 | 20I-6-0000 | B1-12 | C | X | T | No | No | No | | | | 1 | | FF | 2 |
| 340 | 20I-6-0000 | B1-12 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 342 | 20I-6-0000 | B1-12 | C | C | T | No | No | No | | | | 5 | | FF | 2 |
| 345 | 20I-6-0000 | B1-12 | C | C | T | No | No | No | 42.07 | 27.62 | 7.86 | 7 | C | F | 3 |
| 346 | 20I-6-0000 | B1-12 | C | C | T | No | No | No | 24.24 | 17.82 | 5.61 | 2 | C | F | 2 |
| 349 | 20I-6-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 351 | 20I-6-0000 | B1-12 | C | C | T | No | No | No | 27.92 | 15.28 | 8.07 | 2 | C | FF | 2 |
| 352 | 20I-6-0000 | B1-12 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 353 | 20I-6-0000 | B1-12 | C | C | T | No | No | No | 21.84 | 16.9 | 5.2 | 2 | C | FF | 2 |
| 354 | 20I-6-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | FF | 1 |
| 355 | 20I-6-0000 | B1-12 | C | X | T | No | No | No | | | | 4 | | F | 2 |
| 378 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 0.5 | | FF | 1 |
| 380 | 20I-11-0000 | B1-12 | C | D | O | No | No | No | 47.74 | 30.46 | 13.5 | 14 | C | F | 3 |
| 395 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 55 | | F | 4 |
| 398 | 20I-11-0000 | B1-12 | C | D | T | No | No | No | 34.67 | 23.83 | 6.4 | 5 | C | F | 3 |
| 400 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 13 | | F | 3 |
| 404 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 405 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 407 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 4 | | FF | 2 |
| 409 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 0.5 | | FF | 1 |
| 412 | 20I-11-0000 | B1-12 | Q | Z | T | No | No | No | | | | 3 | | F | 1 |
| 414 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 8 | | F | 3 |
| 415 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 2 | | F | 2 |
| 416 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 1 | | FF | 1 |
| 417 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 3 | | FF | 1 |
| 418 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 4 | | FF | 1 |
| 420 | 20I-11-0000 | B1-12 | C | W | O | No | No | No | | | | 0.5 | | FF | 1 |
| 421 | 20I-11-0000 | B1-12 | C | W | O | No | No | No | | | | 2 | | FF | 2 |
| 422 | 20I-11-0000 | B1-12 | C | W | O | No | No | No | | | | 2 | | F | 2 |
| 424 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 2 | | F | 2 |
| 437 | 20I-11-0000 | B1-12 | Q | Z | O | No | No | No | | | | 7 | | F | 2 |
| 438 | 20I-11-0000 | B1-12 | Q | Z | O | No | No | No | | | | 7 | | F | 3 |
| 439 | 20I-11-0000 | B1-12 | Q | Z | O | No | No | No | | | | 3 | | FF | 2 |
| 440 | 20I-11-0000 | B1-12 | C | W | O | No | No | No | | | | 3 | | F | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 441 | 20I-11-0000 | B1-12 | C | W | O | No | No | No | | | | 1 | | FF | 1 |
| 442 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 12 | | F | 2 |
| 443 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 444 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 9 | | F | 3 |
| 445 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 2 | | FF | 2 |
| 446 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 447 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 3 | | FF | 2 |
| 448 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 449 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 450 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 1 | | FF | 1 |
| 451 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 452 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 453 | 20I-11-0000 | B1-12 | C | G | O | No | No | No | | | | 6 | | F | 3 |
| 455 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 6 | | FF | 3 |
| 457 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 8 | | FF | 3 |
| 460 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 1 | | FF | 2 |
| 461 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 3 | | FF | 2 |
| 462 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 1 | | FF | 2 |
| 463 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 2 | | F | 2 |
| 464 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 16 | | FF | 1 |
| 465 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | 23.12 | 12.54 | 4.64 | 2 | C | FF | 2 |
| 495 | 19D-21-0000 | B1-08 | C | C | T | No | No | No | | | | 8 | | F | 3 |
| 496 | 19D-21-0000 | B1-08 | C | T | O | No | No | No | | | | 2 | | F | 2 |
| 497 | 19D-21-0000 | B1-08 | C | C | T | No | No | No | | | | 5 | | FF | 3 |
| 498 | 19D-21-0000 | B1-08 | C | C | O | No | No | No | | | | 5 | | FF | 3 |
| 499 | 19D-21-0000 | B1-08 | C | C | T | No | No | No | | | | 5 | | FF | 2 |
| 500 | 19D-21-0000 | B1-08 | C | C | T | No | No | No | 43.07 | 33.33 | 9.52 | 10 | C | F | 3 |
| 501 | 19D-21-0000 | B1-08 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 503 | 19D-21-0000 | B1-08 | C | W | O | No | No | No | | | | 8 | | FF | 3 |
| 504 | 19D-21-0000 | B1-08 | C | W | O | No | No | No | | | | 6 | | F | 3 |
| 505 | 19D-21-0000 | B1-08 | C | G | T | No | No | No | 37.58 | 20.62 | 9.57 | 7 | C | F | 2 |
| 506 | 19D-21-0000 | B1-08 | C | X | O | No | No | No | | | | 2 | | FF | 2 |
| 507 | 19D-21-0000 | B1-08 | C | X | O | No | No | No | | | | 11 | | FF | 3 |
| 508 | 19D-21-0000 | B1-08 | C | D | T | No | No | No | 56.5 | 39.65 | 18.22 | 31 | C | F | 4 |
| 510 | 19D-21-0000 | B1-08 | C | D | T | No | No | No | | | | 16 | | F | 3 |
| 511 | 19D-21-0000 | B1-08 | C | G | O | No | No | No | 50.62 | 24.59 | 7.59 | 12 | C | FF | 4 |
| 523 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 16 | | F | 4 |
| 525 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 8 | | FF | 3 |
| 527 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | 36.33 | 21.9 | 8.09 | 6 | C | F | 3 |
| 528 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 529 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 530 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 4 | | FF | 2 |
| 531 | 20I-11-0000 | B1-12 | C | X | T | No | No | No | | | | 0.5 | | FF | 1 |
| 532 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 533 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 534 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 535 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 536 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 537 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 538 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 539 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 540 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | 23.22 | 10.77 | 3.74 | 0.5 | D | FF | 2 |
| 541 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 542 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | FF | 1 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 563 | 19D-17-0000 | B1-06 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 564 | 19D-17-0000 | B1-06 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 566 | 19D-17-0000 | B1-06 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 567 | 19D-17-0000 | B1-06 | C | C | T | No | No | No | 26.81 | 28.61 | 7.1 | 5 | C | F | 2 |
| 569 | 19D-17-0000 | B1-06 | C | C | O | No | No | No | | | | 7 | | F | 3 |
| 570 | 19D-17-0000 | B1-06 | C | C | O | No | No | No | | | | 5 | | F | 2 |
| 573 | 19D-17-0000 | B1-06 | Z | Z | T | No | No | No | | | | 5 | | HF | 2 |
| 574 | 19D-17-0000 | B1-06 | C | X | T | No | No | No | 35.96 | 25.46 | 10.6 | 7 | C | F | 3 |
| 575 | 19D-17-0000 | B1-06 | C | X | O | No | No | No | | | | 5 | | F | 3 |
| 576 | 19D-17-0000 | B1-06 | C | X | O | No | No | No | | | | 6 | | FB | 4 |
| 591 | 19D-20-0000 | B1-08 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 592 | 19D-20-0000 | B1-08 | C | C | T | No | No | No | 40.56 | 18.19 | 10.38 | 6 | C | FF | 3 |
| 593 | 19D-20-0000 | B1-08 | C | C | O | No | No | No | | | | 8 | | F | 2 |
| 596 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 27 | | F | 3 |
| 597 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | 58.32 | 37.06 | 13.12 | 29 | C | F | 4 |
| 598 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 29 | | F | 4 |
| 599 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 7 | | FB | 3 |
| 600 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 9 | | F | 3 |
| 602 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 605 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | 41.14 | 33.48 | 5.91 | 13 | C | F | 3 |
| 606 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 8 | | FF | 3 |
| 608 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 5 | | F | 2 |
| 609 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 3 | | K | 2 |
| 611 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 612 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 614 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 615 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 616 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 5 | C | FF | 2 |
| 617 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 3 | R | FF | 2 |
| 619 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 620 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 621 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 622 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 623 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 624 | 20I-11-0000 | B1-12 | C | C | O | No | No | No | | | | 0.5 | | FF | 1 |
| 625 | 20I-11-0000 | B1-12 | C | C | T | No | No | No | 25.77 | 12.36 | 5.09 | 2 | C | FB | 2 |
| 626 | 20I-11-0000 | B1-12 | Q | Z | O | No | No | No | | | | 2 | | F | 2 |
| 627 | 20I-11-0000 | B1-12 | C | X | T | No | No | No | | | | 2 | | FF | 2 |
| 628 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 2 | | FF | 2 |
| 629 | 20I-11-0000 | B1-12 | C | X | T | No | No | No | | | | 1 | C | F | 2 |
| 630 | 20I-11-0000 | B1-12 | C | X | O | No | No | No | | | | 0.5 | | FF | 1 |
| 631 | 20I-11-0000 | B1-12 | C | X | T | No | No | No | | | | 0.5 | | FF | 1 |
| 632 | 19D-15-0000 | B1-06 | Q | C | O | No | No | No | | | | 2 | | HF | 2 |
| 633 | 19D-15-0000 | B1-06 | Z | C | O | No | No | No | | | | 6 | | HF | 2 |
| 634 | 19D-15-0000 | B1-06 | C | D | O | No | No | No | | | | 19 | | FF | 3 |
| 635 | 19D-15-0000 | B1-06 | C | Z | T | No | No | No | | | | 10 | | F | 3 |
| 637 | 19D-15-0000 | B1-06 | C | X | O | No | No | No | | | | 154 | | C | 4 |
| 638 | 19D-15-0000 | B1-06 | L | Z | O | No | No | No | | | | 5 | | FF | 2 |
| 648 | 19D-15-0000 | B1-06 | C | C | T | No | No | No | | | | 8 | | FF | 3 |
| 651 | 19D-15-0000 | B1-06 | C | C | T | No | No | No | 73 | 36.65 | 14.61 | 32 | D | F | 4 |
| 652 | 19D-15-0000 | B1-06 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 653 | 19D-15-0000 | B1-06 | C | C | T | No | No | No | | | | 7 | | F | 2 |
| 654 | 19D-15-0000 | B1-06 | C | C | T | No | No | No | | | | 1 | | F | 2 |
| 655 | 19D-15-0000 | B1-06 | C | C | T | No | No | No | | | | 7 | | FF | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 658 | 19D-15-0000 | B1-06 | C | X | T | No | No | No | | | | 2 | | F | 2 |
| 660 | 19D-15-0000 | B1-06 | C | W | O | No | No | No | | | | 114 | | C | 3 |
| 661 | 19D-15-0000 | B1-06 | C | W | O | No | No | No | | | | 6 | | FF | 3 |
| 722 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | 45.52 | 25.1 | 6.6 | 7 | C | F | 3 |
| 723 | 20C-19-0000 | B1-07 | C | D | O | No | No | No | | | | 2 | | F | 4 |
| 725 | 20C-19-0000 | B1-07 | C | D | T | No | No | No | 39.98 | 25.12 | 6.48 | 10 | C | F | 3 |
| 728 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | | | | 23 | | F | 2 |
| 730 | 20C-19-0000 | B1-07 | C | X | T | No | No | No | | | | 15 | | F | 3 |
| 731 | 20C-19-0000 | B1-07 | C | D | T | No | No | No | | | | 2 | | FF | 2 |
| 732 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | 21.83 | 17.33 | 4.43 | 2 | C | F | 2 |
| 733 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 738 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | | | | 30 | | F | 2 |
| 741 | 20C-19-0000 | B1-07 | C | X | T | No | No | No | | | | 4 | | F | 2 |
| 742 | 20C-19-0000 | B1-07 | C | C | O | No | No | No | | | | 2 | | FF | 1 |
| 743 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 746 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | | | | 2 | | FF | 1 |
| 758 | 20C-19-0000 | B1-07 | Z | Z | O | No | No | No | | | | 7 | | FF | 3 |
| 759 | 20C-19-0000 | B1-07 | L | Z | O | No | No | No | | | | 33 | | K | 3 |
| 760 | 20C-19-0000 | B1-07 | C | X | O | No | No | No | 43.7 | 27.28 | 11.24 | 11 | C | FF | 3 |
| 761 | 20C-19-0000 | B1-07 | C | X | O | No | No | No | | | | 8 | | K | 3 |
| 762 | 20C-19-0000 | B1-07 | C | X | O | No | No | No | | | | 8 | | FF | 3 |
| 764 | 20C-19-0000 | B1-07 | L | T | O | No | No | No | | | | 2 | | FF | 2 |
| 767 | 20C-19-0000 | B1-07 | L | T | O | No | No | No | | | | 2 | | K | 1 |
| 768 | 20C-19-0000 | B1-07 | C | T | O | No | No | No | | | | 1 | | FF | 2 |
| 769 | 20C-19-0000 | B1-07 | L | T | O | No | No | No | | | | 0.5 | | FF | 1 |
| 770 | 20C-19-0000 | B1-07 | C | T | O | No | No | No | | | | 1 | | FF | 2 |
| 771 | 20C-19-0000 | B1-07 | C | T | O | No | No | No | | | | 2 | | FF | 2 |
| 772 | 20C-19-0000 | B1-07 | C | T | O | No | No | No | 30.45 | 18.18 | 5.07 | 2 | | FF | 2 |
| 774 | 20C-19-0000 | B1-07 | C | D | T | No | No | No | | | | 16 | | FF | 3 |
| 775 | 20C-19-0000 | B1-07 | C | D | T | No | No | No | | | | 194 | | C | 4 |
| 776 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | | | | 5 | | F | 2 |
| 777 | 20C-19-0000 | B1-07 | C | X | O | No | No | No | | | | 11 | | FF | 3 |
| 778 | 20C-19-0000 | B1-07 | C | X | O | No | No | No | | | | 2 | | FF | 1 |
| 782 | 20C-19-0000 | B1-07 | C | Z | O | No | No | No | | | | 5 | | F | 2 |
| 783 | 20C-19-0000 | B1-07 | C | W | O | No | No | No | | | | 2 | | FF | 2 |
| 786 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | 22.4 | 19.96 | 8.13 | 6 | C | F | 4 |
| 787 | 20C-19-0000 | B1-07 | C | C | O | No | No | No | | | | 1 | | F | 4 |
| 788 | 20C-19-0000 | B1-07 | C | C | O | No | No | No | | | | 1 | | F | 2 |
| 789 | 20C-19-0000 | B1-07 | C | C | O | No | No | No | | | | 68 | | K | 3 |
| 790 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | | | | 6 | | FF | 2 |
| 795 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 32 | | F | 4 |
| 801 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 6 | | FF | 3 |
| 803 | 15N-69-0000 | B1-04 | C | C | T | No | No | No | | | | 5 | | FF | 2 |
| 804 | 15N-69-0000 | B1-04 | C | C | T | No | No | No | | | | 2 | D | F | 2 |
| 806 | 15N-69-0000 | B1-04 | C | D | T | No | No | No | 45.23 | 39.54 | 14.56 | 24 | C | F | 3 |
| 808 | 15N-69-0000 | B1-04 | C | D | T | No | No | No | | | | 24 | | K | 4 |
| 810 | 15N-69-0000 | B1-04 | C | W | O | No | No | No | | | | 23 | | FF | 4 |
| 812 | 15N-69-0000 | B1-04 | L | Z | O | No | No | No | | | | 13 | | F | 4 |
| 838 | 15N-59-0000 | B1-04 | L | Z | O | No | No | No | | | | 84 | | K | 4 |
| 839 | 15N-59-0000 | B1-04 | C | T | O | No | No | No | | | | 41 | | K | 4 |
| 841 | 15N-59-0000 | B1-04 | C | T | O | No | No | No | 34.48 | 28.73 | 10.02 | 8 | C | F | 3 |
| 844 | 15N-59-0000 | B1-04 | C | G | O | No | No | No | | | | 14 | | K | 3 |
| 845 | 15N-59-0000 | B1-04 | L | Z | O | No | No | No | | | | 103 | | K | 4 |
| 846 | 15N-59-0000 | B1-04 | C | Z | O | No | No | No | | | | 14 | | K | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 850 | 15N-59-0000 | B1-04 | C | W | O | No | No | No | 41.85 | 20.84 | 9.23 | 7 | C | FB | 3 |
| 855 | 15N-59-0000 | B1-04 | C | C | T | No | No | No | | | | 67 | | K | 4 |
| 861 | 15N-59-0000 | B1-04 | C | C | T | No | No | No | | | | 37 | | FF | 4 |
| 862 | 15N-59-0000 | B1-04 | C | X | T | No | No | No | | | | 32 | C | F | 4 |
| 863 | 15N-59-0000 | B1-04 | C | X | T | No | No | No | | | | 5 | | K | 2 |
| 918 | 15N-42-0000 | B1-03-G | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 919 | 15N-42-0000 | B1-03-G | C | X | T | No | No | No | 27.24 | 16.67 | 6.61 | 2 | D | FF | 2 |
| 922 | 15N-42-0000 | B1-03-G | C | W | O | No | No | No | | | | 0.5 | | FF | 2 |
| 923 | 15N-42-0000 | B1-03-G | C | T | O | No | No | No | 45.9 | 37.7 | 16.45 | 21 | S | F | 4 |
| 932 | 15N-69-0000 | B1-04 | C | C | T | No | No | No | | | | 164 | | C | 4 |
| 937 | 15N-69-0000 | B1-04 | C | D | T | No | No | No | | | | 76 | | C | 4 |
| 941 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 9 | | F | 3 |
| 1061 | 15N-44-0000 | B1-03-H | C | X | O | No | No | No | | | | 3 | | F | 2 |
| 1063 | 15N-44-0000 | B1-03-H | C | X | T | No | No | No | 25.35 | 12.68 | 4.1 | 0.5 | D | F | 2 |
| 1064 | 15N-44-0000 | B1-03-H | C | X | T | No | No | No | | | | 4 | | F | 3 |
| 1066 | 15N-44-0000 | B1-03-H | C | X | O | No | No | No | | | | 3 | | FF | 2 |
| 1067 | 15N-44-0000 | B1-03-H | C | X | O | No | No | No | | | | 3 | | F | 2 |
| 1142 | 15N-25-0000 | B1-03-E | C | C | T | No | No | No | 54.23 | 36.67 | 18.07 | 30 | S | K | 4 |
| 1144 | 15N-25-0000 | B1-03-E | C | X | O | No | No | No | | | | 4 | | F | 2 |
| 1153 | 15N-69-0000 | B1-04 | C | C | T | No | No | No | | | | 20 | | F | 4 |
| 1156 | 15N-69-0000 | B1-04 | C | C | T | No | No | No | | | | 3 | | FF | 3 |
| 1158 | 15N-69-0000 | B1-04 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 1159 | 15N-42-0000 | B1-03-G | C | C | T | No | No | No | | | | 12 | | F | 3 |
| 1162 | 15N-42-0000 | B1-03-G | C | W | O | No | No | No | | | | 11 | | F | 3 |
| 1171 | 15N-42-0000 | B1-03-G | Q | Z | O | No | No | No | | | | 11 | | F | 3 |
| 1174 | 15N-44-0000 | B1-03-H | C | C | T | No | No | No | | | | 6 | | F | 2 |
| 1175 | 15N-44-0000 | B1-03-H | C | C | T | No | No | No | | | | 10 | | F | 3 |
| 1178 | 15N-44-0000 | B1-03-H | C | C | T | No | No | No | 35.35 | 20.27 | 6.36 | 5 | C | F | 3 |
| 1179 | 15N-44-0000 | B1-03-H | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 1184 | 15N-44-0000 | B1-03-H | C | C | T | No | No | No | | | | 10 | | FF | 3 |
| 1187 | 15N-44-0000 | B1-03-H | C | G | O | No | No | No | | | | 47 | | F | 4 |
| 1213 | 15N-44-0000 | B1-03-H | Q | Z | O | No | No | No | | | | 11 | | F | 2 |
| 1219 | 15N-44-0000 | B1-03-H | C | C | T | No | No | No | | | | 29 | | F | 4 |
| 1220 | 15N-44-0000 | B1-03-H | C | D | T | No | No | No | | | | 56 | | FF | 4 |
| 1310 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 19 | | FF | 3 |
| 1311 | 15N-69-0000 | B1-04 | C | W | O | No | No | No | 58.94 | 19.02 | 9.16 | 8 | C | FB | 3 |
| 1313 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 6 | | FF | 2 |
| 1318 | 15N-69-0000 | B1-04 | C | X | T | No | No | No | | | | 36 | | F | 4 |
| 1321 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | 33.38 | 31.14 | 4.3 | 19 | C | F | 3 |
| 1322 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 3 | | F | 1 |
| 1326 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 78 | | K | 4 |
| 1329 | 15N-42-0000 | B1-03-G | C | X | T | No | No | No | | | | 4 | C | FB | 3 |
| 1330 | 15N-42-0000 | B1-03-G | C | Z | O | No | No | No | | | | 37 | | F | 4 |
| 1331 | 15N-42-0000 | B1-03-G | C | W | O | No | No | No | | | | 154 | | C | 4 |
| 1335 | 20C-19-0000 | B1-07 | C | X | O | No | No | No | | | | 3 | | FF | 2 |
| 1336 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | 30.05 | 21.2 | 5.81 | 3 | C | F | 2 |
| 1337 | 20C-19-0000 | B1-07 | C | C | O | No | No | No | | | | 4 | | FF | 2 |
| 1338 | 20C-19-0000 | B1-07 | C | C | T | No | No | No | | | | 2 | | F | 1 |
| 1339 | 20C-19-0000 | B1-07 | C | W | O | No | No | No | | | | 0.5 | | FF | 1 |
| 1342 | 20C-19-0000 | B1-07 | L | Z | O | No | No | No | | | | 117 | | C | 4 |
| 1343 | 20C-19-0000 | B1-07 | C | W | O | No | No | No | | | | 9 | | FF | 3 |
| 1344 | 20C-19-0000 | B1-07 | C | W | O | No | No | No | | | | 0.5 | | FF | 1 |
| 1345 | 20C-19-0000 | B1-07 | C | G | O | No | No | No | | | | 0.5 | | FF | 1 |
| 1371 | 20C-3-0000 | B1-05 | C | W | O | No | No | No | | | | 9 | C | FB | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1372 | 20C-3-0000 | B1-05 | L | W | O | No | No | No | | | | 5 | | F | 2 |
| 1376 | 20C-3-0000 | B1-05 | C | X | O | No | No | No | | | | 15 | | FF | 4 |
| 1378 | 20C-3-0000 | B1-05 | C | T | O | No | No | No | | | | 2 | | F | 2 |
| 1383 | 20C-3-0000 | B1-05 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 1385 | 20C-3-0000 | B1-05 | C | G | O | No | No | No | | | | 8 | | F | 3 |
| 1386 | 20B-7-0000 | B1-06 | C | X | O | No | No | No | 41.71 | 19.41 | 17.14 | 56 | DBF | F | 4 |
| 1387 | 20B-7-0000 | B1-06 | C | C | O | No | No | No | 60.66 | 25.86 | 11.06 | 6 | P | F | 4 |
| 1393 | 20C-19-0000 | B1-07 | S | B | O | No | No | No | | | | 3 | | FF | 2 |
| 1422 | 20A-3 C1:2000 | B1-04 | C | X | O | No | No | No | | | | 22 | | FB | 4 |
| 1425 | 20A-3 C1:2000 | B1-04 | C | C | T | No | No | No | | | | 8 | | FF | 3 |
| 1427 | 20A-3 C1:2000 | B1-04 | C | W | O | No | No | No | | | | 2 | | FF | 2 |
| 1429 | 20A-3 C1:2000 | B1-04 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 1430 | 20A-3 C1:2000 | B1-04 | C | X | T | No | No | No | | | | 0.5 | D | FF | 2 |
| 1431 | 20A-3 C1:2000 | B1-04 | L | Z | O | No | No | No | | | | 3 | | F | 2 |
| 1440 | 20A-8 C1:2000 | B1-04 | C | D | T | No | No | No | | | | 7 | | F | 2 |
| 1441 | 20A-8 C1:2000 | B1-04 | C | D | T | No | No | No | | | | 10 | | FF | 2 |
| 1444 | 20A-8 C1:2000 | B1-04 | Z | Z | O | No | No | No | | | | 3 | | F | 2 |
| 1447 | 20A-8 C1:2000 | B1-04 | C | C | T | No | No | No | | | | 6 | | F | 2 |
| 1448 | 20A-8 C1:2000 | B1-04 | C | W | O | No | No | No | | | | 3 | | FF | 2 |
| 1450 | 20A-8 C1:2000 | B1-04 | C | C | T | No | No | No | | | | 2 | | F | 1 |
| 1455 | 20C-3-0000 | B1-05 | C | W | O | No | No | No | | | | 23 | S | C | 4 |
| 1456 | 20C-3-0000 | B1-05 | C | X | O | No | No | No | | | | 73 | C | F | 4 |
| 1461 | 20C-3-0000 | B1-05 | C | D | T | No | No | No | | | | 84 | S | K | 4 |
| 1462 | 20C-3-0000 | B1-05 | C | G | O | No | No | No | | | | 14 | | F | 3 |
| 1471 | 20C-3-0000 | B1-05 | L | Z | O | No | No | No | | | | 26 | | F | 4 |
| 1472 | 20C-3-0000 | B1-05 | C | C | T | No | No | No | | | | 9 | C | F | 3 |
| 1476 | 20C-3-0000 | B1-05 | C | X | T | No | No | No | | | | 10 | C | F | 4 |
| 1477 | 20C-3-0000 | B1-05 | C | T | O | No | No | No | | | | 14 | C | F | 3 |
| 1482 | 20C-3-0000 | B1-05 | C | C | T | No | No | No | | | | 5 | | F | 2 |
| 1486 | 20C-3-0000 | B1-05 | C | D | T | No | No | No | | | | 18 | C | FB | 3 |
| 1548 | 20A-6-0000 | B1-04 | C | W | O | No | No | No | | | | 18 | S | F | 3 |
| 1549 | 20A-6-0000 | B1-04 | C | G | O | No | No | No | | | | 11 | | F | 2 |
| 1550 | 20A-6-0000 | B1-04 | C | X | O | No | No | No | | | | 58 | S | K | 3 |
| 1554 | 20A-6-0000 | B1-04 | M | B | O | No | No | No | | | | 33 | | F | 3 |
| 1556 | 20A-6-0000 | B1-04 | S | G | O | No | No | No | | | | 100 | | FF | 4 |
| 1558 | 20B-1-0000 | B1-05 | L | Z | O | No | No | No | | | | 115 | | C | 4 |
| 1559 | 20B-1-0000 | B1-05 | C | C | T | No | No | No | | | | 158 | | K | 4 |
| 1560 | 20B-1-0000 | B1-05 | C | D | T | No | No | No | | | | 28 | | F | 3 |
| 1561 | 20B-1-0000 | B1-05 | C | D | O | No | No | No | | | | 14 | | F | 3 |
| 1562 | 20B-1-0000 | B1-05 | C | W | O | No | No | No | | | | 20 | | F | 2 |
| 1563 | 20B-1-0000 | B1-05 | C | G | O | No | No | No | | | | 14 | | FF | 2 |
| 1564 | 20B-1-0000 | B1-05 | C | X | O | No | No | No | | | | 24 | S | F | 4 |
| 1565 | 20B-1-0000 | B1-05 | C | T | O | No | No | No | | | | 12 | C | F | 3 |
| 1566 | 20B-1-0000 | B1-05 | C | C | T | No | No | No | | | | 4 | C | F | 2 |
| 1567 | 20B-1-0000 | B1-05 | C | T | O | No | No | No | | | | 4 | | FF | 2 |
| 1568 | 20B-1-0000 | B1-05 | C | Z | O | No | No | No | | | | 11 | S | F | 3 |
| 1572 | 20B-1-0000 | B1-05 | C | X | O | No | No | No | | | | 24 | C | F | 3 |
| 1577 | 20B-1-0000 | B1-05 | C | X | O | No | No | No | | | | 9 | | F | 2 |
| 1588 | 19D-6-1399 | B1-02 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 1589 | 20B-11-1281 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 1591 | 20B-11-1285 | B1-13 | C | C | T | No | No | No | | | | 1 | | FB | 1 |
| 1593 | 19D-5-1358 | B1-02 | C | C | T | No | No | No | | | | 1 | | FB | 2 |
| 1595 | 20A-17-1333 | B1-05 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 1600 | 19D-9-1428 | B1-02 | O | B | T | No | No | No | 37.01 | 8.44 | 3.5 | 0.5 | | PPB | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1604 | 19D-9-1431 | B1-02 | O | B | T | No | No | No | 31.2 | 13.03 | 2.81 | 2 | | PPB | 2 |
| 1605 | 19D-9-1429 | B1-02 | O | B | T | No | No | No | 11.36 | 8.01 | 2.63 | 0.5 | | DPB | 1 |
| 1609 | 19D-9-1430 | B1-02 | O | B | T | No | No | No | 21.05 | 9.21 | 2.12 | 0.5 | C | MPB | 2 |
| 1610 | 19D-6-1347 | B1-02 | O | B | T | No | No | No | 15.76 | 8.45 | 2.94 | 0.5 | S | MPB | 2 |
| 1611 | 19D-6-1345 | B1-02 | O | B | T | No | No | No | 31.45 | 12.31 | 4.06 | 0.5 | C | MPB | 2 |
| 1612 | 19D-9-1432 | B1-02 | O | B | T | No | No | No | 22.82 | 11.58 | 3.11 | 0.5 | S | MPB | 2 |
| 1614 | 19D-6-1344 | B1-02 | O | B | T | No | No | No | 36.58 | 11.5 | 2.77 | 2 | C | PPB | 3 |
| 1615 | 15N-206-1315 | B1-02 | O | G | T | No | No | No | 37.14 | 20.7 | 6.73 | 6 | SN | F | 2 |
| 1618 | 19D-5-1336 | B1-02 | Z | | | No | No | No | 103.06 | 56.95 | 43.93 | 323 | | H | 4 |
| 1622 | 19D-6-1399 | B1-02 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 1623 | 20B-11-1281 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 1624 | 19D-7-1386 | B1-02 | C | C | T | No | No | No | 49.47 | 27.15 | 9.31 | 18 | R | B | 4 |
| 1625 | 20B-11-1285 | B1-13 | C | C | T | No | No | No | | | | 1 | | FB | 1 |
| 1627 | 19D-5-1358 | B1-02 | C | C | T | No | No | No | | | | 1 | | FB | 2 |
| 1628 | 20J-1-1395 | B1-05-B | C | C | T | No | No | No | 39.38 | 6.12 | 6.16 | 1 | D | FF | 3 |
| 1629 | 20A-17-1333 | B1-05 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 1631 | 19D-6-1341 | B1-02 | O | B | T | No | No | No | 24.5 | 9.19 | 1.98 | 1 | | MPB | 2 |
| 1632 | 19D-6-1350 | B1-02 | O | B | T | No | No | No | 21.34 | 9.14 | 3.03 | 0.5 | C | MPB | 2 |
| 1633 | 19D-6-1342 | B1-02 | O | B | T | No | No | No | 12.84 | 13.6 | 1.98 | 0.5 | | MPB | 1 |
| 1635 | 19D-6-1346 | B1-02 | O | B | T | No | No | No | 21.08 | 8.07 | 2.49 | 0.5 | | MPB | 2 |
| 1636 | 19D-5-1338 | B1-02 | O | B | T | No | No | No | 31.4 | 9.94 | 2.15 | 0.5 | | DPB | 2 |
| 1640 | 19D-6-1351 | B1-02 | O | B | T | No | No | No | 16.29 | 21.96 | 5.18 | 2 | S | F | 2 |
| 1641 | 19D-4-1312 | B1-02 | O | B | T | No | No | No | 21.89 | 9.24 | 2.5 | 0.5 | C | MPB | 2 |
| 1642 | 19D-6-1340 | B1-02 | O | B | T | No | No | No | 29.62 | 8.89 | 2.28 | 0.5 | S | PPB | 2 |
| 1644 | 19D-6-1347 | B1-02 | O | B | T | No | No | No | 15.76 | 8.45 | 2.94 | 0.5 | S | MPB | 2 |
| 1647 | 19D-6-1347 | B1-02 | O | B | T | No | No | No | | | | 0.5 | S | MPB | 1 |
| 1648 | 19D-9-1343 | B1-02 | O | B | T | No | No | No | 24.29 | 9.42 | 2.07 | 0.5 | C | MPB | 2 |
| 1651 | 19D-6-1348 | B1-02 | C | C | O | No | No | No | 129.46 | 61.3 | 25.98 | 205 | | B | 4 |
| 1652 | 19D-9-1427 | B1-02 | C | T | O | No | No | No | 91.9 | 47.73 | 28.95 | 153 | | AZ | 4 |
| 1658 | 20C-1-0000 | B1-05 | L | W | O | No | No | No | | | | 187 | | C | 4 |
| 1661 | 20C-1-0000 | B1-05 | C | X | O | No | No | No | | | | 58 | | F | 4 |
| 1665 | 20C-1-0000 | B1-05 | C | C | T | No | No | No | | | | 11 | | F | 2 |
| 1669 | 20C-1-0000 | B1-05 | C | C | T | No | No | No | | | | 13 | | FF | 2 |
| 1672 | 20C-1-0000 | B1-05 | C | C | O | No | No | No | | | | 3 | | FF | 2 |
| 1674 | 20C-1-0000 | B1-05 | C | C | T | No | No | No | 47.86 | 53.73 | 17.17 | 38 | S | F | 3 |
| 1675 | 20C-1-0000 | B1-05 | C | C | T | No | No | No | | | | 18 | | F | 3 |
| 1677 | 20C-1-0000 | B1-05 | C | X | O | No | No | No | | | | 18 | | F | 3 |
| 1686 | 20C-1-0000 | B1-05 | C | X | O | No | No | No | | | | 12 | | FF | 2 |
| 1692 | 20C-5-0000 | B1-05 | C | C | T | No | No | No | | | | 18 | | F | 3 |
| 1706 | 20C-5-0000 | B1-05 | C | C | T | No | No | No | | | | 5 | | F | 2 |
| 1710 | 20C-5-0000 | B1-05 | C | W | O | No | No | No | | | | 8 | | F | 3 |
| 1715 | 20C-5-0000 | B1-05 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 1716 | 20C-5-0000 | B1-05 | C | G | O | No | No | No | | | | 4 | | FF | 2 |
| 1722 | 20C-5-0000 | B1-05 | C | X | T | No | No | No | | | | 0.5 | | B | 2 |
| 1726 | 20C-5-0000 | B1-05 | C | C | T | No | No | No | | | | 2 | | F | 1 |
| 1728 | 20A-6-0000 | B1-04 | C | X | O | No | No | No | | | | 14 | | FF | 2 |
| 1731 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 8 | | F | 2 |
| 1733 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 1 | | F | 1 |
| 1734 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 5 | | F | 2 |
| 1735 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 1 | | F | 2 |
| 1736 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 1 | | F | 1 |
| 1737 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 1738 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 1739 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1740 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 0.5 | | FB | 1 |
| 1742 | 20A-6-0000 | B1-04 | C | D | T | No | No | No | | | | 4 | | F | 2 |
| 1744 | 20A-6-0000 | B1-04 | C | X | T | No | No | No | 28.87 | 17.93 | 9.86 | 2 | C | F | 2 |
| 1745 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 1746 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 1747 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 1748 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 0.5 | | F | 1 |
| 1749 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 1750 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 5 | | FF | 1 |
| 1751 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 6 | | FF | 2 |
| 1754 | 20A-6-0000 | B1-04 | C | Z | O | No | No | No | 27.2 | 6.7 | 7.52 | 5 | S | FF | 2 |
| 1755 | 20A-6-0000 | B1-04 | C | W | O | No | No | No | | | | 6 | | F | 2 |
| 1757 | 20A-6-0000 | B1-04 | C | Z | O | No | No | No | | | | 3 | | F | 3 |
| 1760 | 20A-6-0000 | B1-04 | C | W | O | No | No | No | | | | 0.5 | | FF | 2 |
| 1762 | 20A-6-0000 | B1-04 | C | X | O | No | No | No | | | | 12 | | FF | 2 |
| 1765 | 20A-6-0000 | B1-04 | C | G | O | No | No | No | | | | 0.5 | | FF | 1 |
| 1767 | 20A-6-0000 | B1-04 | C | X | O | No | No | No | | | | 0.5 | | FF | 1 |
| 1794 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | 46.46 | 38.68 | 11.53 | 21 | C | F | 3 |
| 1795 | 20D-9-0000 | B1-08 | C | G | T | No | No | No | | | | 63 | | F | 4 |
| 1796 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | 35.92 | 29.03 | 13.26 | 15 | S | F | 3 |
| 1802 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | | | | 21 | | FB | 3 |
| 1804 | 20D-9-0000 | B1-08 | L | W | | No | No | No | | | | 28 | | FF | 2 |
| 1811 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | | | | 14 | | FF | 2 |
| 1812 | 20D-9-0000 | B1-08 | C | D | T | No | No | No | | | | 7 | | FF | 3 |
| 1814 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | | | | 12 | | F | 2 |
| 1819 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 1821 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 1825 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 1827 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 1830 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 1832 | 20D-9-0000 | B1-08 | C | X | T | No | No | No | | | | 2 | | F | 2 |
| 1833 | 20D-9-0000 | B1-08 | C | X | T | No | No | No | | | | 1 | | FF | 2 |
| 1834 | 20D-9-0000 | B1-08 | C | X | T | No | No | No | | | | 3 | | FF | 1 |
| 1835 | 20D-9-0000 | B1-08 | C | X | O | No | No | No | 19.86 | 11.64 | 4.34 | 1 | | F | 2 |
| 1843 | 20D-9-0000 | B1-08 | C | Z | O | No | No | No | 25.17 | 19.87 | 8.87 | 3 | C | F | 3 |
| 1844 | 20D-9-0000 | B1-08 | C | G | O | No | No | No | | | | 1 | | FF | 1 |
| 1845 | 20D-9-0000 | B1-08 | C | G | O | No | No | No | | | | 2 | | FF | 2 |
| 1846 | 20D-9-0000 | B1-08 | C | W | O | No | No | No | 13.82 | 9.55 | 6.44 | 1 | C | FF | 2 |
| 1847 | 20D-9-0000 | B1-08 | C | W | O | No | No | No | | | | 3 | | FF | 2 |
| 1860 | 20D-9-0000 | B1-08 | C | D | C | No | No | No | | | | 4 | | F | 2 |
| 1876 | 20D-9-0000 | B1-08 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 1887 | 20D-8-0000 | B1-08 | C | D | T | No | No | No | 25.12 | 15.75 | 4 | 2 | C | F | 2 |
| 1888 | 20D-8-0000 | B1-08 | C | D | T | No | No | No | | | | 4 | | F | 2 |
| 1889 | 20D-8-0000 | B1-08 | C | Z | O | No | No | No | | | | 13 | | F | 3 |
| 1890 | 20D-8-0000 | B1-08 | C | X | O | No | No | No | | | | 2 | | F | 2 |
| 1893 | 20D-8-0000 | B1-08 | C | G | O | No | No | No | | | | 1 | | F | 2 |
| 1894 | 20D-8-0000 | B1-08 | C | C | T | No | No | No | | | | 1 | | FF | 1 |
| 1895 | 20D-8-0000 | B1-08 | C | C | T | No | No | No | | | | 1 | | FF | 1 |
| 1901 | 20D-8-0000 | B1-08 | C | C | T | No | No | No | 45.68 | 22.68 | 11.49 | 11 | S | F | 3 |
| 1924 | 20A-6-0000 | B1-04 | L | W | O | No | No | No | | | | 176 | | K | 4 |
| 1926 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 68 | | F | 4 |
| 1955 | 20A-6-0000 | B1-04 | L | W | O | No | No | No | | | | 176 | | K | 4 |
| 1957 | 20A-6-0000 | B1-04 | C | C | T | No | No | No | | | | 68 | | F | 4 |
| 1967 | 15N-69-0000 | B1-04 | C | W | O | No | No | No | | | | 6 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1968 | 15N-69-0000 | B1-04 | C | C | T | No | No | No | 46.81 | 23.79 | 15.52 | 11 | C | FF | 4 |
| 1970 | 15N-69-0000 | B1-04 | C | C | P | No | No | No | | | | 8 | | F | 3 |
| 1971 | 15N-69-0000 | B1-04 | C | X | T | No | No | No | | | | 19 | | FF | 3 |
| 1977 | 15N-69-0000 | B1-04 | C | X | P | No | No | No | | | | 51 | | F | 4 |
| 1979 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 9 | | FF | 2 |
| 1980 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 3 | | FB | 2 |
| 1981 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 7 | | F | 3 |
| 1983 | 15N-69-0000 | B1-04 | C | Z | O | No | No | No | | | | 3 | | F | 2 |
| 1984 | 15N-69-0000 | B1-04 | C | W | O | No | No | No | | | | 11 | | F | 3 |
| 1985 | 15N-69-0000 | B1-04 | C | Z | O | No | No | No | 28.04 | 20.31 | 5.07 | 2 | C | F | 2 |
| 1987 | 15N-69-0000 | B1-04 | C | W | O | No | No | No | | | | 6 | | F | 3 |
| 1988 | 15N-69-0000 | B1-04 | C | C | O | No | No | No | | | | 2 | | F | 2 |
| 1989 | 15N-69-0000 | B1-04 | C | X | O | No | No | No | | | | 5 | S | F | 2 |
| 1990 | 15N-69-0000 | B1-04 | C | G | O | No | No | No | | | | 11 | | FF | 3 |
| 2035 | 20A-13-0000 | B1-13 | C | W | O | No | No | No | 55.23 | 49.63 | 15.95 | 43 | S | F | 4 |
| 2036 | 20A-13-0000 | B1-13 | C | W | O | No | No | No | | | | 6 | | F | 1 |
| 2037 | 20A-13-0000 | B1-13 | C | W | T | No | No | No | | | | 9 | | F | 1 |
| 2038 | 20A-13-0000 | B1-13 | C | W | T | No | No | No | | | | 5 | | FF | 1 |
| 2039 | 20A-13-0000 | B1-13 | C | W | T | No | No | No | | | | 0.5 | | F | 1 |
| 2040 | 20A-13-0000 | B1-13 | C | X | O | No | No | No | | | | 0.5 | | FF | 1 |
| 2041 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 5 | | F | 1 |
| 2042 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | 29.75 | 19.1 | 7.68 | 5 | C | F | 1 |
| 2043 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 3 | | FF | 1 |
| 2044 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 3 | | FF | 1 |
| 2045 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 2 | | FF | 1 |
| 2047 | 20A-13-0000 | B1-13 | C | X | O | No | No | No | | | | 3 | | FF | 1 |
| 2048 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | 19.61 | 10.71 | 2.83 | 0.5 | C | FF | 1 |
| 2050 | 20A-13-0000 | B1-13 | C | C | O | No | No | No | | | | 14 | | F | 1 |
| 2088 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2090 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 60.13 | 47.22 | 13.37 | 29 | S | F | 2 |
| 2092 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 18 | | FF | 2 |
| 2093 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 15 | | FF | 1 |
| 2094 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 9 | | F | 2 |
| 2095 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 12 | | F | 1 |
| 2096 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 9 | | F | 1 |
| 2097 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | FF | 1 |
| 2100 | 20A-13-0000 | B1-13 | C | D | T | No | No | No | | | | 5 | | F | 1 |
| 2101 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 1 |
| 2102 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | FF | 2 |
| 2103 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | F | 1 |
| 2104 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 1 |
| 2105 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 1 |
| 2108 | 20A-13-0000 | B1-13 | C | G | T | No | No | No | 85.29 | 55.77 | 22.14 | 80 | S | F | 4 |
| 2109 | 20A-13-0000 | B1-13 | C | D | T | No | No | No | 51.79 | 42.34 | 25.39 | 56 | S | F | 4 |
| 2110 | 20A-13-0000 | B1-13 | C | G | O | No | No | No | | | | 4 | | F | 2 |
| 2112 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | 47.34 | 28.9 | 12.31 | 22 | | F | 4 |
| 2129 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 5 | | FF | 3 |
| 2130 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 119 | | FF | 4 |
| 2132 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 413 | | K | 4 |
| 2135 | 20J-20-0000 | B1-13 | C | X | O | No | No | No | 39.66 | 37.95 | 13.3 | 22 | C | F | 3 |
| 2138 | 20J-20-0000 | B1-13 | C | X | O | No | No | No | | | | 6 | | FF | 3 |
| 2139 | 20J-20-0000 | B1-13 | C | X | T | No | No | No | 24.22 | 17.55 | 3.85 | 0.5 | C | F | 1 |
| 2140 | 20J-20-0000 | B1-13 | C | X | O | No | No | No | | | | 11 | | F | 3 |
| 2141 | 20J-20-0000 | B1-13 | C | X | O | No | No | No | | | | 2 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2142 | 20J-20-0000 | B1-13 | C | X | O | No | No | No | | | | 0.5 | | FF | 1 |
| 2143 | 20J-20-0000 | B1-13 | C | X | O | No | No | No | | | | 0.5 | | FF | 1 |
| 2144 | 20J-20-0000 | B1-13 | C | X | O | No | No | No | | | | 96 | | FF | 4 |
| 2161 | 20E-1-1151 | B1-10 | C | C | T | No | No | No | | | | 9 | | F | 3 |
| 2162 | 20E-1-1151 | B1-10 | C | C | O | No | No | No | | | | 6 | | F | 3 |
| 2163 | 20E-1-1151 | B1-10 | C | C | T | No | No | No | 22.9 | 6.42 | 3.41 | 0.5 | D | FF | 2 |
| 2164 | 20E-1-1151 | B1-10 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2165 | 20E-1-1151 | B1-10 | C | C | T | No | No | No | 29.08 | 11.16 | 5.03 | 2 | D | FF | 2 |
| 2166 | 20E-1-1151 | B1-10 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2167 | 20E-1-1151 | B1-10 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2168 | 20E-1-1151 | B1-10 | C | C | O | No | No | No | | | | 0.5 | | FF | 2 |
| 2169 | 20D-22-1102 | B1-08 | C | W | T | No | No | No | 35.55 | 6.5 | 4.26 | 2 | D | FF | 3 |
| 2171 | 20D-24-1154 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2172 | 20D-24-1154 | B1-08 | C | X | T | No | No | No | 29.28 | 8.53 | 7.83 | 2 | D | FF | 2 |
| 2173 | 20D-24-1154 | B1-08 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2175 | 20D-24-1154 | B1-08 | C | C | T | No | No | No | 20.25 | 6.53 | 5.01 | 0.5 | D | FF | 2 |
| 2176 | 20D-24-1154 | B1-08 | C | G | O | No | No | No | | | | 2 | | FF | 2 |
| 2177 | 20D-24-1154 | B1-08 | Q | Z | O | No | No | No | | | | 2 | | FF | 2 |
| 2203 | 20E-2-1146 | B1-10 | C | C | T | No | No | No | 49.86 | 25.42 | 17.6 | 15 | D | FF | 3 |
| 2204 | 20E-2-1146 | B1-10 | C | X | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2205 | 20E-2-1146 | B1-10 | C | W | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2206 | 20E-2-1146 | B1-10 | Q | Z | O | No | No | No | | | | 2 | | FF | 2 |
| 2215 | 15N-129-669 | B1-05 | C | X | O | No | No | No | 86.4 | 43.16 | 26.21 | 92 | | B | 4 |
| 2216 | 15N-129-669 | B1-05 | C | W | O | No | No | No | 95.28 | 46.9 | 29.29 | 115 | | B | 4 |
| 2236 | 20C-28-1110 | B1-08 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2237 | 20C-28-1110 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2238 | 20C-28-1110 | B1-08 | C | G | T | No | No | No | 30.56 | 6.14 | 5.04 | 0.5 | D | FF | 2 |
| 2239 | 20C-28-1110 | B1-08 | C | X | T | No | No | No | 26.17 | 11.23 | 5.33 | 0.5 | D | FF | 2 |
| 2242 | 20E-1-1150 | B1-10 | Q | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2244 | 20A-23-1105 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 1 |
| 2245 | 20A-23-1105 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2246 | 20A-23-1105 | B1-13 | C | C | T | No | No | No | 29.27 | 8.44 | 10.37 | 2 | C | FF | 2 |
| 2283 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 1 |
| 2285 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 1 |
| 2286 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 1 |
| 2287 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | F | 1 |
| 2288 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2289 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 22.07 | 15.19 | 6.79 | 1 | C | F | 1 |
| 2291 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2294 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 23.7 | 16.63 | 4.55 | 2 | C | FF | 1 |
| 2297 | 20A-13-0000 | B1-13 | C | C | O | No | No | No | | | | 2 | | FF | 1 |
| 2299 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 1 |
| 2301 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 1 |
| 2303 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2304 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 1 |
| 2305 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 2 | | FF | 1 |
| 2306 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 1 |
| 2307 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | FF | 1 |
| 2308 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | B | FF | 1 |
| 2311 | 20A-13-0000 | B1-13 | C | D | T | No | No | No | | | | 4 | | F | 1 |
| 2312 | 20A-13-0000 | B1-13 | C | D | T | No | No | No | | | | 8 | | F | 1 |
| 2313 | 20A-13-0000 | B1-13 | C | D | T | No | No | No | | | | 45 | | F | 2 |
| 2331 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 3 | | F | 1 |
| 2332 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 2 | | FF | 1 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2334 | 20A-13-0000 | B1-13 | C | X | O | No | No | No | | | | 18 | | FF | 2 |
| 2335 | 20A-13-0000 | B1-13 | C | X | O | No | No | No | | | | 3 | | FF | 1 |
| 2336 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 1 | | FF | 1 |
| 2337 | 20A-13-0000 | B1-13 | C | X | O | No | No | No | | | | 1 | | FF | 1 |
| 2338 | 20A-13-0000 | B1-13 | C | X | O | No | No | No | | | | 9 | | FF | 2 |
| 2340 | 20A-13-0000 | B1-13 | C | X | T | No | No | No | | | | 73 | | C | 2 |
| 2341 | 20A-13-0000 | B1-13 | C | G | T | No | No | No | | | | 9 | | F | 1 |
| 2342 | 20A-13-0000 | B1-13 | C | G | O | No | No | No | | | | 5 | | FF | 2 |
| 2344 | 20A-13-0000 | B1-13 | C | G | O | No | No | No | | | | 3 | | FF | 1 |
| 2346 | 20A-13-0000 | B1-13 | C | W | O | No | No | No | | | | 7 | | FF | 1 |
| 2348 | 20A-13-0000 | B1-13 | L | Z | O | No | No | No | | | | 16 | | FF | 2 |
| 2349 | 20A-13-0000 | B1-13 | L | Z | O | No | No | No | | | | 7 | | FF | 1 |
| 2350 | 20A-13-0000 | B1-13 | Q | C | T | No | No | No | | | | 6 | | HF | 1 |
| 2351 | 20A-13-0000 | B1-13 | C | C | O | No | No | No | | | | 131 | | F | 2 |
| 2354 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 50.33 | 50.04 | 23 | 35 | S | F | 2 |
| 2355 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 24 | 36.17 | 18.73 | 33 | C | F | 2 |
| 2356 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 64 | | FF | 2 |
| 2357 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 41.08 | 40.17 | 11.3 | 1 | C | F | 2 |
| 2358 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 1 |
| 2360 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 1 |
| 2361 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 52.01 | 24.13 | 7.38 | 8 | C | F | 2 |
| 2364 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | FF | 2 |
| 2365 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 11 | | F | 2 |
| 2366 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 8 | | FF | 2 |
| 2367 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 2368 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 8 | | FF | 3 |
| 2369 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 21.04 | 21.86 | 7.27 | 9 | | F | 3 |
| 2370 | 20A-13-0000 | B1-13 | C | D | T | No | No | No | | | | 4 | C | F | 2 |
| 2372 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 19 | | FF | 3 |
| 2374 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 10 | | F | 2 |
| 2375 | 20A-13-0000 | B1-13 | C | C | O | No | No | No | 33.56 | 35.78 | 8.32 | 6 | C | F | 2 |
| 2376 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 31.63 | 24.04 | 8.7 | 1 | PP | F | 1 |
| 2377 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 26.64 | 15.45 | 2.91 | 3 | C | F | 2 |
| 2378 | 20A-13-0000 | B1-13 | C | C | O | No | No | No | | | | 9 | | FF | 2 |
| 2379 | 20A-13-0000 | B1-13 | C | C | O | No | No | No | | | | 11 | | FF | 2 |
| 2380 | 20A-13-0000 | B1-13 | C | C | O | No | No | No | | | | 2 | | FF | 2 |
| 2382 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2384 | 20A-13-0000 | B1-13 | C | C | O | No | No | No | | | | 2 | | FF | 2 |
| 2386 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2388 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 35.4 | 33.29 | 9.36 | 6 | C | FF | 3 |
| 2389 | 20A-13-0000 | B1-13 | C | C | T | No | No | No | 43.71 | 18.73 | 13.53 | 6 | C | FF | 3 |
| 2391 | 15N-170-1164 | B1-07 | C | X | O | No | No | No | | | | 150 | | C | 4 |
| 2395 | 20F-1-1213 | B1-13 | C | C | T | No | No | No | 27.18 | 5.24 | 4.86 | 0.5 | D | FF | 2 |
| 2398 | 20C-28-1120 | B1-08 | C | X | T | No | No | No | 41.22 | 11.21 | 6.73 | 2 | C | FF | 3 |
| 2399 | 20C-28-1120 | B1-08 | C | X | O | No | No | No | | | | 4 | | FF | 4 |
| 2401 | 20A-13-1159 | B1-13 | Q | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2402 | 20A-13-1159 | B1-13 | C | C | O | No | No | No | | | | 0.5 | | F | 1 |
| 2403 | 20D-23-1236 | B1-08 | C | C | T | No | No | No | 37.76 | 10.25 | 6.49 | 3 | D | FF | 2 |
| 2404 | 20D-23-1236 | B1-08 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2406 | 20D-23-1236 | B1-08 | Q | Z | O | No | No | No | | | | 7 | | HF | 3 |
| 2407 | 20A-23-1107 | B1-13 | C | G | O | No | No | No | 33.22 | 5.9 | 4.5 | 0.5 | D | FF | 2 |
| 2408 | 20A-23-1107 | B1-13 | C | T | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2410 | 20A-13-1068 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2411 | 20A-13-1068 | B1-13 | C | R | T | No | No | No | | | | 0.5 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2412 | 20A-13-1068 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2414 | 20A-13-1068 | B1-13 | C | X | T | No | No | No | 42.27 | 21.19 | 6.31 | 6 | D | F | 3 |
| 2416 | 20A-21-1045 | B1-13 | O | B | T | No | No | No | 18.76 | 15.29 | 2.41 | 0.5 | | MPB | 2 |
| 2418 | 20D-18-1057 | B1-08 | C | C | T | No | No | No | 23.67 | 6.3 | 4.75 | 0.5 | D | FF | 2 |
| 2419 | 20A-22-1064 | B1-13 | C | C | T | No | No | No | 41.07 | 10.92 | 5.44 | 2 | D | FF | 3 |
| 2421 | 20A-21-1056 | B1-08 | C | X | O | No | No | No | 27.12 | 8.42 | 3.46 | 0.5 | D | FF | 2 |
| 2422 | 20A-21-1056 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2423 | 20A-21-1056 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2427 | 20A-21-1047 | B1-08 | Q | C | T | No | No | No | | | | 2 | | F | 2 |
| 2433 | 20E-6-1232 | B1-10 | C | C | T | No | No | No | 16.15 | 7.79 | 4.54 | 0.5 | C | FF | 1 |
| 2434 | 20E-6-1232 | B1-10 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2436 | 20D-28-1220 | B1-08 | C | C | T | No | No | No | 21.02 | 6.65 | 4.11 | 0.5 | D | FF | 2 |
| 2437 | 20D-28-1220 | B1-08 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2438 | 20D-28-1220 | B1-08 | C | X | T | No | No | No | | | | 2 | | FF | 3 |
| 2440 | 20D-27-1192 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2441 | 20D-27-1192 | B1-08 | C | X | T | No | No | No | | | | 2 | | FF | 3 |
| 2442 | 20D-27-1192 | B1-08 | C | X | T | No | No | No | | | | 6 | | FF | 3 |
| 2443 | 20D-27-1192 | B1-08 | C | X | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2444 | 20E-5-1212 | B1-10 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2445 | 20E-5-1212 | B1-10 | C | X | T | No | No | No | 50.6 | 6.41 | 5.53 | 2 | D | FF | 4 |
| 2448 | 20D-23-1217 | B1-08 | C | C | O | No | No | No | | | | 0.5 | | FF | 2 |
| 2449 | 20D-23-1217 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2455 | 20C-24-1095 | B1-07 | C | X | O | No | No | No | | | | 2 | | FF | 3 |
| 2455 | 20C-24-1095 | B1-07 | C | X | O | No | No | No | | | | 2 | | FF | 3 |
| 2457 | 20D-26-1205 | B1-08 | C | X | T | No | No | No | 18.48 | 5.42 | 6.56 | 0.5 | D | FF | 2 |
| 2458 | 20D-26-1205 | B1-08 | C | C | T | No | No | No | 18.08 | 7.74 | 4.65 | 0.5 | C | FF | 1 |
| 2460 | 20C-24-1095 | B1-07 | C | C | T | No | No | No | 24.16 | 12.85 | 6.03 | 0.5 | C | FF | 2 |
| 2461 | 20C-24-1095 | B1-07 | C | X | T | No | No | No | 36.59 | 9.26 | 5.35 | 0.5 | B | FF | 3 |
| 2462 | 20C-24-1095 | B1-07 | C | X | T | No | No | No | | | | 2 | | FF | 2 |
| 2462 | 20C-24-1095 | B1-07 | C | X | T | No | No | No | | | | 2 | | FF | 2 |
| 2463 | 20C-24-1095 | B1-07 | C | X | T | No | No | No | 23.16 | 5.89 | 2.54 | 0.5 | D | FF | 2 |
| 2464 | 20C-24-1095 | B1-07 | C | D | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2464 | 20C-24-1095 | B1-07 | C | D | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2465 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 3 |
| 2466 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | F | 1 |
| 2467 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 1 |
| 2468 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 19 | | FF | 4 |
| 2470 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 20 | | FF | 4 |
| 2471 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | C | F | 2 |
| 2472 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | FF | 2 |
| 2473 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 20 | | F | 4 |
| 2474 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 19 | | F | 4 |
| 2477 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | FF | 3 |
| 2478 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 1 |
| 2479 | 20j-20-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2482 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 17 | | F | 4 |
| 2483 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | F | 2 |
| 2484 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2489 | 20J-15-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | F | 2 |
| 2490 | 20J-15-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2491 | 20J-15-0000 | B1-13 | C | C | O | No | No | No | | | | 4 | | FF | 2 |
| 2492 | 20J-15-0000 | B1-13 | C | X | O | No | No | No | | | | 27 | | F | 3 |
| 2495 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 3 |
| 2496 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2497 | 20A-18-0000 | B1-13 | C | C | O | No | No | No | | | | 4 | | FF | 2 |
| 2498 | 20A-18-0000 | B1-13 | C | X | T | No | No | No | | | | 3 | | FF | 2 |
| 2500 | 20A-18-0000 | B1-13 | C | X | O | No | No | No | | | | 51 | | F | 4 |
| 2501 | 20A-18-0000 | B1-13 | C | X | O | No | No | No | | | | 2 | | FF | 2 |
| 2508 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | F | 3 |
| 2509 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 2510 | 20F-3-0000 | B1-13 | C | C | O | No | No | No | | | | 3 | | FF | 3 |
| 2511 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2512 | 20F-3-0000 | B1-13 | C | D | O | No | No | No | | | | 8 | | F | 2 |
| 2514 | 20F-3-0000 | B1-13 | C | X | T | No | No | No | | | | 20 | | F | 4 |
| 2515 | 20F-3-0000 | B1-13 | C | W | O | No | No | No | | | | 3 | | F | 2 |
| 2516 | 20F-3-0000 | B1-13 | C | W | O | No | No | No | | | | 1 | | FF | 2 |
| 2517 | 20F-3-0000 | B1-13 | C | X | O | No | No | No | | | | 8 | | FF | 2 |
| 2518 | 20F-3-0000 | B1-13 | C | X | O | No | No | No | | | | 6 | | FF | 2 |
| 2519 | 20F-3-0000 | B1-13 | C | X | T | No | No | No | | | | 3 | | FF | 2 |
| 2524 | 20F-3-0000 | B1-13 | C | D | T | No | No | No | 33.14 | 27.42 | 12.97 | 7 | D | F | 3 |
| 2525 | 20F-3-0000 | B1-13 | C | C | O | No | No | No | | | | 11 | | F | 4 |
| 2526 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 14 | | F | 3 |
| 2527 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2528 | 20F-3-0000 | B1-13 | C | X | O | No | No | No | | | | 0.5 | | FF | 2 |
| 2530 | 20F-3-0000 | B1-13 | C | Z | O | No | No | No | | | | 0.5 | | F | 2 |
| 2532 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 4 |
| 2533 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | F | 2 |
| 2534 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 19 | | F | 2 |
| 2535 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | FF | 3 |
| 2536 | 20F-3-0000 | B1-13 | C | C | O | No | No | No | | | | 3 | | FF | 2 |
| 2537 | 20F-3-0000 | B1-13 | C | X | O | No | No | No | | | | 12 | | F | 4 |
| 2538 | 20F-3-0000 | B1-13 | C | X | T | No | No | No | | | | 94 | | F | 4 |
| 2539 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 12 | | F | 3 |
| 2540 | 20A-15-0000 | B1-13 | C | X | T | No | No | No | | | | 4 | | F | 3 |
| 2541 | 20A-15-0000 | B1-13 | C | X | T | No | No | No | | | | 2 | | F | 3 |
| 2542 | 20A-15-0000 | B1-13 | C | X | T | No | No | No | | | | 3 | | FF | 2 |
| 2543 | 20A-15-0000 | B1-13 | C | X | T | No | No | No | | | | 2 | | F | 2 |
| 2544 | 20A-15-0000 | B1-13 | C | X | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2545 | 20A-15-0000 | B1-13 | Z | Z | O | No | No | No | | | | 9 | | FF | 3 |
| 2547 | 20A-15-0000 | B1-13 | C | D | O | No | No | No | | | | 0.5 | | FF | 2 |
| 2551 | 20A-15-0000 | B1-13 | C | C | O | No | No | No | | | | 41 | | F | 4 |
| 2552 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2553 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2554 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2556 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 3 |
| 2557 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 2558 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 9 | | FF | 2 |
| 2559 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 3 |
| 2560 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | FF | 2 |
| 2580 | 20A-15-0000 | B1-13 | C | D | O | No | No | No | | | | 0.5 | | F | 2 |
| 2587 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2588 | 20A-15-0000 | B1-13 | C | C | O | No | No | No | | | | 13 | | F | 3 |
| 2589 | 20A-15-0000 | B1-13 | C | X | T | No | No | No | | | | 0.5 | | FF | 3 |
| 2590 | 20A-15-0000 | B1-13 | C | X | T | No | No | No | | | | 7 | | FF | 2 |
| 2595 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 6 | | FF | 3 |
| 2596 | 20A-15-0000 | B1-13 | C | C | O | No | No | No | | | | 10 | | FF | 3 |
| 2597 | 20J-20-0000 | B1-13 | C | D | T | No | No | No | | | | 199 | | C | 4 |
| 2598 | 20J-20-0000 | B1-13 | C | X | T | No | No | No | | | | 113 | | K | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2607 | 20J-20-0000 | B1-13 | C | X | T | No | No | No | | | | 2 | | FF | 2 |
| 2608 | 20J-20-0000 | B1-13 | C | D | T | No | No | No | | | | 4 | | F | 3 |
| 2609 | 20J-20-0000 | B1-13 | C | D | O | No | No | No | | | | 0.5 | | FF | 1 |
| 2610 | 20J-20-0000 | B1-13 | C | D | O | No | No | No | | | | 2 | | FF | 1 |
| 2611 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 30 | | FF | 4 |
| 2614 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | FF | 2 |
| 2615 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 2616 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2617 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 2620 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 2621 | 20J-20-0000 | B1-13 | C | C | O | No | No | No | | | | 2 | | FF | 2 |
| 2622 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2627 | 20F-3-0000 | B1-13 | C | D | O | No | No | No | | | | 82 | | F | 4 |
| 2628 | 20F-3-0000 | B1-13 | C | D | T | No | No | No | | | | 8 | | F | 3 |
| 2629 | 20F-3-0000 | B1-13 | C | D | T | No | No | No | | | | 5 | | F | 2 |
| 2631 | 20F-3-0000 | B1-13 | Z | Z | O | No | No | No | | | | 3 | | HF | 2 |
| 2632 | 20F-3-0000 | B1-13 | Z | Z | O | No | No | No | | | | 0.5 | | HF | 3 |
| 2633 | 20F-3-0000 | B1-13 | C | Z | O | No | No | No | | | | 24 | | FF | 3 |
| 2634 | 20F-3-0000 | B1-13 | C | W | O | No | No | No | | | | 4 | | F | 2 |
| 2639 | 20F-3-0000 | B1-13 | C | X | O | No | No | No | | | | 23 | | FF | 4 |
| 2640 | 20F-3-0000 | B1-13 | C | X | O | No | No | No | | | | 6 | | FF | 2 |
| 2641 | 20F-3-0000 | B1-13 | C | X | O | No | No | No | | | | 7 | | F | 2 |
| 2642 | 20F-3-0000 | B1-13 | C | W | O | No | No | No | | | | 9 | | F | 3 |
| 2647 | 19D-6-0000 | B1-02 | C | W | T | No | No | No | | | | 1 | | F | 2 |
| 2648 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | | | | 2 | | FF | 2 |
| 2650 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | 50.93 | 26.18 | 24.13 | 29 | S | FF | 3 |
| 2652 | 19D-6-0000 | B1-02 | C | C | O | No | No | No | | | | 11 | | FF | 3 |
| 2653 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 9 | | F | 2 |
| 2655 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | 32.25 | 26.33 | 6.98 | 8 | C | F | 2 |
| 2656 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | 34.15 | 22.36 | 7.53 | 4 | C | F | 2 |
| 2657 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 11 | | F | 2 |
| 2658 | 19D-6-0000 | B1-02 | C | C | O | No | No | No | | | | 3 | | FF | 3 |
| 2659 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 4 | | FF | 3 |
| 2660 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 2662 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2663 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 2664 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 2666 | 19D-6-0000 | B1-02 | C | C | T | No | No | No | | | | 13 | | F | 4 |
| 2669 | 19D-6-0000 | B1-02 | C | D | T | No | No | No | 90.02 | 69.89 | 51.83 | 448 | | H | 4 |
| 2670 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | | | | 5 | | F | 2 |
| 2671 | 19D-6-0000 | B1-02 | C | W | O | No | No | No | | | | 13 | | FF | 3 |
| 2673 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | | | | 2 | | F | 2 |
| 2674 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | | | | 6 | | F | 2 |
| 2675 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | 25.29 | 15.47 | 5.45 | 1 | D | FF | 2 |
| 2676 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | | | | 3 | | FF | 2 |
| 2677 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | | | | 0.5 | | F | 2 |
| 2678 | 19D-6-0000 | B1-02 | C | X | T | No | No | No | | | | 0.5 | | F | 2 |
| 2680 | 19D-6-0000 | B1-02 | C | X | O | No | No | No | 54.05 | 45.44 | 14.25 | 27 | C | F | 4 |
| 2683 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 22 | | FF | 3 |
| 2684 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | FF | 2 |
| 2685 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 2688 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | 23.87 | 17.77 | 5.67 | 7 | C | F | 2 |
| 2692 | 20A-15-0000 | B1-13 | C | D | T | No | No | No | | | | 3 | | F | 2 |
| 2693 | 20A-15-0000 | B1-13 | C | D | T | No | No | No | | | | 3 | | F | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2694 | 20A-15-0000 | B1-13 | C | W | T | No | No | No | 61.17 | 42.71 | 20.36 | 43 | C | F | 4 |
| 2695 | 20A-15-0000 | B1-13 | C | W | T | No | No | No | | | | 30 | | F | 4 |
| 2696 | 20A-15-0000 | B1-13 | C | Z | O | No | No | No | | | | 30 | | FF | 4 |
| 2697 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 42 | | F | 4 |
| 2698 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 12 | | F | 4 |
| 2700 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 8 | | FF | 2 |
| 2701 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 11 | | FF | 3 |
| 2702 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 13 | | FF | 3 |
| 2703 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 4 | | F | 2 |
| 2717 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 2723 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | F | 2 |
| 2724 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 13 | | F | 4 |
| 2725 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 3 |
| 2726 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 15 | | FF | 3 |
| 2727 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 1 |
| 2728 | 20B-13-0000 | B1-13 | C | X | O | No | No | No | | | | 2 | | FF | 2 |
| 2729 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | FF | 2 |
| 2730 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 11 | | FF | 3 |
| 2731 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 30 | | FF | 4 |
| 2732 | 20B-13-0000 | B1-13 | C | X | T | No | No | No | | | | 21 | | FF | 4 |
| 2733 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | FF | 2 |
| 2734 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | FF | 2 |
| 2735 | 20B-13-0000 | B1-13 | C | C | O | No | No | No | | | | 10 | | FF | 3 |
| 2736 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 32 | | FF | 3 |
| 2737 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 8 | | FF | 4 |
| 2738 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 16 | | F | 4 |
| 2739 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 13 | | F | 3 |
| 2740 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 52 | | F | 4 |
| 2743 | 20B-13-0000 | B1-13 | C | C | O | No | No | No | | | | 13 | | F | 4 |
| 2747 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 2748 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 2749 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | F | 2 |
| 2750 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | 28.39 | 17.38 | 5.37 | 4 | C | F | 2 |
| 2751 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 3 |
| 2753 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | 36.24 | 20.45 | 8.08 | 5 | C | F | 3 |
| 2755 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2756 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | FF | 3 |
| 2758 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | F | 2 |
| 2759 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 12 | | F | 3 |
| 2760 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 14 | | F | 4 |
| 2764 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 13 | | F | 4 |
| 2766 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 9 | | F | 3 |
| 2767 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 22 | | F | 3 |
| 2769 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | FF | 2 |
| 2770 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | F | 2 |
| 2771 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | FF | 3 |
| 2772 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 9 | | F | 3 |
| 2773 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 2774 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 2775 | 20B-13-0000 | B1-13 | C | C | O | No | No | No | | | | 6 | | F | 3 |
| 2776 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 2779 | 20B-13-0000 | B1-13 | C | W | O | No | No | No | | | | 40 | | F | 4 |
| 2780 | 20B-13-0000 | B1-13 | C | P | O | No | No | No | | | | 52 | | F | 4 |
| 2781 | 20B-13-0000 | B1-13 | C | X | O | No | No | No | | | | 7 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2782 | 20B-13-0000 | B1-13 | C | X | O | No | No | No | | | | 8 | | F | 3 |
| 2801 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | | | | 68 | | F | 4 |
| 2803 | 20B-13-0000 | B1-13 | C | C | O | No | No | No | | | | 71 | | C | 3 |
| 2808 | 20B-13-0000 | B1-13 | C | C | O | No | No | No | | | | 20 | | F | 3 |
| 2809 | 20B-13-0000 | B1-13 | C | C | O | No | No | No | | | | 27 | | F | 4 |
| 2810 | 20B-13-0000 | B1-13 | C | C | O | No | No | No | | | | 18 | | F | 4 |
| 2812 | 20B-13-0000 | B1-13 | C | C | T | No | No | No | 47.29 | 38.43 | 6.91 | 12 | C | F | 4 |
| 2813 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | 50.91 | 27.47 | 20.09 | 25 | C | F | 4 |
| 2814 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 8 | | FF | 3 |
| 2815 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | FF | 2 |
| 2816 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 2817 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2819 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 3 |
| 2821 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | F | 2 |
| 2822 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 2823 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 2824 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | FF | 3 |
| 2825 | 20B-10-0000 | B1-13 | C | C | O | No | No | No | | | | 3 | | F | 2 |
| 2826 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 2827 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 2828 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 2829 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 2830 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2831 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2832 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 2834 | 20B-13-0000 | B1-13 | C | W | O | No | No | No | 25.8 | 18.91 | 4.15 | 2 | C | F | 2 |
| 2835 | 20B-13-0000 | B1-13 | C | W | O | No | No | No | | | | 8 | | FF | 2 |
| 2836 | 20B-13-0000 | B1-13 | C | X | T | No | No | No | | | | 6 | | F | 3 |
| 2837 | 20B-13-0000 | B1-13 | C | X | T | No | No | No | | | | 5 | | FF | 2 |
| 2838 | 20B-13-0000 | B1-13 | C | X | T | No | No | No | | | | 2 | | F | 2 |
| 2839 | 20B-13-0000 | B1-13 | C | X | T | No | No | No | | | | 7 | | F | 3 |
| 2840 | 20B-13-0000 | B1-13 | C | D | T | No | No | No | | | | 24 | | FB | 4 |
| 2841 | 20B-13-0000 | B1-13 | C | D | T | No | No | No | | | | 29 | | F | 4 |
| 2844 | 20B-13-0000 | B1-13 | C | D | T | No | No | No | | | | 143 | | C | 4 |
| 2845 | 20B-13-0000 | B1-13 | C | D | T | No | No | No | 36.39 | 35.95 | 6.35 | 11 | C | F | 3 |
| 2846 | 20B-13-0000 | B1-13 | C | C | O | No | No | No | | | | 97 | B | F | 4 |
| 2847 | 20B-13-0000 | B1-13 | C | D | T | No | No | No | | | | 1 | | FF | 1 |
| 2851 | 20B-10-0000 | B1-13 | C | G | T | No | No | No | | | | 2 | | FF | 2 |
| 2852 | 20B-10-0000 | B1-13 | C | G | T | No | No | No | | | | 2 | | FF | 3 |
| 2853 | 20B-10-0000 | B1-13 | C | Z | O | No | No | No | | | | 0.5 | | F | 2 |
| 2854 | 20B-10-0000 | B1-13 | C | Z | O | No | No | No | | | | 0.5 | | FF | 2 |
| 2855 | 20B-10-0000 | B1-13 | C | Z | T | No | No | No | | | | 7 | | F | 2 |
| 2872 | 20B-10-0000 | B1-13 | C | C | O | No | No | No | | | | 8 | | F | 3 |
| 2875 | 20B-10-0000 | B1-13 | C | C | O | No | No | No | | | | 7 | | F | 2 |
| 2877 | 20B-10-0000 | B1-13 | C | X | O | No | No | No | | | | 2 | | FF | 2 |
| 2879 | 20B-10-0000 | B1-13 | C | X | O | No | No | No | | | | 22 | | F | 3 |
| 2880 | 20B-10-0000 | B1-13 | C | X | O | No | No | No | | | | 2 | | FF | 2 |
| 2881 | 20B-10-0000 | B1-13 | C | X | T | No | No | No | | | | 2 | | FB | 4 |
| 2883 | 20B-10-0000 | B1-13 | C | C | T | No | No | No | | | | 14 | | F | 3 |
| 2885 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 2 | | F | 2 |
| 2886 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 4 | | F | 2 |
| 2887 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 3 | | FF | 2 |
| 2888 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 2 | | FF | 3 |
| 2889 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 1 | | F | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2890 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | 23.08 | 20.74 | 5.1 | 2 | C | F | 2 |
| 2892 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | 28.82 | 22.18 | 7.8 | 5 | C | F | 2 |
| 2893 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | 32.38 | 7.64 | 4.73 | 2 | D | F | 2 |
| 2895 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 1 | | FF | 2 |
| 2896 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 3 | | FF | 2 |
| 2897 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 14 | | F | 3 |
| 2901 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | 40.22 | 24.52 | 12.33 | 13 | S | F | 3 |
| 2903 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 9 | | F | 2 |
| 2904 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 14 | | F | 2 |
| 2905 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | F | 2 |
| 2906 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 2907 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 11 | | F | 2 |
| 2908 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 2909 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | FF | 2 |
| 2910 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 12 | | F | 2 |
| 2911 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | FF | 3 |
| 2912 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 8 | | FF | 3 |
| 2913 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | F | 3 |
| 2914 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | F | 2 |
| 2916 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | 35.05 | 24.1 | 15.71 | 11 | C | F | 2 |
| 2917 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 2918 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | 44.1 | 36.01 | 11.17 | 15 | D | F | 3 |
| 2920 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 2926 | 20A-18-0000 | B1-13 | C | R | T | No | No | No | | | | 2 | | FF | 1 |
| 2929 | 20A-18-0000 | B1-13 | C | R | O | No | No | No | | | | 1 | | FF | 2 |
| 2934 | 20A-18-0000 | B1-13 | C | C | O | No | No | No | | | | 13 | | F | 3 |
| 2935 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 13 | | F | 3 |
| 2937 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 2938 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 14 | | F | 4 |
| 2939 | 20A-18-0000 | B1-13 | C | C | O | No | No | No | | | | 8 | | F | 4 |
| 2940 | 20A-18-0000 | B1-13 | C | C | O | No | No | No | | | | 9 | | F | 3 |
| 2942 | 20A-18-0000 | B1-13 | C | C | O | No | No | No | | | | 5 | | F | 2 |
| 2943 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 2944 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | F | 2 |
| 2945 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | F | 2 |
| 2947 | 20A-18-0000 | B1-13 | C | C | O | No | No | No | | | | 3 | | FF | 2 |
| 2948 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 12 | | FF | 3 |
| 2949 | 20A-18-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | FF | 2 |
| 2951 | 20B-11-0000 | B1-13 | C | D | T | No | No | No | | | | 15 | | FF | 3 |
| 2952 | 20B-11-0000 | B1-13 | C | G | T | No | No | No | 33.7 | 29.34 | 7.27 | 8 | C | F | 3 |
| 2953 | 20B-11-0000 | B1-13 | C | W | T | No | No | No | | | | 24 | | F | 3 |
| 2954 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | FF | 3 |
| 2955 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 5 | | F | 3 |
| 2956 | 20B-11-0000 | B1-13 | C | X | T | No | No | No | 23.9 | 13.31 | 2.68 | 1 | C | F | 2 |
| 2958 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 10 | | F | 3 |
| 2960 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | F | 3 |
| 2961 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 14 | | FF | 2 |
| 2962 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | F | 3 |
| 2963 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | 42.1 | 28.09 | 5.03 | 6 | C | F | 3 |
| 2966 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 3 |
| 2967 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FB | 3 |
| 2968 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | F | 3 |
| 2969 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 1 |
| 2970 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | F | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2971 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | F | 2 |
| 2973 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | FF | 3 |
| 2976 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 2977 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 2978 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 2979 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 2981 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 2988 | 20A-18-0000 | B1-13 | C | X | O | No | No | No | | | | 6 | | F | 2 |
| 2995 | 20A-15-0000 | B1-13 | C | D | T | No | No | No | | | | 3 | | FF | 2 |
| 2996 | 20A-15-0000 | B1-13 | Q | C | T | No | No | No | | | | 26 | | F | 4 |
| 2997 | 20A-15-0000 | B1-13 | C | G | O | No | No | No | | | | 2 | | FF | 2 |
| 2998 | 20A-15-0000 | B1-13 | C | G | O | No | No | No | | | | 6 | | F | 3 |
| 3015 | 20A-15-0000 | B1-13 | C | C | O | No | No | No | | | | 0.5 | | FF | 2 |
| 3020 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 22 | | F | 4 |
| 3021 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 5 | | F | 3 |
| 3022 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 7 | | FB | 4 |
| 3023 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 52 | | FF | 4 |
| 3024 | 20A-15-0000 | B1-13 | C | X | O | No | No | No | | | | 8 | | F | 3 |
| 3025 | 20A-15-0000 | B1-13 | C | X | T | No | No | No | | | | 6 | | F | 3 |
| 3026 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 113 | | K | 4 |
| 3027 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | | | | 101 | | K | 4 |
| 3028 | 20A-15-0000 | B1-13 | C | C | T | No | No | No | 48.86 | 7.83 | 26.65 | 92 | S | K | 4 |
| 3029 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 3032 | 20B-11-0000 | B1-13 | C | C | O | No | No | No | | | | 2 | | FF | 2 |
| 3033 | 20B-11-0000 | B1-13 | C | C | O | No | No | No | | | | 16 | | F | 3 |
| 3036 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 3037 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 3039 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 3041 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 3042 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | 34.24 | 15.26 | 5.8 | 3 | C | F | 3 |
| 3044 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 3045 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | 20.64 | 15.62 | 6.23 | 3 | C | FF | 2 |
| 3047 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 3048 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 3049 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 3050 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 3051 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | F | 2 |
| 3052 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 3053 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 3054 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | F | 2 |
| 3056 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 3057 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | FF | 2 |
| 3059 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 1 | | F | 2 |
| 3068 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 12 | | F | 3 |
| 3069 | 20B-11-0000 | B1-13 | C | D | T | No | No | No | | | | 38 | | F | 3 |
| 3071 | 20B-11-0000 | B1-13 | C | R | T | No | No | No | | | | 3 | | F | 2 |
| 3082 | 20B-11-0000 | B1-13 | C | G | O | No | No | No | | | | 12 | | F | 2 |
| 3091 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | F | 2 |
| 3092 | 20B-11-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3096 | 20B-11-0000 | B1-13 | C | X | O | No | No | No | | | | 2 | | FF | 2 |
| 3114 | 20J-20-0000 | B1-13 | C | R | T | No | No | No | | | | 0.5 | | F | 1 |
| 3118 | 20J-20-0000 | B1-13 | C | D | T | No | No | No | | | | 86 | | FB | 4 |
| 3119 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 9 | | F | 3 |
| 3122 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 13 | | F | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3123 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 36 | | F | 4 |
| 3125 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 3126 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3127 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 3128 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | F | 1 |
| 3129 | 20J-20-0000 | B1-13 | C | C | O | No | No | No | | | | 3 | | FF | 3 |
| 3130 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | FF | 2 |
| 3131 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3133 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 1 |
| 3134 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3135 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 7 | | F | 3 |
| 3136 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | F | 1 |
| 3137 | 20J-20-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 3144 | 20A-15-0000 | B1-13 | C | X | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3147 | 20D-23-978 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3148 | 20D-23-978 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3149 | 20D-23-978 | B1-08 | Q | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3150 | 20D-23-978 | B1-08 | C | C | T | No | No | No | | | | 0.5 | | FF | 3 |
| 3151 | 20B-11-996 | B1-13 | C | W | O | No | No | No | | | | 0.5 | | FF | 3 |
| 3152 | 20B-11-996 | B1-13 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 3153 | 20B-11-996 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3154 | 20B-11-996 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3155 | 20B-11-996 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3156 | 20B-11-996 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3157 | 20B-11-996 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3158 | 20B-11-996 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3159 | 20B-11-996 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3160 | 20B-11-996 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3161 | 20B-11-996 | B1-13 | C | C | T | No | No | No | 22.04 | 6.99 | 5.43 | 0.5 | D | FF | 2 |
| 3162 | 20B-11-996 | B1-13 | C | W | O | No | No | No | | | | 2 | | FF | 3 |
| 3163 | 20B-11-996 | B1-13 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3164 | 20B-11-996 | B1-13 | C | X | O | No | No | No | | | | 2 | | FF | 2 |
| 3168 | 20B-11-996 | B1-13 | C | X | O | No | No | No | 23.56 | 6.71 | 2.61 | 2 | D | FF | 2 |
| 3169 | 20B-11-996 | B1-13 | Q | Z | O | No | No | No | | | | 3 | | FF | 2 |
| 3170 | 20B-11-996 | B1-13 | C | C | T | No | No | No | 34.96 | 5.9 | 3.11 | 0.5 | D | FF | 3 |
| 3176 | 15N-85-0000 | B1-05 | O | B | T | No | No | No | 30.93 | 13.66 | 3.65 | 2 | S | PPB | 2 |
| 3177 | 15N-85-0000 | B1-05 | O | B | T | No | No | No | 15.95 | 14.17 | 3.29 | 0.5 | | PPB | 2 |
| 3178 | 15N-85-0000 | B1-05 | O | B | T | No | No | No | 49.22 | 10.29 | 3 | 3 | C | PPB | 4 |
| 3179 | 15N-85-0000 | B1-05 | O | B | T | No | No | No | 16.68 | 10.79 | 2.38 | 0.5 | C | MPB | 1 |
| 3186 | 15N-91-497 | B1-05 | O | B | T | No | No | No | 17.62 | 10.87 | 2.22 | 2 | | MPB | 3 |
| 3187 | 15N-91-497 | B1-05 | O | B | T | No | No | No | 61.43 | 11.53 | 2.68 | 3 | C | PPB | 4 |
| 3194 | 15N-85-490 | B1-05 | O | B | T | No | No | No | 18.61 | 7.08 | 3.04 | 0.5 | | MPB | 2 |
| 3195 | 15N-85-490 | B1-05 | O | B | T | No | No | No | 43.47 | 8.51 | 2.49 | 0.5 | | PPB | 3 |
| 3201 | 15N-116-457 | B1-04 | O | B | T | No | No | No | 28.02 | 11.69 | 2.31 | 0.5 | C | MPB | 2 |
| 3202 | 15N-116-457 | B1-04 | O | B | T | No | No | No | 25.53 | 11.02 | 2.49 | 0.5 | C | MPB | 2 |
| 3211 | 20B-10-932 | B1-13 | C | C | T | No | No | No | 56.6 | 39.3 | 10.28 | 27 | C | F | 4 |
| 3212 | 20B-10-932 | B1-13 | C | C | T | No | No | No | | | | 11 | | FF | 4 |
| 3213 | 20B-10-932 | B1-13 | C | X | T | No | No | No | | | | 2 | | FF | 2 |
| 3214 | 20A-14-1027 | B1-05 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3215 | 20A-14-1027 | B1-05 | C | D | T | No | No | No | | | | 3 | | FF | 2 |
| 3216 | 20B-11-994 | B1-13 | C | C | T | No | No | No | 19.03 | 4.35 | 4.06 | 0.5 | D | FF | 2 |
| 3217 | 20B-11-994 | B1-13 | C | C | T | No | No | No | 21.91 | 8.01 | 4.81 | 0.5 | D | FF | 2 |
| 3218 | 20B-11-994 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 3219 | 20B-11-994 | B1-13 | C | C | T | No | No | No | 19.4 | 3.9 | 2.3 | 0.5 | D | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3223 | 20A-13-906 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3226 | 20A-13-901 | B1-13 | C | C | T | No | No | No | 23.31 | 6.84 | 4.25 | 0.5 | D | FF | 2 |
| 3227 | 20A-13-901 | B1-13 | C | X | T | No | No | No | 22.91 | 6.67 | 6.24 | 0.5 | D | FF | 2 |
| 3228 | 20A-13-901 | B1-13 | C | X | T | No | No | No | | | | 2 | | FF | 2 |
| 3230 | 20A-13-901 | B1-13 | C | C | O | No | No | No | | | | 0.5 | | FF | 2 |
| 3231 | 20A-13-901 | B1-13 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3233 | 20A-13-901 | B1-13 | C | G | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3234 | 20A-13-901 | B1-13 | C | C | O | No | No | No | | | | 0.5 | | FF | 1 |
| 3236 | 20A-13-901 | B1-13 | C | X | T | No | No | No | | | | 7 | | FF | 2 |
| 3237 | 20A-13-901 | B1-13 | C | X | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3239 | 20A-13-904 | B1-13 | C | C | T | No | No | No | 20.53 | 5.09 | 4.2 | 0.5 | D | FF | 2 |
| 3240 | 20A-13-904 | B1-13 | C | C | T | No | No | No | 28.1 | 5.28 | 3.6 | 0.5 | D | FF | 2 |
| 3243 | 20B-11-997 | B1-13 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3244 | 20A-17-992 | B1-05 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3245 | 20A-17-992 | B1-05 | C | C | T | No | No | No | 26.23 | 9.4 | 6.66 | 0.5 | B | FF | 2 |
| 3280 | 20F-3-0000 | B1-13 | C | R | O | No | No | No | | | | 3 | | FF | 3 |
| 3281 | 20F-3-0000 | B1-13 | C | R | T | No | No | No | | | | 15 | | F | 3 |
| 3289 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 24 | | F | 4 |
| 3290 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 13 | | F | 3 |
| 3293 | 20F-3-0000 | B1-13 | C | C | O | No | No | No | | | | 22 | | F | 3 |
| 3294 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | FF | 4 |
| 3295 | 20F-3-0000 | B1-13 | C | C | O | No | No | No | | | | 14 | | FF | 3 |
| 3296 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | B | FF | 2 |
| 3297 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 4 | | F | 3 |
| 3299 | 20F-3-0000 | B1-13 | C | X | O | No | No | No | | | | 5 | | FF | 3 |
| 3300 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 3301 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 6 | | FF | 2 |
| 3302 | 20F-3-0000 | B1-13 | C | C | O | No | No | No | | | | 4 | | FF | 2 |
| 3303 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 5 | | FF | 2 |
| 3305 | 20F-3-0000 | B1-13 | C | X | O | No | No | No | | | | 5 | | FF | 2 |
| 3307 | 20F-3-0000 | B1-13 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3308 | 20F-3-0000 | B1-13 | C | R | T | No | No | No | | | | 4 | | FF | 2 |
| 3312 | 20A-13-0000 | B1-13 | C | D | T | No | No | No | | | | 2 | | FF | 2 |
| 3313 | 20A-13-0000 | B1-13 | C | X | O | No | No | No | | | | 2 | | F | 2 |
| 3314 | 15N-138-0000 | B1-05 | C | X | T | No | No | No | | | | 4 | | FF | 2 |
| 3315 | 15N-138-0000 | B1-05 | C | X | | No | No | No | | | | 2 | | F | 2 |
| 3316 | 15N-138-0000 | B1-05 | C | C | T | No | No | No | | | | 36 | | FF | 3 |
| 3318 | 15N-138-0000 | B1-05 | C | C | O | No | No | No | 30.81 | 24.14 | 6.08 | 4 | C | F | 2 |
| 3319 | 15N-138-0000 | B1-05 | C | X | O | No | No | No | | | | 4 | | FF | 2 |
| 3322 | 15N-138-0000 | B1-05 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 3323 | 15N-138-0000 | B1-05 | C | C | T | No | No | No | | | | 4 | | FF | 2 |
| 3325 | 15N-138-0000 | B1-05 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3326 | 15N-138-0000 | B1-05 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 3327 | 15N-138-0000 | B1-05 | C | X | O | No | No | No | | | | 0.5 | | FF | 2 |
| 3331 | 15N-138-0000 | B1-05 | C | C | O | No | No | No | | | | 63 | | K | 4 |
| 3332 | 15N-138-0000 | B1-05 | L | X | P | No | No | No | | | | 13 | | FF | 3 |
| 3333 | 15N-126-0000 | B1-05 | C | C | T | No | No | No | | | | 4 | | FF | 2 |
| 3334 | 15N-126-0000 | B1-05 | C | C | T | No | No | No | | | | 4 | | FF | 2 |
| 3335 | 15N-126-0000 | B1-05 | C | X | O | No | No | No | | | | 2 | | FF | 1 |
| 3336 | 15N-126-0000 | B1-05 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 3338 | 15N-126-0000 | B1-05 | C | R | T | No | No | No | | | | 0.5 | | FF | 1 |
| 3360 | 15N-138-0000 | B1-05 | C | C | T | No | No | No | 42.1 | 32.23 | 8.98 | 11 | C | F | 3 |
| 3361 | 15N-138-0000 | B1-05 | C | C | T | No | No | No | | | | 3 | | F | 2 |
| 3362 | 15N-138-0000 | B1-05 | C | C | T | No | No | No | | | | 7 | | FF | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3364 | 15N-138-0000 | B1-05 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3366 | 15N-138-0000 | B1-05 | C | C | T | No | No | No | | | | 40 | | K | 4 |
| 3373 | 15N-122-0000 | B1-04 | C | C | O | No | No | No | | | | 4 | | FF | 3 |
| 3374 | 15N-122-0000 | B1-04 | C | X | T | No | No | No | 52.89 | 38.75 | 10.63 | 130 | C | FF | 4 |
| 3375 | 15N-141-0000 | B1-05 | C | G | T | No | No | No | 82.94 | 59.92 | 23.91 | 51 | S | F | 4 |
| 3377 | 15N-141-0000 | B1-05 | C | C | T | No | No | No | | | | 2 | | FF | 2 |
| 3378 | 15N-141-0000 | B1-05 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 3381 | 15N-141-0000 | B1-05 | C | C | T | No | No | No | | | | 9 | | F | 2 |
| 3382 | 15N-141-0000 | B1-05 | C | C | O | No | No | No | | | | 2 | | F | 2 |
| 3388 | 15N-141-0000 | B1-05 | Q | Z | O | No | No | No | | | | 3 | | HF | 2 |
| 3389 | 15N-141-0000 | B1-05 | C | X | T | No | No | No | | | | 3 | | FF | 2 |
| 3390 | 15N-141-0000 | B1-05 | C | X | O | No | No | No | | | | 2 | | FF | 2 |
| 3394 | 15N-126-0000 | B1-05 | C | C | O | No | No | No | | | | 54 | | C | 3 |
| 3400 | 15N-126-0000 | B1-05 | C | C | T | No | No | No | | | | 3 | | FF | 2 |
| 3401 | 15N-126-0000 | B1-05 | C | X | O | No | No | No | | | | 5 | | FF | 3 |
| 3402 | 15N-126-0000 | B1-05 | C | W | O | No | No | No | | | | 7 | | FF | 3 |
| 3409 | 15N-122-0000 | B1-04 | C | D | T | No | No | No | | | | 7 | | FF | 3 |
| 3412 | 15N-122-0000 | B1-04 | C | C | T | No | No | No | | | | 4 | | FF | 3 |
| 3414 | 15N-122-0000 | B1-04 | C | X | T | No | No | No | 35 | 27.78 | 7.39 | 7 | C | F | 3 |
| 3416 | 15N-122-0000 | B1-04 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 3417 | 15N-122-0000 | B1-04 | C | C | T | No | No | No | | | | 2 | | F | 2 |
| 3418 | 15N-122-0000 | B1-04 | C | C | T | No | No | No | | | | 2 | | FF | 3 |
| 3423 | 15N-122-0000 | B1-04 | C | C | O | No | No | No | | | | 9 | | F | 3 |
| 3424 | 15N-122-0000 | B1-04 | C | G | O | No | No | No | | | | 35 | | F | 4 |
| 3433 | 15N-137-0000 | B1-05 | C | X | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3434 | 15N-137-0000 | B1-05 | C | X | T | No | No | No | | | | 4 | | FF | 2 |
| 3435 | 15N-137-0000 | B1-05 | C | X | T | No | No | No | 24.36 | 15.69 | 4.91 | 2 | C | F | 2 |
| 3438 | 15N-137-0000 | B1-05 | C | C | T | No | No | No | | | | 0.5 | | FF | 2 |
| 3439 | 15N-137-0000 | B1-05 | C | C | T | No | No | No | | | | 0.5 | | F | 2 |
| 3441 | 15N-137-0000 | B1-05 | C | C | O | No | No | No | | | | 6 | | FF | 2 |
| 3443 | 15N-137-0000 | B1-05 | C | X | O | No | No | No | | | | 4 | | FF | 2 |
| 3455 | 15N-124-0000 | B1-04 | C | X | O | No | No | No | | | | 17 | | F | 3 |
| 3458 | 15N-124-0000 | B1-04 | C | W | O | No | No | No | | | | 2 | | FF | 2 |
| 3459 | 15N-145-0000 | B1-05 | C | C | O | No | No | No | | | | 226 | | C | 4 |
| 3463 | 15N-145-0000 | B1-05 | C | X | T | No | No | No | | | | 15 | | F | 4 |
| 3464 | 15N-145-0000 | B1-05 | C | C | O | No | No | No | | | | 32 | | F | 4 |
| 3465 | 15N-145-0000 | B1-05 | C | R | O | No | No | No | | | | 22 | | F | 4 |
| 3466 | 15N-145-0000 | B1-05 | C | D | T | No | No | No | | | | 11 | | FF | 3 |
| 3467 | 15N-145-0000 | B1-05 | C | X | T | No | No | No | | | | 6 | | FF | 3 |
| 3468 | 15N-145-0000 | B1-05 | C | C | T | No | No | No | | | | 4 | | F | 2 |
| 3471 | 15N-122-0000 | B1-04 | C | X | T | No | No | No | | | | 7 | | F | 3 |
| 3472 | 15N-122-0000 | B1-04 | C | X | T | No | No | No | | | | 14 | | F | 3 |
| 32 | 20A-21-1047 | B1-08 | Q | C | T | Yes | No | No | | | | 2 | | F | 2 |
| 343 | 20I-6-0000 | B1-12 | C | C | T | Yes | No | No | 31.23 | 14.68 | 5.28 | 2 | C | FF | 2 |
| 350 | 20I-6-0000 | B1-12 | C | C | T | Yes | No | No | | | | 2 | | FF | 2 |
| 360 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | No | | | | 14 | | FF | 3 |
| 361 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | No | | | | 14 | | FF | 4 |
| 362 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | No | | | | 5 | | FF | 3 |
| 363 | 20I-6-0000 | B1-12 | C | R | O | Yes | No | No | 37.89 | 21.99 | 8.61 | 7 | C | FB | 3 |
| 365 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 366 | 20I-6-0000 | B1-12 | C | C | T | Yes | No | No | | | | 2 | | FF | 2 |
| 367 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | No | | | | 9 | | K | 2 |
| 368 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 369 | 20I-6-0000 | B1-12 | C | R | O | Yes | No | No | | | | 9 | | FF | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 370 | 20I-6-0000 | B1-12 | C | R | O | Yes | No | No | | | | 4 | | FF | 3 |
| 371 | 20I-6-0000 | B1-12 | C | R | O | Yes | No | No | | | | 12 | | K | 2 |
| 372 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | No | | | | 1 | | K | 2 |
| 373 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | No | | | | 3 | | K | 1 |
| 374 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | No | | | | 3 | | K | 2 |
| 375 | 20I-6-0000 | B1-12 | C | G | T | Yes | No | No | 24.84 | 17.07 | 5.96 | 1 | C | FF | 2 |
| 376 | 20I-6-0000 | B1-12 | C | C | T | Yes | No | No | | | | 2 | | FF | 1 |
| 377 | 20I-6-0000 | B1-12 | C | G | O | Yes | No | No | | | | 2 | | K | 1 |
| 381 | 20I-11-0000 | B1-12 | C | G | T | Yes | No | No | | | | 2 | | FF | 2 |
| 383 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | No | | | | 5 | | F | 2 |
| 384 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | No | | | | 4 | | F | 2 |
| 385 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 5 | | F | 2 |
| 387 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 3 | | F | 2 |
| 388 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | No | | | | 10 | | FF | 3 |
| 389 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 390 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 5 | | FF | 2 |
| 391 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 5 | | F | 2 |
| 393 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 394 | 20I-11-0000 | B1-12 | C | W | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 432 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | No | | | | 2 | | FF | 1 |
| 433 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 434 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 1 | | FF | 1 |
| 435 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 22 | | FF | 3 |
| 467 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 18 | | F | 3 |
| 468 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | No | | | | 13 | | FF | 4 |
| 469 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 4 | | FF | 3 |
| 470 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 5 | | FF | 3 |
| 471 | 20I-11-0000 | B1-12 | C | C | O | Yes | No | No | | | | 11 | | FF | 3 |
| 472 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 6 | | FF | 2 |
| 475 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | No | | | | 2 | C | F | 2 |
| 476 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 1 | | FF | 2 |
| 477 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | 28.42 | 23.42 | 6.16 | 5 | C | F | 2 |
| 478 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 1 | | FF | 2 |
| 479 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | No | | | | 4 | | F | 2 |
| 482 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 483 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 2 | | F | 2 |
| 484 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 1 | | FF | 2 |
| 485 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 1 | | FF | 1 |
| 486 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 489 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 490 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | No | | | | 4 | | K | 2 |
| 513 | 19D-21-0000 | B1-08 | C | R | O | Yes | No | No | | | | 59 | | F | 4 |
| 514 | 19D-21-0000 | B1-08 | C | R | T | Yes | No | No | 41.69 | 31.06 | 11.93 | 14 | C | F | 3 |
| 515 | 19D-21-0000 | B1-08 | C | R | T | Yes | No | No | | | | 5 | | F | 2 |
| 516 | 19D-21-0000 | B1-08 | C | W | O | Yes | No | No | | | | 5 | | FF | 2 |
| 517 | 19D-21-0000 | B1-08 | C | R | T | Yes | No | No | | | | 2 | | F | 2 |
| 519 | 19D-21-0000 | B1-08 | C | R | T | Yes | No | No | 26.39 | 26.15 | 6.14 | 3 | C | FF | 2 |
| 546 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 2 | | FF | 3 |
| 547 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 2 | | F | 1 |
| 548 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 0.5 | | F | 2 |
| 549 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 0.5 | | F | 2 |
| 550 | 20I-11-0000 | B1-12 | C | W | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 551 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 0.5 | | F | 2 |
| 552 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | No | | | | 0.5 | | FF | 1 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 555 | 20I-11-0000 | B1-12 | C | C | T | Yes | No | No | | | | 2 | | FF | 1 |
| 556 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 557 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 558 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 559 | 20I-11-0000 | B1-12 | C | D | T | Yes | No | No | 33.34 | 30.59 | 12.72 | 7 | C | F | 2 |
| 560 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 580 | 19D-17-0000 | B1-06 | C | R | T | Yes | No | No | | | | 5 | | F | 2 |
| 581 | 19D-17-0000 | B1-06 | C | R | T | Yes | No | No | | | | 29 | | F | 4 |
| 582 | 19D-17-0000 | B1-06 | C | R | T | Yes | No | No | | | | 7 | | F | 2 |
| 583 | 19D-17-0000 | B1-06 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 584 | 19D-17-0000 | B1-06 | C | R | T | Yes | No | No | 22.79 | 13.46 | 3.22 | 0.5 | B | FF | 2 |
| 587 | 19D-20-0000 | B1-08 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 588 | 19D-20-0000 | B1-08 | C | R | O | Yes | No | No | | | | 0.5 | | F | 2 |
| 640 | 19D-15-0000 | B1-06 | C | Z | O | Yes | No | No | | | | 1 | | FF | 2 |
| 641 | 19D-15-0000 | B1-06 | C | Z | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 642 | 19D-15-0000 | B1-06 | C | Z | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 665 | 19D-15-0000 | B1-06 | C | R | O | Yes | No | No | | | | 19 | | F | 2 |
| 666 | 19D-15-0000 | B1-06 | C | R | T | Yes | No | No | 21.61 | 18.61 | 4.5 | 4 | C | F | 2 |
| 668 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | 19.39 | 10.05 | 2.77 | 0.5 | C | F | 2 |
| 669 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 670 | 20C-19-0000 | B1-07 | C | Z | O | Yes | No | No | | | | 3 | | FF | 1 |
| 671 | 20C-19-0000 | B1-07 | C | W | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 672 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 673 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 674 | 20C-19-0000 | B1-07 | C | C | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 676 | 19D-15-0000 | B1-06 | C | R | T | Yes | No | No | | | | 6 | | FF | 2 |
| 678 | 19D-15-0000 | B1-06 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 679 | 19D-15-0000 | B1-06 | C | G | O | Yes | No | No | | | | 3 | | FB | 2 |
| 680 | 19D-15-0000 | B1-06 | C | X | T | Yes | No | No | | | | 4 | | F | 2 |
| 695 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | No | | | | 12 | | K | 2 |
| 696 | 20C-19-0000 | B1-07 | C | W | O | Yes | No | No | | | | 16 | | FF | 3 |
| 698 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | No | | | | 2 | | F | 2 |
| 699 | 20C-19-0000 | B1-07 | C | D | T | Yes | No | No | | | | 5 | | FF | 2 |
| 702 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 8 | | K | 2 |
| 703 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | No | | | | 2 | | FF | 2 |
| 704 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | No | | | | 4 | | F | 2 |
| 705 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 5 | | F | 3 |
| 706 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | No | | | | 2 | | F | 2 |
| 708 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 1 | | FF | 2 |
| 709 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | No | | | | 1 | | FF | 2 |
| 710 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 6 | | FF | 2 |
| 714 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 717 | 20C-19-0000 | B1-07 | C | C | O | Yes | No | No | 21.37 | 18.41 | 4.67 | 2 | C | F | 2 |
| 745 | 20C-19-0000 | B1-07 | C | D | T | Yes | No | No | | | | 1 | | F | 2 |
| 747 | 20C-19-0000 | B1-07 | C | C | T | Yes | No | No | | | | 1 | | FF | 1 |
| 752 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | No | 52.82 | 31.46 | 12.34 | 19 | C | F | 3 |
| 763 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | No | | | | 3 | | F | 2 |
| 791 | 20C-19-0000 | B1-07 | C | C | T | Yes | No | No | | | | 17 | | K | 3 |
| 793 | 15N-69-0000 | B1-04 | C | X | O | Yes | No | No | | | | 43 | | K | 4 |
| 814 | 15N-69-0000 | B1-04 | C | R | O | Yes | No | No | 45.21 | 35.1 | 10.77 | 13 | C | F | 4 |
| 820 | 15N-69-0000 | B1-04 | C | C | T | Yes | No | No | | | | 18 | | F | 3 |
| 821 | 15N-69-0000 | B1-04 | C | W | O | Yes | No | No | | | | 26 | | F | 4 |
| 822 | 15N-69-0000 | B1-04 | C | R | O | Yes | No | No | | | | 16 | | F | 4 |
| 823 | 15N-69-0000 | B1-04 | C | R | T | Yes | No | No | | | | 7 | | FF | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 825 | 15N-69-0000 | B1-04 | C | R | O | Yes | No | No | | | | 20 | | F | 4 |
| 826 | 15N-69-0000 | B1-04 | C | G | O | Yes | No | No | 40.56 | 29.36 | 7.89 | 11 | C | F | 3 |
| 827 | 15N-69-0000 | B1-04 | C | R | O | Yes | No | No | | | | 21 | | FF | 4 |
| 829 | 15N-69-0000 | B1-04 | C | G | O | Yes | No | No | | | | 10 | | K | 3 |
| 830 | 15N-69-0000 | B1-04 | C | R | O | Yes | No | No | | | | 11 | C | FF | 3 |
| 836 | 15N-69-0000 | B1-04 | C | G | O | Yes | No | No | | | | 3 | | FF | 2 |
| 871 | 15N-59-0000 | B1-04 | C | G | O | Yes | No | No | | | | 27 | | FF | 4 |
| 872 | 15N-59-0000 | B1-04 | C | Z | O | Yes | No | No | 29.78 | 19.05 | 9.54 | 8 | C | F | 3 |
| 873 | 15N-59-0000 | B1-04 | C | W | O | Yes | No | No | | | | 3 | | FF | 2 |
| 874 | 15N-59-0000 | B1-04 | C | Z | O | Yes | No | No | | | | 6 | | FF | 4 |
| 885 | 15N-59-0000 | B1-04 | C | W | O | Yes | No | No | | | | 2 | C | FF | 2 |
| 886 | 15N-59-0000 | B1-04 | C | G | O | Yes | No | No | | | | 0.5 | C | FF | 2 |
| 887 | 15N-59-0000 | B1-04 | C | G | O | Yes | No | No | | | | 0.5 | C | FF | 1 |
| 888 | 15N-59-0000 | B1-04 | C | G | O | Yes | No | No | | | | 0.5 | C | FF | 1 |
| 889 | 15N-59-0000 | B1-04 | C | Z | O | Yes | No | No | | | | 0.5 | C | FF | 2 |
| 927 | 15N-42-0000 | B1-03-G | C | R | T | Yes | No | No | | | | 5 | | F | 2 |
| 929 | 15N-42-0000 | B1-03-G | C | C | T | Yes | No | No | | | | 2 | | F | 2 |
| 930 | 15N-42-0000 | B1-03-G | C | R | O | Yes | No | No | | | | 0.5 | | F | 2 |
| 939 | 15N-69-0000 | B1-04 | C | G | O | Yes | No | No | | | | 36 | | FF | 4 |
| 940 | 15N-69-0000 | B1-04 | C | W | O | Yes | No | No | | | | 5 | | FF | 3 |
| 946 | 15N-69-0000 | B1-04 | C | W | O | Yes | No | No | | | | 7 | | FF | 2 |
| 1163 | 15N-42-0000 | B1-03-G | C | R | T | Yes | No | No | | | | 10 | | FF | 3 |
| 1169 | 15N-42-0000 | B1-03-G | C | C | T | Yes | No | No | | | | 4 | C | FF | 3 |
| 1170 | 15N-42-0000 | B1-03-G | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 1177 | 15N-44-0000 | B1-03-H | C | C | T | Yes | No | No | 31.49 | 18.94 | 8.18 | 7 | C | FF | 3 |
| 1180 | 15N-44-0000 | B1-03-H | C | C | T | Yes | No | No | | | | 3 | | FF | 2 |
| 1188 | 15N-44-0000 | B1-03-H | C | W | O | Yes | No | No | | | | 25 | | FB | 4 |
| 1191 | 15N-44-0000 | B1-03-H | C | W | O | Yes | No | No | | | | 24 | | FF | 4 |
| 1193 | 15N-44-0000 | B1-03-H | C | R | T | Yes | No | No | | | | 7 | | F | 3 |
| 1195 | 15N-44-0000 | B1-03-H | C | R | T | Yes | No | No | | | | 2 | | FF | 3 |
| 1199 | 15N-44-0000 | B1-03-H | C | D | T | Yes | No | No | | | | 33 | | F | 4 |
| 1201 | 15N-44-0000 | B1-03-H | C | W | O | Yes | No | No | | | | 15 | | FF | 3 |
| 1202 | 15N-44-0000 | B1-03-H | C | Z | O | Yes | No | No | | | | 22 | | FF | 3 |
| 1221 | 15N-44-0000 | B1-03-H | C | G | O | Yes | No | No | | | | 10 | | FF | 3 |
| 1297 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 1299 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1300 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1301 | 20C-19-0000 | B1-07 | C | D | T | Yes | No | No | | | | 2 | | F | 2 |
| 1302 | 20C-19-0000 | B1-07 | C | Z | O | Yes | No | No | | | | 2 | | F | 2 |
| 1307 | 15N-69-0000 | B1-04 | C | G | O | Yes | No | No | | | | 13 | | F | 3 |
| 1308 | 15N-69-0000 | B1-04 | C | Z | O | Yes | No | No | | | | 24 | | F | 3 |
| 1319 | 15N-69-0000 | B1-04 | C | W | O | Yes | No | No | | | | 33 | S | FF | 4 |
| 1352 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 5 | | FF | 3 |
| 1354 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 9 | | FF | 3 |
| 1358 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | No | | | | 4 | | FF | 2 |
| 1359 | 20C-19-0000 | B1-07 | C | C | T | Yes | No | No | | | | 2 | | F | 2 |
| 1360 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | No | | | | 5 | | FF | 3 |
| 1361 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1362 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1364 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1366 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1367 | 20C-3-0000 | B1-05 | C | W | O | Yes | No | No | | | | 6 | | F | 2 |
| 1373 | 20C-3-0000 | B1-05 | C | W | O | Yes | No | No | | | | 17 | | F | 3 |
| 1375 | 20C-3-0000 | B1-05 | C | R | T | Yes | No | No | | | | 13 | | FF | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1380 | 20C-3-0000 | B1-05 | C | R | O | Yes | No | No | | | | 4 | | F | 2 |
| 1382 | 20C-3-0000 | B1-05 | C | W | O | Yes | No | No | | | | 2 | | F | 2 |
| 1428 | 20A-3 C1:2000 | B1-04 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1464 | 20C-3-0000 | B1-05 | L | Z | O | Yes | No | No | | | | 13 | | FF | 2 |
| 1473 | 20C-3-0000 | B1-05 | C | R | O | Yes | No | No | | | | 6 | | F | 2 |
| 1484 | 20C-3-0000 | B1-05 | L | Z | O | Yes | No | No | | | | 18 | C | F | 3 |
| 1551 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | No | | | | 40 | | K | 3 |
| 1596 | 20B-12-1273 | B1-13 | C | C | T | Yes | No | No | 23.24 | 7.5 | 3.5 | 1 | C | FB | 2 |
| 1630 | 20B-12-1273 | B1-13 | C | C | T | Yes | No | No | 23.24 | 7.5 | 3.75 | 1 | C | FB | 2 |
| 1666 | 20C-1-0000 | B1-05 | C | R | T | Yes | No | No | | | | 21 | | FF | 3 |
| 1683 | 20C-1-0000 | B1-05 | C | P | O | Yes | No | No | 36.95 | 25.73 | 9.24 | 53 | C | F | 3 |
| 1687 | 20C-1-0000 | B1-05 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 1690 | 20C-1-0000 | B1-05 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 1691 | 20C-1-0000 | B1-05 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 1693 | 20C-5-0000 | B1-05 | C | G | O | Yes | No | No | | | | 3 | | F | 3 |
| 1707 | 20C-5-0000 | B1-05 | C | W | O | Yes | No | No | | | | 4 | | F | 2 |
| 1708 | 20C-5-0000 | B1-05 | C | R | T | Yes | No | No | | | | 2 | | F | 2 |
| 1709 | 20C-5-0000 | B1-05 | C | R | T | Yes | No | No | | | | 7 | | F | 2 |
| 1711 | 20C-5-0000 | B1-05 | C | G | O | Yes | No | No | | | | 5 | | FF | 3 |
| 1724 | 20C-5-0000 | B1-05 | C | B | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 1725 | 20C-5-0000 | B1-05 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1730 | 20A-6-0000 | B1-04 | C | D | T | Yes | No | No | | | | 3 | | F | 2 |
| 1741 | 20A-6-0000 | B1-04 | C | D | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1763 | 20A-6-0000 | B1-04 | C | G | O | Yes | No | No | | | | 0.5 | | F | 2 |
| 1770 | 20A-6-0000 | B1-04 | C | Z | O | Yes | No | No | | | | 4 | | FF | 2 |
| 1772 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | No | | | | 6 | | F | 2 |
| 1774 | 20A-6-0000 | B1-04 | C | C | O | Yes | No | No | | | | 5 | | FF | 2 |
| 1778 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | No | | | | 7 | | FF | 2 |
| 1779 | 20A-6-0000 | B1-04 | C | G | O | Yes | No | No | | | | 2 | | FF | 1 |
| 1781 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | No | | | | 0.5 | | F | 1 |
| 1782 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1784 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 1785 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1786 | 20A-6-0000 | B1-04 | C | W | O | Yes | No | No | 15.19 | 9.29 | 8.13 | 0.5 | | FF | 1 |
| 1787 | 20A-6-0000 | B1-04 | C | R | O | Yes | No | No | 21.54 | 12.19 | 4.16 | 0.5 | | FF | 1 |
| 1789 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | No | 19.48 | 8.12 | 9.35 | 0.5 | | FF | 1 |
| 1790 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | No | 12.74 | 10.11 | 3.2 | 0.5 | | FF | 1 |
| 1791 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | No | 14.7 | 10.96 | 2.15 | 0.5 | | FF | 1 |
| 1792 | 20A-6-0000 | B1-04 | C | R | O | Yes | No | No | 15.65 | 7.47 | 2.53 | 0.5 | | FF | 1 |
| 1793 | 20A-6-0000 | B1-04 | C | C | T | Yes | No | No | 17.78 | 10.03 | 3.77 | 0.5 | | FF | 1 |
| 1801 | 20D-9-0000 | B1-08 | C | R | O | Yes | No | No | | | | 8 | | F | 2 |
| 1808 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 3 | | F | 2 |
| 1813 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 17 | | F | 3 |
| 1820 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | 25.28 | 25.31 | 5.5 | 3 | C | F | 2 |
| 1822 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | 33.72 | 22.1 | 6.99 | 5 | C | F | 2 |
| 1823 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 1824 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | F | 2 |
| 1840 | 20D-9-0000 | B1-08 | C | G | O | Yes | No | No | | | | 2 | | FF | 2 |
| 1849 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 4 | | FF | 2 |
| 1851 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1852 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | FF | 2 |
| 1853 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1854 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | FF | 1 |
| 1856 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | F | 1 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1857 | 20D-9-0000 | B1-08 | C | R | O | Yes | No | No | | | | 1 | | F | 2 |
| 1858 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | F | 1 |
| 1859 | 20D-9-0000 | B1-08 | C | C | T | Yes | No | No | | | | 1 | | F | 1 |
| 1864 | 20D-9-0000 | B1-08 | C | W | O | Yes | No | No | | | | 2 | | F | 1 |
| 1865 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | F | 2 |
| 1866 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | No | | | | 0.5 | | F | 1 |
| 1867 | 20D-9-0000 | B1-08 | C | Z | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1868 | 20D-9-0000 | B1-08 | C | R | O | Yes | No | No | | | | 1 | | FF | 1 |
| 1869 | 20D-9-0000 | B1-08 | C | D | T | Yes | No | No | | | | 0.5 | | F | 1 |
| 1871 | 20D-9-0000 | B1-08 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 1872 | 20D-9-0000 | B1-08 | C | R | O | Yes | No | No | | | | 1 | | FF | 2 |
| 1873 | 20D-9-0000 | B1-08 | C | R | O | Yes | No | No | | | | 4 | | FF | 2 |
| 1877 | 20D-9-0000 | B1-08 | C | W | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 1878 | 20D-9-0000 | B1-08 | C | C | T | Yes | No | No | | | | 2 | | FF | 2 |
| 1879 | 20D-9-0000 | B1-08 | C | R | O | Yes | No | No | | | | 16 | C | F | 2 |
| 1882 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 1884 | 20D-8-0000 | B1-08 | C | W | O | Yes | No | No | | | | 7 | | F | 2 |
| 1896 | 20D-8-0000 | B1-08 | C | X | T | Yes | No | No | | | | 6 | | F | 2 |
| 1904 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | No | 16.76 | 17.57 | 6.33 | 1 | | F | 2 |
| 1905 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 1909 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | FF | 1 |
| 1910 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | F | 2 |
| 1911 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 1914 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 1915 | 20D-8-0000 | B1-08 | C | G | O | Yes | No | No | | | | 4 | | F | 2 |
| 1917 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | No | | | | 1 | | FF | 1 |
| 1919 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 1920 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | FF | 2 |
| 1935 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | No | 16.76 | 17.57 | 6.33 | 1 | | F | 2 |
| 1936 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 1940 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | F | 2 |
| 1941 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | F | 2 |
| 1942 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 1945 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 1946 | 20D-8-0000 | B1-08 | C | G | O | Yes | No | No | | | | 4 | | F | 2 |
| 1948 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | No | | | | 1 | | FF | 1 |
| 1950 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 1951 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | No | | | | 1 | | FF | 2 |
| 1953 | 20D-8-0000 | B1-08 | C | G | O | Yes | No | No | | | | 2 | | FF | 2 |
| 1966 | 15N-69-0000 | B1-04 | C | R | O | Yes | No | No | | | | 8 | | FF | 3 |
| 1992 | 15N-69-0000 | B1-04 | C | R | O | Yes | No | No | | | | 33 | | FF | 3 |
| 1993 | 15N-69-0000 | B1-04 | C | R | T | Yes | No | No | | | | 10 | | F | 2 |
| 2051 | 20A-13-0000 | B1-13 | C | C | O | Yes | No | No | | | | 17 | | F | 2 |
| 2052 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 32 | | F | 2 |
| 2053 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 11 | | FF | 2 |
| 2054 | 20A-13-0000 | B1-13 | C | G | O | Yes | No | No | | | | 5 | | FF | 1 |
| 2055 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 7 | | FF | 1 |
| 2056 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 9 | | FF | 2 |
| 2057 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 4 | | FF | 1 |
| 2058 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 5 | | FF | 1 |
| 2060 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 1 | | FF | 1 |
| 2062 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | FF | 1 |
| 2063 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 1 |
| 2064 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | FF | 1 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2065 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 1 |
| 2066 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2067 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2068 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2069 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | FF | 1 |
| 2070 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 3 | | FF | 1 |
| 2071 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 1 | | FF | 1 |
| 2072 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2073 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2074 | 20A-13-0000 | B1-13 | C | W | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2076 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | F | 1 |
| 2077 | 20A-13-0000 | B1-13 | C | Z | O | Yes | No | No | | | | 2 | | FF | 1 |
| 2078 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2079 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 8 | | FF | 2 |
| 2080 | 20A-13-0000 | B1-13 | C | G | O | Yes | No | No | | | | 2 | | FF | 1 |
| 2081 | 20A-13-0000 | B1-13 | C | G | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2082 | 20A-13-0000 | B1-13 | C | G | T | Yes | No | No | | | | 5 | | F | 1 |
| 2083 | 20A-13-0000 | B1-13 | C | D | T | Yes | No | No | | | | 3 | | F | 1 |
| 2084 | 20A-13-0000 | B1-13 | C | Z | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2085 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 3 | | FF | 1 |
| 2086 | 20A-13-0000 | B1-13 | C | W | O | Yes | No | No | | | | 2 | | FF | 1 |
| 2089 | 20A-13-0000 | B1-13 | C | W | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2106 | 20A-13-0000 | B1-13 | C | C | T | Yes | No | No | 33.51 | 26.89 | 15.06 | 7 | S | FF | 1 |
| 2113 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 34 | | FF | 4 |
| 2117 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 3 | | FF | 1 |
| 2118 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 1 |
| 2119 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | FF | 1 |
| 2120 | 20A-13-0000 | B1-13 | C | X | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2170 | 20D-22-1102 | B1-08 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 2174 | 20D-24-1154 | B1-08 | C | R | T | Yes | No | No | 32.88 | 6.79 | 3.65 | 0.5 | D | FF | 2 |
| 2240 | 20C-28-1110 | B1-08 | C | G | T | Yes | No | No | 34.74 | 10.71 | 7.42 | 2 | D | FF | 3 |
| 2292 | 20A-13-0000 | B1-13 | C | C | T | Yes | No | No | | | | 3 | | FF | 1 |
| 2295 | 20A-13-0000 | B1-13 | C | C | T | Yes | No | No | | | | 2 | | FF | 1 |
| 2298 | 20A-13-0000 | B1-13 | C | C | T | Yes | No | No | | | | 2 | | FF | 1 |
| 2314 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 9 | | F | 2 |
| 2315 | 20A-13-0000 | B1-13 | C | G | T | Yes | No | No | | | | 5 | | F | 1 |
| 2316 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 11 | | F | 2 |
| 2319 | 20A-13-0000 | B1-13 | C | C | T | Yes | No | No | | | | 4 | | FF | 1 |
| 2320 | 20A-13-0000 | B1-13 | C | C | T | Yes | No | No | 34.37 | 15.95 | 4.99 | 2 | C | FF | 1 |
| 2321 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | FF | 1 |
| 2322 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 3 | | FF | 1 |
| 2323 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 4 | | FF | 1 |
| 2324 | 20A-13-0000 | B1-13 | C | C | O | Yes | No | No | | | | 4 | | F | 1 |
| 2325 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | 23.7 | 18.65 | 4.42 | 2 | C | FF | 1 |
| 2326 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 5 | | F | 1 |
| 2327 | 20A-13-0000 | B1-13 | C | G | O | Yes | No | No | | | | 3 | | FF | 1 |
| 2328 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | FF | 1 |
| 2329 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 9 | | FF | 1 |
| 2330 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | FF | 1 |
| 2400 | 20C-28-1120 | B1-08 | C | G | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 2413 | 20A-13-1068 | B1-13 | C | W | O | Yes | No | No | | | | 6 | | FF | 3 |
| 2425 | 20D-19-1058 | B1-08 | C | R | T | Yes | No | No | | | | 5 | | FF | 2 |
| 2426 | 20A-21-1056 | B1-08 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 2428 | 20A-21-1050 | B1-08 | C | X | O | Yes | No | No | 60.34 | 42.51 | 27.36 | 50 | | B | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2480 | 20j-20-0000 | B1-13 | C | G | O | Yes | No | No | | | | 2 | | FF | 2 |
| 2485 | 20A-18-0000 | B1-13 | C | R | O | Yes | No | No | | | | 4 | | F | 2 |
| 2486 | 20A-18-0000 | B1-13 | C | R | O | Yes | No | No | | | | 13 | | FF | 3 |
| 2494 | 20A-18-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | FF | 3 |
| 2502 | 20F-3-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | F | 2 |
| 2503 | 20F-3-0000 | B1-13 | C | R | T | Yes | No | No | | | | 1 | | FF | 2 |
| 2506 | 20F-3-0000 | B1-13 | C | R | O | Yes | No | No | | | | 6 | | F | 2 |
| 2507 | 20F-3-0000 | B1-13 | C | C | T | Yes | No | No | | | | 2 | | FF | 3 |
| 2522 | 20F-3-0000 | B1-13 | C | R | T | Yes | No | No | | | | 17 | | F | 4 |
| 2546 | 20A-15-0000 | B1-13 | C | G | O | Yes | No | No | | | | 2 | | FF | 2 |
| 2563 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 4 | | FF | 2 |
| 2564 | 20A-15-0000 | B1-13 | C | X | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 2565 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2566 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2567 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 2568 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2569 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2570 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 7 | | F | 2 |
| 2573 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 11 | | F | 2 |
| 2576 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 13 | | F | 3 |
| 2577 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | FF | 3 |
| 2579 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 2582 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | F | 2 |
| 2583 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 9 | | F | 3 |
| 2592 | 20A-15-0000 | B1-13 | C | D | T | Yes | No | No | 56.05 | 44.47 | 22.1 | 53 | S | FF | 4 |
| 2599 | 20J-20-0000 | B1-13 | C | R | O | Yes | No | No | | | | 11 | C | F | 4 |
| 2601 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 7 | | FF | 3 |
| 2602 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2603 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2604 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 2605 | 20J-20-0000 | B1-13 | C | C | T | Yes | No | No | | | | 2 | | FF | 2 |
| 2637 | 20F-3-0000 | B1-13 | C | G | O | Yes | No | No | | | | 3 | | F | 2 |
| 2643 | 20F-3-0000 | B1-13 | C | R | O | Yes | No | No | | | | 4 | | FF | 2 |
| 2645 | 20F-3-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | FF | 2 |
| 2686 | 20B-13-0000 | B1-13 | C | C | O | Yes | No | No | | | | 14 | | FF | 3 |
| 2704 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 7 | | FF | 3 |
| 2705 | 20A-15-0000 | B1-13 | C | G | O | Yes | No | No | | | | 2 | | FF | 2 |
| 2706 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 6 | | FF | 2 |
| 2707 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 4 | | F | 2 |
| 2708 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | F | 2 |
| 2710 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 2711 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 1 | | FF | 2 |
| 2712 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 1 | | FF | 2 |
| 2714 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 1 | | FF | 1 |
| 2715 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 2742 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | F | 2 |
| 2754 | 20B-13-0000 | B1-13 | C | W | T | Yes | No | No | | | | 20 | | FF | 3 |
| 2765 | 20B-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | F | 2 |
| 2785 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 5 | | FB | 3 |
| 2786 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 8 | | F | 3 |
| 2787 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 25 | | F | 4 |
| 2792 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 8 | | FF | 3 |
| 2793 | 20B-13-0000 | B1-13 | C | Z | T | Yes | No | No | | | | 12 | | F | 4 |
| 2794 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 8 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2795 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 2796 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 3 | | F | 3 |
| 2797 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 2799 | 20B-13-0000 | B1-13 | C | R | O | Yes | No | No | | | | 7 | | FF | 2 |
| 2842 | 20B-13-0000 | B1-13 | C | D | T | Yes | No | No | | | | 3 | | FF | 2 |
| 2850 | 20B-10-0000 | B1-13 | C | G | T | Yes | No | No | | | | 4 | | F | 2 |
| 2857 | 20B-10-0000 | B1-13 | C | W | O | Yes | No | No | | | | 3 | | F | 2 |
| 2858 | 20B-10-0000 | B1-13 | C | C | O | Yes | No | No | | | | 7 | | F | 3 |
| 2859 | 20B-10-0000 | B1-13 | C | Z | O | Yes | No | No | | | | 3 | | F | 2 |
| 2860 | 20B-10-0000 | B1-13 | C | W | O | Yes | No | No | 33.03 | 19.53 | 7.07 | 5 | C | FF | 2 |
| 2861 | 20B-10-0000 | B1-13 | C | R | T | Yes | No | No | | | | 3 | | F | 2 |
| 2862 | 20B-10-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 2863 | 20B-10-0000 | B1-13 | C | R | T | Yes | No | No | 30.86 | 18.45 | 6.07 | 4 | C | FF | 2 |
| 2864 | 20B-10-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | F | 2 |
| 2866 | 20B-10-0000 | B1-13 | C | W | O | Yes | No | No | | | | 1 | | FF | 2 |
| 2867 | 20B-10-0000 | B1-13 | C | W | O | Yes | No | No | | | | 5 | | FF | 2 |
| 2868 | 20B-10-0000 | B1-13 | C | C | T | Yes | No | No | 49.15 | 32.13 | 20.6 | 16 | C | F | 3 |
| 2869 | 20B-10-0000 | B1-13 | C | C | T | Yes | No | No | | | | 7 | | FF | 3 |
| 2870 | 20B-10-0000 | B1-13 | C | C | O | Yes | No | No | | | | 6 | | FF | 2 |
| 2876 | 20B-10-0000 | B1-13 | C | X | O | Yes | No | No | | | | 19 | | FF | 3 |
| 2923 | 20A-18-0000 | B1-13 | C | R | T | Yes | No | No | | | | 12 | | FF | 3 |
| 2924 | 20A-18-0000 | B1-13 | C | R | T | Yes | No | No | | | | 1 | | FF | 2 |
| 2925 | 20A-18-0000 | B1-13 | C | R | T | Yes | No | No | 28.54 | 29.6 | 7.41 | 6 | C | FF | 2 |
| 2927 | 20A-18-0000 | B1-13 | C | C | O | Yes | No | No | | | | 2 | | F | 2 |
| 2930 | 20A-18-0000 | B1-13 | C | R | T | Yes | No | No | | | | 51 | | FF | 3 |
| 2991 | 20A-18-0000 | B1-13 | C | W | O | Yes | No | No | | | | 24 | | F | 3 |
| 2999 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 34 | | F | 4 |
| 3000 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 20 | | FF | 3 |
| 3001 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 6 | | F | 3 |
| 3003 | 20A-15-0000 | B1-13 | C | C | T | Yes | No | No | | | | 2 | | F | 2 |
| 3005 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | F | 2 |
| 3006 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 3007 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 1 | | FF | 2 |
| 3008 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 12 | | F | 3 |
| 3009 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 3010 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3011 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 3012 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 3014 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 1 |
| 3016 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 3 | | FF | 2 |
| 3017 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 3018 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 1 |
| 3019 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | FF | 1 |
| 3043 | 20B-11-0000 | B1-13 | C | C | T | Yes | No | No | | | | 2 | | F | 2 |
| 3061 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | F | 2 |
| 3062 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 3063 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | F | 2 |
| 3064 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 3 | | FF | 3 |
| 3067 | 20B-11-0000 | B1-13 | C | G | O | Yes | No | No | | | | 10 | | FF | 2 |
| 3070 | 20B-11-0000 | B1-13 | C | W | O | Yes | No | No | | | | 3 | | FF | 3 |
| 3074 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 3076 | 20B-11-0000 | B1-13 | C | C | T | Yes | No | No | | | | 6 | | F | 3 |
| 3079 | 20B-11-0000 | B1-13 | C | R | O | Yes | No | No | | | | 5 | | F | 2 |
| 3083 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3084 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 4 | | FF | 2 |
| 3087 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 3088 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3089 | 20B-11-0000 | B1-13 | C | R | O | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3093 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 3094 | 20B-11-0000 | B1-13 | C | R | O | Yes | No | No | | | | 3 | | F | 2 |
| 3095 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 3097 | 20B-11-0000 | B1-13 | C | X | O | Yes | No | No | | | | 5 | | FF | 2 |
| 3098 | 20B-11-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | FF | 2 |
| 3103 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 12 | | F | 4 |
| 3104 | 20J-20-0000 | B1-13 | C | R | O | Yes | No | No | | | | 8 | | FF | 3 |
| 3105 | 20J-20-0000 | B1-13 | C | R | O | Yes | No | No | | | | 4 | | F | 2 |
| 3106 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 12 | | F | 4 |
| 3107 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 7 | | F | 3 |
| 3108 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 5 | | F | 3 |
| 3109 | 20J-20-0000 | B1-13 | C | C | T | Yes | No | No | | | | 7 | | FF | 3 |
| 3110 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 5 | | F | 2 |
| 3111 | 20J-20-0000 | B1-13 | C | R | O | Yes | No | No | | | | 2 | | FF | 4 |
| 3112 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3113 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3115 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | F | 1 |
| 3116 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | No | | | | 3 | | FF | 2 |
| 3117 | 20J-20-0000 | B1-13 | C | G | O | Yes | No | No | | | | 16 | | FF | 4 |
| 3143 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3165 | 20B-11-996 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3166 | 20B-11-996 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 3 |
| 3224 | 20A-13-906 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 3225 | 20A-13-906 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3238 | 20A-13-904 | B1-13 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 3246 | 20A-17-992 | B1-05 | C | R | 0 | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3283 | 20F-3-0000 | B1-13 | C | R | T | Yes | No | No | 31.2 | 17.29 | 6.96 | 2 | C | FF | 2 |
| 3286 | 20F-3-0000 | B1-13 | C | W | O | Yes | No | No | | | | 5 | | FF | 2 |
| 3287 | 20F-3-0000 | B1-13 | C | G | O | Yes | No | No | | | | 5 | | FF | 2 |
| 3288 | 20F-3-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3310 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3329 | 15N-138-0000 | B1-05 | C | C | T | Yes | No | No | | | | 2 | | F | 2 |
| 3339 | 15N-126-0000 | B1-05 | C | R | T | Yes | No | No | 20.36 | 3.7 | 4.77 | 0.5 | D | FF | 1 |
| 3341 | 15N-138-0000 | B1-05 | C | G | O | Yes | No | No | | | | 46 | | F | 4 |
| 3342 | 15N-138-0000 | B1-05 | C | R | T | Yes | No | No | | | | 27 | | F | 3 |
| 3343 | 15N-138-0000 | B1-05 | C | R | T | Yes | No | No | | | | 49 | | FF | 3 |
| 3344 | 15N-138-0000 | B1-05 | C | R | T | Yes | No | No | | | | 4 | | FF | 2 |
| 3345 | 15N-138-0000 | B1-05 | C | R | T | Yes | No | No | | | | 22 | | FF | 4 |
| 3347 | 15N-138-0000 | B1-05 | C | R | T | Yes | No | No | | | | 0.5 | | F | 1 |
| 3348 | 15N-138-0000 | B1-05 | C | Z | O | Yes | No | No | | | | 10 | | FF | 3 |
| 3350 | 15N-138-0000 | B1-05 | C | R | T | Yes | No | No | | | | 0.5 | | FF | 2 |
| 3353 | 15N-138-0000 | B1-05 | C | C | O | Yes | No | No | | | | 20 | | F | 3 |
| 3354 | 15N-138-0000 | B1-05 | C | W | O | Yes | No | No | | | | 6 | | F | 2 |
| 3355 | 15N-138-0000 | B1-05 | C | W | O | Yes | No | No | | | | 3 | | FF | 2 |
| 3356 | 15N-138-0000 | B1-05 | C | Z | O | Yes | No | No | | | | 23 | | FF | 3 |
| 3384 | 15N-141-0000 | B1-05 | C | W | T | Yes | No | No | 29.55 | 21.91 | 22.02 | 5 | C | F | 2 |
| 3385 | 15N-141-0000 | B1-05 | C | R | T | Yes | No | No | | | | 2 | | FF | 2 |
| 3391 | 15N-141-0000 | B1-05 | C | Z | O | Yes | No | No | | | | 12 | | F | 3 |
| 3403 | 15N-126-0000 | B1-05 | C | G | O | Yes | No | No | | | | 2 | | FF | 2 |
| 3425 | 15N-122-0000 | B1-04 | C | R | O | Yes | No | No | | | | 3 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3427 | 15N-122-0000 | B1-04 | C | G | O | Yes | No | No | | | | 3 | | FF | 2 |
| 3429 | 15N-122-0000 | B1-04 | C | R | O | Yes | No | No | 68.23 | 38.5 | 18.83 | 45 | C | F | 4 |
| 3430 | 15N-122-0000 | B1-04 | C | R | O | Yes | No | No | | | | 33 | | FF | 4 |
| 3444 | 15N-137-0000 | B1-05 | C | W | T | Yes | No | No | | | | 47 | | F | 4 |
| 3445 | 15N-137-0000 | B1-05 | C | R | T | Yes | No | No | | | | 10 | | FF | 3 |
| 3448 | 15N-137-0000 | B1-05 | C | C | T | Yes | No | No | | | | 16 | | F | 3 |
| 3450 | 15N-137-0000 | B1-05 | C | R | O | Yes | No | No | | | | 6 | | FF | 2 |
| 3451 | 15N-137-0000 | B1-05 | C | W | O | Yes | No | No | | | | 2 | | FF | 2 |
| 3452 | 15N-137-0000 | B1-05 | C | R | O | Yes | No | No | | | | 3 | | FF | 2 |
| 20 | 15N-21-0000 | B1-03-A | C | C | T | No | Yes | No | | | | 62 | | F | 4 |
| 36 | 15N-21-0000 | B1-03-A | C | C | T | No | Yes | No | 58.07 | 36.18 | 10.22 | 22 | C | F | 4 |
| 37 | 15N-21-0000 | B1-03-A | C | C | T | No | Yes | No | | | | 55 | | K | 3 |
| 43 | 15N-23-0000 | B1-02 | C | X | O | No | Yes | No | | | | 16 | | FB | 4 |
| 47 | 19D-9-0000 | B1-02 | C | D | T | No | Yes | No | | | | 43 | | FF | 3 |
| 143 | 19D-9-0000 | B1-02 | C | C | T | No | Yes | No | | | | 5 | | FF | 2 |
| 184 | 19D-18-0000 | B1-08 | C | X | O | No | Yes | No | | | | 27 | | K | 3 |
| 79 | 19D-9-0000 | B1-02 | C | R | T | Yes | Yes | No | | | | 5 | | K | 2 |
| 191 | 19D-18-0000 | B1-08 | C | R | T | Yes | Yes | No | 54.14 | 36.47 | 10.71 | 22 | S | F | 4 |
| 332 | 20I-6-0000 | B1-12 | C | X | T | No | Yes | No | | | | 8 | | F | 3 |
| 562 | 19D-17-0000 | B1-06 | C | C | T | No | Yes | No | | | | 39 | | F | 3 |
| 565 | 19D-17-0000 | B1-06 | C | C | T | No | Yes | No | | | | 0.5 | | FF | 2 |
| 607 | 20I-11-0000 | B1-12 | C | C | T | No | Yes | No | | | | 5 | | FF | 2 |
| 610 | 20I-11-0000 | B1-12 | C | C | T | No | Yes | No | | | | 5 | | F | 2 |
| 646 | 19D-15-0000 | B1-06 | C | C | T | No | Yes | No | | | | 22 | | F | 4 |
| 656 | 19D-15-0000 | B1-06 | C | C | T | No | Yes | No | | | | 3 | | F | 3 |
| 657 | 19D-15-0000 | B1-06 | C | C | T | No | Yes | No | | | | 0.5 | | FF | 2 |
| 659 | 19D-15-0000 | B1-06 | C | C | T | No | Yes | No | | | | 7 | | F | 3 |
| 683 | 19D-15-0000 | B1-06 | C | X | O | No | Yes | No | 27.02 | 10.87 | 4.71 | 1 | B | F | 2 |
| 735 | 20C-19-0000 | B1-07 | C | C | T | No | Yes | No | 22.29 | 16.14 | 7.5 | 3 | R | F | 3 |
| 736 | 20C-19-0000 | B1-07 | C | X | T | No | Yes | No | | | | 5 | | F | 3 |
| 749 | 20C-19-0000 | B1-07 | C | D | O | No | Yes | No | | | | 3 | | FF | 1 |
| 766 | 20C-19-0000 | B1-07 | C | G | O | No | Yes | No | | | | 2 | | FF | 2 |
| 780 | 20C-19-0000 | B1-07 | C | C | T | No | Yes | No | | | | 4 | | F | 2 |
| 784 | 20C-19-0000 | B1-07 | C | C | O | No | Yes | No | | | | 5 | | F | 2 |
| 792 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | No | | | | 66 | | K | 4 |
| 794 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | No | | | | 40 | | F | 3 |
| 796 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | No | | | | 20 | | F | 4 |
| 797 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | No | | | | 13 | | FF | 3 |
| 798 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | No | | | | 6 | | F | 3 |
| 800 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | No | | | | 5 | | F | 3 |
| 849 | 15N-59-0000 | B1-04 | C | D | T | No | Yes | No | 44.85 | 32.97 | 11.29 | 16 | C | FF | 3 |
| 851 | 15N-59-0000 | B1-04 | C | W | O | No | Yes | No | | | | 10 | | F | 4 |
| 852 | 15N-59-0000 | B1-04 | C | W | O | No | Yes | No | | | | 10 | | F | 3 |
| 853 | 15N-59-0000 | B1-04 | C | Z | O | No | Yes | No | | | | 8 | | FF | 3 |
| 856 | 15N-59-0000 | B1-04 | C | C | T | No | Yes | No | | | | 137 | | C | 4 |
| 914 | 15N-42-0000 | B1-03-G | C | C | T | No | Yes | No | | | | 157 | | C | 4 |
| 915 | 15N-42-0000 | B1-03-G | C | C | T | No | Yes | No | | | | 19 | | K | 3 |
| 916 | 15N-42-0000 | B1-03-G | C | C | T | No | Yes | No | 28.79 | 26.64 | 9.99 | 6 | C | F | 3 |
| 920 | 15N-42-0000 | B1-03-G | C | X | O | No | Yes | No | | | | 7 | | F | 3 |
| 921 | 15N-42-0000 | B1-03-G | C | C | T | No | Yes | No | | | | 4 | | F | 2 |
| 935 | 15N-69-0000 | B1-04 | C | X | T | No | Yes | No | 40.89 | 17.01 | 6.86 | 5 | D | FF | 3 |
| 936 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | No | 35.21 | 35.23 | 13.26 | 16 | C | F | 3 |
| 942 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | No | 24.23 | 21.61 | 5.09 | 3 | C | F | 2 |
| 943 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | No | 46.03 | 23.51 | 9.92 | 10 | C | F | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1055 | 15N-44-0000 | B1-03-H | C | C | T | No | Yes | No | 36.42 | 34.05 | 17.19 | 27 | S | K | 3 |
| 1057 | 15N-44-0000 | B1-03-H | C | X | O | No | Yes | No | | | | 145 | | F | 4 |
| 1060 | 15N-44-0000 | B1-03-H | C | X | O | No | Yes | No | | | | 76 | | K | 4 |
| 1062 | 15N-44-0000 | B1-03-H | C | X | O | No | Yes | No | | | | 8 | | FF | 3 |
| 1065 | 15N-44-0000 | B1-03-H | C | X | T | No | Yes | No | | | | 31 | | FF | 4 |
| 1068 | 15N-44-0000 | B1-03-H | C | X | T | No | Yes | No | | | | 17 | | F | 3 |
| 1147 | 15N-25-0000 | B1-03-E | C | C | T | No | Yes | No | | | | 11 | | F | 3 |
| 1149 | 15N-25-0000 | B1-03-E | C | C | T | No | Yes | No | | | | 39 | | K | 4 |
| 1154 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | No | | | | 27 | | F | 4 |
| 1157 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | No | | | | 14 | | FF | 4 |
| 1172 | 15N-44-0000 | B1-03-H | C | C | T | No | Yes | No | | | | 11 | | F | 3 |
| 1181 | 15N-44-0000 | B1-03-H | C | C | T | No | Yes | No | | | | 2 | | F | 2 |
| 1185 | 15N-44-0000 | B1-03-H | C | C | T | No | Yes | No | | | | 22 | | K | 4 |
| 1316 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | No | | | | 4 | C | F | 2 |
| 1317 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | No | | | | 18 | | F | 3 |
| 1320 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | No | | | | 16 | | FF | 3 |
| 1325 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | No | | | | 22 | | FF | 3 |
| 1327 | 15N-42-0000 | B1-03-G | C | C | T | No | Yes | No | | | | 57 | | F | 4 |
| 1333 | 20C-19-0000 | B1-07 | C | C | T | No | Yes | No | | | | 2 | | FF | 1 |
| 1334 | 20C-19-0000 | B1-07 | C | X | O | No | Yes | No | | | | 4 | | F | 2 |
| 1374 | 20C-3-0000 | B1-05 | C | X | T | No | Yes | No | | | | 9 | C | F | 3 |
| 1426 | 20A-3 C1:2000 | B1-04 | C | D | O | No | Yes | No | | | | 2 | | FF | 1 |
| 1437 | 20A-8 C1:2000 | B1-04 | C | G | O | No | Yes | No | | | | 13 | | F | 2 |
| 1439 | 20A-8 C1:2000 | B1-04 | C | C | T | No | Yes | No | | | | 21 | | FF | 2 |
| 1454 | 20C-3-0000 | B1-05 | C | D | T | No | Yes | No | | | | 73 | | K | 4 |
| 1457 | 20C-3-0000 | B1-05 | C | D | O | No | Yes | No | | | | 24 | | F | 3 |
| 1458 | 20C-3-0000 | B1-05 | C | D | T | No | Yes | No | | | | 18 | C | F | 4 |
| 1465 | 20C-3-0000 | B1-05 | C | D | T | No | Yes | No | | | | 6 | C | F | 3 |
| 1469 | 20C-3-0000 | B1-05 | C | C | T | No | Yes | No | | | | 33 | S | F | 4 |
| 1470 | 20C-3-0000 | B1-05 | C | C | T | No | Yes | No | | | | 8 | | F | 3 |
| 1480 | 20C-3-0000 | B1-05 | C | C | T | No | Yes | No | | | | 11 | C | FB | 4 |
| 1481 | 20C-3-0000 | B1-05 | C | X | T | No | Yes | No | | | | 6 | S | F | 2 |
| 1485 | 20C-3-0000 | B1-05 | C | W | O | No | Yes | No | | | | 22 | | F | 4 |
| 1557 | 20B-1-0000 | B1-05 | C | C | T | No | Yes | No | | | | 92 | S | F | 4 |
| 1569 | 20B-1-0000 | B1-05 | C | C | T | No | Yes | No | | | | 23 | C | F | 3 |
| 1573 | 20B-1-0000 | B1-05 | C | D | O | No | Yes | No | | | | 11 | | F | 2 |
| 1657 | 19D-9-1424 | B1-02 | C | C | O | No | Yes | No | 91.59 | 64.93 | 32.08 | 234 | | F | 4 |
| 1680 | 20C-1-0000 | B1-05 | C | C | T | No | Yes | No | | | | 24 | | K | 3 |
| 1688 | 20C-1-0000 | B1-05 | C | D | O | No | Yes | No | | | | 3 | | FB | 2 |
| 1689 | 20C-1-0000 | B1-05 | C | C | T | No | Yes | No | 25.59 | 19.69 | 3.39 | 2 | C | FF | 2 |
| 1701 | 20C-5-0000 | B1-05 | C | W | O | No | Yes | No | | | | 25 | | F | 3 |
| 1703 | 20C-5-0000 | B1-05 | C | C | T | No | Yes | No | | | | 9 | | F | 2 |
| 1713 | 20C-5-0000 | B1-05 | C | C | C | No | Yes | No | | | | 4 | | F | 2 |
| 1727 | 20A-6-0000 | B1-04 | C | X | O | No | Yes | No | | | | 16 | | F | 4 |
| 1732 | 20A-6-0000 | B1-04 | C | C | T | No | Yes | No | | | | 3 | | FF | 2 |
| 1752 | 20A-6-0000 | B1-04 | C | C | T | No | Yes | No | | | | 0.5 | | FF | 2 |
| 1758 | 20A-6-0000 | B1-04 | C | Z | O | No | Yes | No | 22.8 | 19.28 | 5.67 | 0.5 | | F | 2 |
| 1759 | 20A-6-0000 | B1-04 | C | Z | O | No | Yes | No | 16 | 10.89 | 4.01 | 0.5 | C | F | 1 |
| 1764 | 20A-6-0000 | B1-04 | C | G | O | No | Yes | No | 31.07 | 24.16 | 6.07 | 0.5 | C | F | 2 |
| 1766 | 20A-6-0000 | B1-04 | C | X | O | No | Yes | No | | | | 0.5 | | FF | 1 |
| 1837 | 20D-9-0000 | B1-08 | C | C | T | No | Yes | No | | | | 0.5 | | FF | 2 |
| 1838 | 20D-9-0000 | B1-08 | C | C | T | No | Yes | No | | | | 2 | | F | 2 |
| 1839 | 20D-9-0000 | B1-08 | C | X | O | No | Yes | No | 19.39 | 15.55 | 11.01 | 3 | S | F | 2 |
| 1899 | 20D-8-0000 | B1-08 | C | C | T | No | Yes | No | | | | 7 | | F | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1900 | 20D-8-0000 | B1-08 | C | C | T | No | Yes | No | 29.94 | 23.11 | 4.64 | 4 | C | F | 2 |
| 1982 | 15N-69-0000 | B1-04 | C | G | O | No | Yes | No | 27.42 | 23.04 | 3.36 | 2 | | F | 2 |
| 2393 | 20F-1-1213 | B1-13 | C | C | T | No | Yes | No | | | | 0.5 | | FF | 2 |
| 2394 | 20F-1-1213 | B1-13 | C | C | T | No | Yes | No | 28.71 | 3.69 | 3.13 | 0.5 | D | FF | 2 |
| 2396 | 20F-1-1213 | B1-13 | C | C | T | No | Yes | No | 24.47 | 7.4 | 4.56 | 0.5 | D | FF | 2 |
| 2405 | 20D-23-1236 | B1-08 | C | Z | O | No | Yes | No | 27.28 | 5 | 5.68 | 0.5 | D | FF | 2 |
| 2435 | 20E-6-1232 | B1-10 | C | G | T | No | Yes | No | | | | 0.5 | | FF | 2 |
| 2635 | 20F-3-0000 | B1-13 | C | W | O | No | Yes | No | | | | 5 | | FF | 2 |
| 2638 | 20F-3-0000 | B1-13 | C | G | T | No | Yes | No | | | | 13 | | F | 3 |
| 2964 | 20A-15-0000 | B1-13 | C | C | T | No | Yes | No | | | | 13 | | F | 2 |
| 2965 | 20A-15-0000 | B1-13 | C | C | T | No | Yes | No | | | | 13 | | F | 3 |
| 2980 | 20A-15-0000 | B1-13 | C | C | T | No | Yes | No | | | | 1 | | FF | 2 |
| 3292 | 20F-3-0000 | B1-13 | C | C | T | No | Yes | No | | | | 6 | | F | 3 |
| 3317 | 15N-138-0000 | B1-05 | C | C | T | No | Yes | No | | | | 2 | | F | 2 |
| 3321 | 15N-138-0000 | B1-05 | C | C | T | No | Yes | No | | | | 13 | | FF | 2 |
| 3357 | 15N-138-0000 | B1-05 | C | C | T | No | Yes | No | | | | 13 | | F | 4 |
| 3359 | 15N-138-0000 | B1-05 | C | C | T | No | Yes | No | | | | 7 | | F | 4 |
| 3365 | 15N-138-0000 | B1-05 | C | C | T | No | Yes | No | | | | 11 | | FF | 3 |
| 3368 | 15N-138-0000 | B1-05 | C | C | T | No | Yes | No | | | | 3 | | FF | 2 |
| 3371 | 15N-122-0000 | B1-04 | C | X | T | No | Yes | No | | | | 7 | | FF | 2 |
| 3372 | 15N-122-0000 | B1-04 | C | C | T | No | Yes | No | | | | 0.5 | | FF | 3 |
| 3406 | 15N-143-0000 | B1-05 | C | C | T | No | Yes | No | | | | 17 | | F | 3 |
| 3410 | 15N-122-0000 | B1-04 | C | C | T | No | Yes | No | | | | 99 | | K | 4 |
| 3413 | 15N-122-0000 | B1-04 | C | C | T | No | Yes | No | | | | 5 | | FF | 2 |
| 3415 | 15N-122-0000 | B1-04 | C | C | T | No | Yes | No | | | | 2 | | FF | 3 |
| 3419 | 15N-122-0000 | B1-04 | C | X | T | No | Yes | No | 33.14 | 14.03 | 7.21 | 3 | C | FF | 3 |
| 3420 | 15N-122-0000 | B1-04 | C | C | T | No | Yes | No | | | | 2 | | FF | 3 |
| 3421 | 15N-122-0000 | B1-04 | C | C | T | No | Yes | No | | | | 2 | | FF | 2 |
| 3422 | 15N-122-0000 | B1-04 | C | C | T | No | Yes | No | | | | 0.5 | C | FF | 2 |
| 3436 | 15N-137-0000 | B1-05 | C | C | T | No | Yes | No | | | | 14 | | F | 3 |
| 3442 | 15N-137-0000 | B1-05 | C | C | T | No | Yes | No | 31.96 | 10.74 | 4.83 | 2 | C | F | 2 |
| 3453 | 15N-137-0000 | B1-05 | C | C | T | No | Yes | No | | | | 9 | | F | 3 |
| 3457 | 15N-124-0000 | B1-04 | C | C | O | No | Yes | No | | | | 15 | | FF | 4 |
| 34 | 19D-6-0000 | B1-02 | C | C | T | Yes | Yes | No | | | | 40 | | F | 4 |
| 379 | 20I-11-0000 | B1-12 | C | G | T | Yes | Yes | No | | | | 2 | | FF | 3 |
| 428 | 20I-11-0000 | B1-12 | C | R | T | Yes | Yes | No | | | | 3 | | F | 2 |
| 586 | 19D-20-0000 | B1-08 | C | R | T | Yes | Yes | No | | | | 9 | | F | 3 |
| 590 | 19D-20-0000 | B1-08 | C | G | T | Yes | Yes | No | | | | 0.5 | | FF | 2 |
| 707 | 20C-19-0000 | B1-07 | C | D | T | Yes | Yes | No | | | | 5 | | F | 2 |
| 718 | 20C-19-0000 | B1-07 | C | R | T | Yes | Yes | No | | | | 0.5 | | FF | 1 |
| 744 | 20C-19-0000 | B1-07 | C | C | T | Yes | Yes | No | | | | 0.5 | | FF | 1 |
| 818 | 15N-69-0000 | B1-04 | C | R | O | Yes | Yes | No | | | | 46 | | K | 4 |
| 824 | 15N-69-0000 | B1-04 | C | R | T | Yes | Yes | No | | | | 13 | | FF | 3 |
| 834 | 15N-69-0000 | B1-04 | C | R | O | Yes | Yes | No | | | | 5 | | FF | 2 |
| 835 | 15N-69-0000 | B1-04 | C | Z | O | Yes | Yes | No | | | | 11 | | FF | 3 |
| 868 | 15N-59-0000 | B1-04 | C | R | O | Yes | Yes | No | | | | 67 | | F | 4 |
| 875 | 15N-59-0000 | B1-04 | C | C | T | Yes | Yes | No | | | | 6 | | F | 2 |
| 876 | 15N-59-0000 | B1-04 | C | D | O | Yes | Yes | No | | | | 7 | | FF | 2 |
| 878 | 15N-59-0000 | B1-04 | C | G | O | Yes | Yes | No | | | | 4 | | FF | 2 |
| 928 | 15N-42-0000 | B1-03-G | C | R | O | Yes | Yes | No | | | | 5 | | FF | 2 |
| 1052 | 15N-44-0000 | B1-03-H | C | D | T | Yes | Yes | No | | | | 2 | | K | 2 |
| 1143 | 15N-25-0000 | B1-03-E | C | C | T | Yes | Yes | No | 42.79 | 32.55 | 11.44 | 13 | C | F | 3 |
| 1190 | 15N-44-0000 | B1-03-H | C | Z | O | Yes | Yes | No | | | | 20 | | F | 4 |
| 1198 | 15N-44-0000 | B1-03-H | C | C | T | Yes | Yes | No | | | | 101 | | K | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1200 | 15N-44-0000 | B1-03-H | C | R | T | Yes | Yes | No | | | | 9 | | FF | 3 |
| 1203 | 15N-44-0000 | B1-03-H | C | W | O | Yes | Yes | No | 28.75 | 16.8 | 7.52 | 4 | C | F | 2 |
| 1204 | 15N-44-0000 | B1-03-H | C | W | O | Yes | Yes | No | | | | 23 | | FF | 4 |
| 1208 | 15N-44-0000 | B1-03-H | C | X | O | Yes | Yes | No | | | | 13 | | FF | 3 |
| 1298 | 20C-19-0000 | B1-07 | C | R | O | Yes | Yes | No | | | | 0.5 | | FF | 1 |
| 1304 | 20C-19-0000 | B1-07 | C | C | T | Yes | Yes | No | | | | 0.5 | | FF | 1 |
| 1353 | 20C-19-0000 | B1-07 | C | R | O | Yes | Yes | No | | | | 3 | | FF | 2 |
| 1363 | 20C-19-0000 | B1-07 | C | R | O | Yes | Yes | No | | | | 0.5 | | FF | 1 |
| 1365 | 20C-19-0000 | B1-07 | C | R | O | Yes | Yes | No | | | | 0.5 | | FF | 1 |
| 1377 | 20C-3-0000 | B1-05 | C | C | T | Yes | Yes | No | | | | 6 | | F | 2 |
| 1381 | 20C-3-0000 | B1-05 | C | X | T | Yes | Yes | No | | | | 2 | | FF | 2 |
| 1436 | 20A-8 C1:2000 | B1-04 | C | R | T | Yes | Yes | No | | | | 14 | S | F | 2 |
| 1449 | 20A-8 C1:2000 | B1-04 | C | Z | O | Yes | Yes | No | | | | 3 | | F | 2 |
| 1459 | 20C-3-0000 | B1-05 | C | C | T | Yes | Yes | No | | | | 9 | | F | 3 |
| 1489 | 20C-3-0000 | B1-05 | C | R | T | Yes | Yes | No | | | | 15 | | F | 3 |
| 1570 | 20B-1-0000 | B1-05 | C | X | T | Yes | Yes | No | | | | 10 | | F | 2 |
| 1667 | 20C-1-0000 | B1-05 | C | D | O | Yes | Yes | No | | | | 9 | | FF | 4 |
| 1670 | 20C-1-0000 | B1-05 | C | D | O | Yes | Yes | No | | | | 2 | | F | 2 |
| 1671 | 20C-1-0000 | B1-05 | C | G | O | Yes | Yes | No | | | | 9 | | F | 3 |
| 1682 | 20C-1-0000 | B1-05 | C | D | O | Yes | Yes | No | | | | 32 | | FF | 3 |
| 1684 | 20C-1-0000 | B1-05 | C | C | O | Yes | Yes | No | | | | 8 | | F | 3 |
| 1695 | 20C-5-0000 | B1-05 | C | W | O | Yes | Yes | No | 34.27 | 28.11 | 12.2 | 11 | | FF | 2 |
| 1696 | 20C-5-0000 | B1-05 | C | W | O | Yes | Yes | No | | | | 1 | | FF | 2 |
| 1719 | 20C-5-0000 | B1-05 | C | R | T | Yes | Yes | No | | | | 3 | | FF | 2 |
| 1720 | 20C-5-0000 | B1-05 | C | R | T | Yes | Yes | No | | | | 2 | | FF | 2 |
| 1769 | 20A-6-0000 | B1-04 | C | C | T | Yes | Yes | No | 51.7 | 21.16 | 12.22 | 11 | C | F | 4 |
| 1771 | 20A-6-0000 | B1-04 | C | G | O | Yes | Yes | No | | | | 9 | | F | 4 |
| 1773 | 20A-6-0000 | B1-04 | C | R | T | Yes | Yes | No | 25.78 | 20.4 | 4.67 | 2 | C | F | 2 |
| 1776 | 20A-6-0000 | B1-04 | C | R | T | Yes | Yes | No | | | | 2 | | F | 2 |
| 1777 | 20A-6-0000 | B1-04 | C | W | T | Yes | Yes | No | | | | 6 | | FF | 2 |
| 1799 | 20D-9-0000 | B1-08 | C | R | T | Yes | Yes | No | | | | 11 | | F | 4 |
| 1805 | 20D-9-0000 | B1-08 | C | R | T | Yes | Yes | No | | | | 31 | | FF | 3 |
| 1806 | 20D-9-0000 | B1-08 | C | C | T | Yes | Yes | No | | | | 25 | | F | 3 |
| 1842 | 20D-9-0000 | B1-08 | C | W | O | Yes | Yes | No | | | | 2 | | FF | 2 |
| 1848 | 20D-9-0000 | B1-08 | C | W | O | Yes | Yes | No | | | | 3 | | F | 2 |
| 1855 | 20D-9-0000 | B1-08 | C | R | T | Yes | Yes | No | | | | 1 | | FF | 2 |
| 1861 | 20D-9-0000 | B1-08 | C | R | C | Yes | Yes | No | | | | 2 | | F | 2 |
| 1863 | 20D-9-0000 | B1-08 | C | R | T | Yes | Yes | No | | | | 2 | C | F | 1 |
| 1870 | 20D-9-0000 | B1-08 | C | R | T | Yes | Yes | No | | | | 1 | | FF | 1 |
| 1891 | 20D-8-0000 | B1-08 | C | W | O | Yes | Yes | No | | | | 3 | | F | 2 |
| 1907 | 20D-8-0000 | B1-08 | C | R | T | Yes | Yes | No | | | | 2 | | F | 1 |
| 1908 | 20D-8-0000 | B1-08 | C | D | T | Yes | Yes | No | | | | 2 | | FF | 2 |
| 1913 | 20D-8-0000 | B1-08 | C | R | O | Yes | Yes | No | | | | 1 | | FF | 1 |
| 1938 | 20D-8-0000 | B1-08 | C | R | T | Yes | Yes | No | | | | 2 | | F | 1 |
| 1939 | 20D-8-0000 | B1-08 | C | D | T | Yes | Yes | No | | | | 2 | | FF | 2 |
| 1944 | 20D-8-0000 | B1-08 | C | R | O | Yes | Yes | No | | | | 1 | | FF | 1 |
| 1995 | 15N-69-0000 | B1-04 | C | W | O | Yes | Yes | No | | | | 4 | | F | 3 |
| 2121 | 20A-13-0000 | B1-13 | C | R | T | Yes | Yes | No | | | | 2 | | FF | 2 |
| 2347 | 20A-13-0000 | B1-13 | C | R | T | Yes | Yes | No | | | | 1 | | FF | 1 |
| 2504 | 20F-3-0000 | B1-13 | C | R | T | Yes | Yes | No | | | | 2 | | FF | 2 |
| 2562 | 20A-15-0000 | B1-13 | C | R | T | Yes | Yes | No | | | | 3 | | FF | 3 |
| 2572 | 20A-15-0000 | B1-13 | C | R | O | Yes | Yes | No | | | | 0.5 | | FF | 2 |
| 2982 | 20A-15-0000 | B1-13 | C | C | T | Yes | Yes | No | | | | 1 | | FF | 2 |
| 3004 | 20A-15-0000 | B1-13 | C | R | T | Yes | Yes | No | 50.16 | 21.39 | 7.59 | 7 | C | FB | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3072 | 20B-11-0000 | B1-13 | C | R | O | Yes | Yes | No | | | | 6 | | F | 2 |
| 3085 | 20B-11-0000 | B1-13 | C | R | T | Yes | Yes | No | | | | 4 | | FF | 2 |
| 3090 | 20B-11-0000 | B1-13 | C | R | T | Yes | Yes | No | | | | 9 | | FF | 2 |
| 3291 | 20F-3-0000 | B1-13 | C | C | T | Yes | Yes | No | | | | 19 | | FF | 3 |
| 3330 | 15N-138-0000 | B1-05 | C | R | T | Yes | Yes | No | | | | 0.5 | | FF | 1 |
| 3346 | 15N-138-0000 | B1-05 | C | C | T | Yes | Yes | No | | | | 6 | | FF | 2 |
| 3351 | 15N-138-0000 | B1-05 | C | R | T | Yes | Yes | No | | | | 3 | | FF | 2 |
| 3408 | 15N-143-0000 | B1-05 | C | R | T | Yes | Yes | No | | | | 7 | | F | 3 |
| 3426 | 15N-122-0000 | B1-04 | C | R | O | Yes | Yes | No | | | | 12 | | F | 3 |
| 3431 | 15N-122-0000 | B1-04 | C | Z | O | Yes | Yes | No | | | | 26 | | FF | 4 |
| 2 | 19D-6-0000 | B1-02 | C | X | O | No | No | Yes | | | | 4 | | F | 2 |
| 16 | 19D-6-0000 | B1-02 | C | X | O | No | No | Yes | | | | 3 | | FF | 2 |
| 40 | 15N-22-0000 | B1-03-C | C | R | O | No | No | Yes | | | | 7 | | FF | 2 |
| 41 | 15N-22-0000 | B1-03-C | C | C | T | No | No | Yes | | | | 21 | | FF | 3 |
| 48 | 19D-9-0000 | B1-02 | C | D | T | No | No | Yes | 53.73 | 44.86 | 18.59 | 43 | S | F | 4 |
| 49 | 19D-9-0000 | B1-02 | C | X | T | No | No | Yes | | | | 27 | | F | 4 |
| 58 | 19D-9-0000 | B1-02 | C | X | O | No | No | Yes | | | | 248 | | C | 4 |
| 59 | 19D-9-0000 | B1-02 | C | X | T | No | No | Yes | 88.84 | 44.36 | 43.2 | 260 | BA | HS | 4 |
| 87 | 19D-9-0000 | B1-02 | C | C | O | No | No | Yes | | | | 60 | | F | 4 |
| 89 | 19D-9-0000 | B1-02 | C | C | T | No | No | Yes | | | | 5 | | F | 2 |
| 91 | 19D-9-0000 | B1-02 | C | C | T | No | No | Yes | | | | 20 | | F | 4 |
| 98 | 19D-9-0000 | B1-02 | C | C | T | No | No | Yes | | | | 6 | | FF | 3 |
| 99 | 19D-9-0000 | B1-02 | C | C | T | No | No | Yes | | | | 12 | | FF | 4 |
| 101 | 19D-9-0000 | B1-02 | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 104 | 19D-9-0000 | B1-02 | C | C | T | No | No | Yes | | | | 5 | | FF | 2 |
| 110 | 19D-9-0000 | B1-02 | C | C | T | No | No | Yes | | | | 6 | | FF | 2 |
| 114 | 19D-9-0000 | B1-02 | C | C | O | No | No | Yes | | | | 4 | | F | 2 |
| 116 | 19D-9-0000 | B1-02 | C | C | O | No | No | Yes | | | | 2 | | FF | 2 |
| 121 | 19D-9-0000 | B1-02 | C | D | T | No | No | Yes | 114.82 | 63.81 | 47.9 | 412 | BA | H | 4 |
| 140 | 19D-9-0000 | B1-02 | C | X | O | No | No | Yes | | | | 16 | | FF | 4 |
| 149 | 19D-9-0000 | B1-02 | C | C | O | No | No | Yes | | | | 1 | | FF | 2 |
| 151 | 19D-9-0000 | B1-02 | C | C | T | No | No | Yes | | | | 2 | | F | 2 |
| 158 | 19D-9-0000 | B1-02 | C | D | O | No | No | Yes | | | | 11 | | F | 2 |
| 161 | 19D-9-0000 | B1-02 | C | C | O | No | No | Yes | | | | 2 | | FF | 2 |
| 209 | 19D-18-0000 | B1-08 | C | D | T | No | No | Yes | | | | 1 | | FF | 2 |
| 214 | 19D-18-0000 | B1-08 | C | C | T | No | No | Yes | | | | 14 | | FB | 4 |
| 218 | 19D-18-0000 | B1-08 | C | D | T | No | No | Yes | | | | 5 | | F | 3 |
| 223 | 19D-18-0000 | B1-08 | C | C | T | No | No | Yes | 40.44 | 30.78 | 9.9 | 10 | C | F | 3 |
| 234 | 20I-10-0000 | B1-12 | C | C | O | No | No | Yes | | | | 4 | | FF | 2 |
| 237 | 20I-10-0000 | B1-12 | C | X | O | No | No | Yes | | | | 23 | | FF | 3 |
| 238 | 20I-10-0000 | B1-12 | C | D | O | No | No | Yes | | | | 19 | | K | 3 |
| 240 | 20I-10-0000 | B1-12 | C | C | T | No | No | Yes | | | | 3 | | FF | 2 |
| 241 | 20I-10-0000 | B1-12 | C | C | O | No | No | Yes | | | | 2 | | FF | 2 |
| 247 | 20I-9-0000 | B1-12 | C | C | O | No | No | Yes | | | | 38 | | C | 4 |
| 264 | 20I-9-0000 | B1-12 | C | C | T | No | No | Yes | | | | 7 | | F | 3 |
| 265 | 20I-9-0000 | B1-12 | C | C | T | No | No | Yes | | | | 5 | | F | 2 |
| 285 | 20I-7-0000 | B1-12 | C | C | T | No | No | Yes | | | | 29 | | FF | 4 |
| 287 | 20I-7-0000 | B1-12 | C | C | T | No | No | Yes | | | | 78 | S | F | 4 |
| 290 | 20I-7-0000 | B1-12 | C | C | T | No | No | Yes | | | | 5 | | FF | 2 |
| 292 | 20I-7-0000 | B1-12 | C | D | T | No | No | Yes | 80.06 | 55.53 | 19.53 | 51 | S | F | 4 |
| 294 | 20I-7-0000 | B1-12 | C | D | T | No | No | Yes | | | | 13 | | F | 3 |
| 305 | 20I-4-0000 | B1-12 | C | C | T | No | No | Yes | | | | 8 | | F | 3 |
| 311 | 20I-4-0000 | B1-12 | C | C | T | No | No | Yes | | | | 2 | | F | 2 |
| 319 | 20I-6-0000 | B1-12 | C | C | T | No | No | Yes | | | | 34 | | F | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 321 | 20I-6-0000 | B1-12 | C | W | O | No | No | Yes | | | | 17 | | F | 3 |
| 39 | 15N-22-0000 | B1-03-C | C | R | T | Yes | No | Yes | | | | 16 | | FF | 2 |
| 61 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | Yes | | | | 11 | | F | 2 |
| 63 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | Yes | | | | 10 | | F | 2 |
| 64 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | Yes | | | | 35 | | F | 4 |
| 65 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | Yes | | | | 9 | | FF | 3 |
| 66 | 19D-9-0000 | B1-02 | C | R | T | Yes | No | Yes | | | | 6 | | F | 2 |
| 69 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | Yes | | | | 13 | | FF | 3 |
| 70 | 19D-9-0000 | B1-02 | C | G | O | Yes | No | Yes | | | | 32 | | FF | 4 |
| 71 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | Yes | | | | 9 | | F | 2 |
| 76 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | Yes | | | | 38 | | FF | 4 |
| 77 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | Yes | | | | 9 | | F | 3 |
| 78 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 81 | 19D-9-0000 | B1-02 | C | Z | O | Yes | No | Yes | | | | 4 | | F | 2 |
| 84 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | Yes | | | | 3 | | FF | 2 |
| 111 | 19D-9-0000 | B1-02 | C | C | T | Yes | No | Yes | | | | 4 | | FF | 2 |
| 117 | 19D-9-0000 | B1-02 | C | C | O | Yes | No | Yes | | | | 0.5 | | FF | 1 |
| 122 | 19D-9-0000 | B1-02 | C | G | O | Yes | No | Yes | | | | 9 | | FF | 2 |
| 132 | 19D-9-0000 | B1-02 | C | C | T | Yes | No | Yes | | | | 3 | | FF | 2 |
| 135 | 19D-9-0000 | B1-02 | C | R | O | Yes | No | Yes | | | | 7 | | FF | 2 |
| 136 | 19D-9-0000 | B1-02 | C | G | O | Yes | No | Yes | | | | 3 | | FF | 2 |
| 137 | 19D-9-0000 | B1-02 | C | G | O | Yes | No | Yes | | | | 0.5 | | FF | 2 |
| 162 | 19D-9-0000 | B1-02 | C | G | O | Yes | No | Yes | | | | 0.5 | | FF | 2 |
| 172 | 19D-6-0000 | B1-02 | C | R | T | Yes | No | Yes | | | | 20 | | FF | 4 |
| 173 | 19D-6-0000 | B1-02 | C | R | T | Yes | No | Yes | | | | 18 | | F | 4 |
| 174 | 19D-6-0000 | B1-02 | C | R | O | Yes | No | Yes | | | | 19 | | K | 2 |
| 192 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 36 | | FF | 4 |
| 193 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 10 | | F | 3 |
| 195 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 8 | | F | 3 |
| 197 | 19D-18-0000 | B1-08 | C | R | O | Yes | No | Yes | | | | 45 | | F | 4 |
| 198 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 9 | | F | 3 |
| 204 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 3 | | FF | 2 |
| 206 | 19D-18-0000 | B1-08 | C | W | O | Yes | No | Yes | | | | 4 | | FF | 2 |
| 208 | 19D-18-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 2 | | FF | 2 |
| 248 | 20I-9-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 30 | | F | 4 |
| 252 | 20I-9-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 3 | | FF | 2 |
| 255 | 20I-9-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 7 | | F | 2 |
| 256 | 20I-9-0000 | B1-12 | C | C | O | Yes | No | Yes | | | | 0.5 | | F | 2 |
| 257 | 20I-9-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 4 | | FF | 2 |
| 295 | 20I-7-0000 | B1-12 | C | R | O | Yes | No | Yes | | | | 23 | | FF | 2 |
| 297 | 20I-4-0000 | B1-12 | C | C | T | Yes | No | Yes | | | | 13 | | F | 3 |
| 300 | 20I-4-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 7 | | F | 3 |
| 301 | 20I-4-0000 | B1-12 | C | C | O | Yes | No | Yes | | | | 27 | | F | 3 |
| 322 | 20I-6-0000 | B1-12 | C | W | O | No | No | Yes | | | | 5 | | F | 3 |
| 329 | 20I-6-0000 | B1-12 | C | X | O | No | No | Yes | | | | 13 | | F | 3 |
| 341 | 20I-6-0000 | B1-12 | C | C | T | No | No | Yes | | | | 13 | | FF | 4 |
| 344 | 20I-6-0000 | B1-12 | C | C | O | No | No | Yes | | | | 11 | | FF | 3 |
| 347 | 20I-6-0000 | B1-12 | C | C | O | No | No | Yes | 24.55 | 20.73 | 8.08 | 3 | C | F | 2 |
| 396 | 20I-11-0000 | B1-12 | C | D | T | No | No | Yes | | | | 21 | | F | 3 |
| 397 | 20I-11-0000 | B1-12 | C | D | T | No | No | Yes | | | | 7 | | F | 3 |
| 399 | 20I-11-0000 | B1-12 | C | C | O | No | No | Yes | | | | 59 | | F | 4 |
| 401 | 20I-11-0000 | B1-12 | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 402 | 20I-11-0000 | B1-12 | C | C | O | No | No | Yes | | | | 9 | | F | 3 |
| 403 | 20I-11-0000 | B1-12 | C | C | T | No | No | Yes | | | | 3 | | F | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 406 | 20I-11-0000 | B1-12 | C | C | T | No | No | Yes | | | | 1 | | FF | 2 |
| 408 | 20I-11-0000 | B1-12 | C | C | O | No | No | Yes | | | | 2 | | F | 1 |
| 410 | 20I-11-0000 | B1-12 | Q | Z | T | No | No | Yes | | | | 11 | | HF | 2 |
| 411 | 20I-11-0000 | B1-12 | Q | Z | T | No | No | Yes | | | | 3 | | HF | 2 |
| 413 | 20I-11-0000 | B1-12 | Z | R | O | No | No | Yes | | | | 9 | | F | 3 |
| 419 | 20I-11-0000 | B1-12 | C | W | O | No | No | Yes | | | | 3 | | FF | 2 |
| 436 | 20I-11-0000 | B1-12 | C | C | T | No | No | Yes | | | | 19 | | F | 3 |
| 454 | 20I-11-0000 | B1-12 | C | G | O | No | No | Yes | | | | 8 | | F | 3 |
| 456 | 20I-11-0000 | B1-12 | C | X | O | No | No | Yes | | | | 20 | | FF | 3 |
| 458 | 20I-11-0000 | B1-12 | C | X | O | No | No | Yes | | | | 14 | | FF | 3 |
| 459 | 20I-11-0000 | B1-12 | C | X | T | No | No | Yes | | | | 2 | | FF | 2 |
| 466 | 20I-11-0000 | B1-12 | C | Z | O | No | No | Yes | | | | 2 | | FF | 2 |
| 491 | 19D-21-0000 | B1-08 | C | D | T | No | No | Yes | 83.57 | 56.78 | 39.47 | 211 | B | C | 4 |
| 492 | 19D-21-0000 | B1-08 | C | W | O | No | No | Yes | | | | 250 | N | C | 4 |
| 493 | 19D-21-0000 | B1-08 | C | C | O | No | No | Yes | 44.28 | 16.49 | 53 | | | F | 4 |
| 494 | 19D-21-0000 | B1-08 | C | C | O | No | No | Yes | 88.2 | 56.3 | 31.77 | 135 | S | F | 4 |
| 502 | 19D-21-0000 | B1-08 | C | D | T | No | No | Yes | | | | 58 | | K | 4 |
| 509 | 19D-21-0000 | B1-08 | C | D | T | No | No | Yes | | | | 23 | | FF | 4 |
| 522 | 20I-11-0000 | B1-12 | C | X | O | No | No | Yes | | | | 28 | | F | 4 |
| 524 | 20I-11-0000 | B1-12 | C | C | T | No | No | Yes | | | | 10 | | F | 2 |
| 526 | 20I-11-0000 | B1-12 | C | C | T | No | No | Yes | | | | 4 | | FF | 2 |
| 561 | 19D-17-0000 | B1-06 | C | C | T | No | No | Yes | | | | 22 | | F | 3 |
| 571 | 19D-17-0000 | B1-06 | C | D | T | No | No | Yes | | | | 8 | | F | 2 |
| 572 | 19D-17-0000 | B1-06 | C | D | T | No | No | Yes | | | | 4 | | F | 2 |
| 577 | 19D-17-0000 | B1-06 | C | X | O | No | No | Yes | | | | 6 | | F | 2 |
| 578 | 19D-17-0000 | B1-06 | C | X | O | No | No | Yes | | | | 5 | | FF | 2 |
| 579 | 19D-17-0000 | B1-06 | C | W | O | No | No | Yes | | | | 4 | | FF | 2 |
| 585 | 19D-20-0000 | B1-08 | C | C | T | No | No | Yes | | | | 88 | | K | 4 |
| 589 | 19D-20-0000 | B1-08 | Z | X | T | No | No | Yes | | | | 2 | | F | 2 |
| 594 | 19D-20-0000 | B1-08 | C | C | T | No | No | Yes | | | | 11 | | FF | 2 |
| 595 | 19D-20-0000 | B1-08 | C | C | T | No | No | Yes | | | | 9 | | F | 2 |
| 601 | 20I-11-0000 | B1-12 | C | C | O | No | No | Yes | | | | 6 | | FF | 3 |
| 603 | 20I-11-0000 | B1-12 | C | C | O | No | No | Yes | | | | 5 | | F | 3 |
| 604 | 20I-11-0000 | B1-12 | C | C | T | No | No | Yes | | | | 25 | | F | 2 |
| 613 | 20I-11-0000 | B1-12 | Q | Z | T | No | No | Yes | | | | 5 | | HF | 2 |
| 618 | 20I-11-0000 | B1-12 | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 636 | 19D-15-0000 | B1-06 | C | T | O | No | No | Yes | | | | 3 | | FF | 2 |
| 643 | 19D-15-0000 | B1-06 | C | C | T | No | No | Yes | | | | 57 | | F | 4 |
| 644 | 19D-15-0000 | B1-06 | C | C | T | No | No | Yes | | | | 49 | | K | 3 |
| 650 | 19D-15-0000 | B1-06 | C | C | T | No | No | Yes | | | | 20 | | FF | 4 |
| 662 | 19D-15-0000 | B1-06 | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 720 | 20C-19-0000 | B1-07 | C | C | T | No | No | Yes | | | | 30 | | FF | 4 |
| 721 | 20C-19-0000 | B1-07 | C | X | O | No | No | Yes | | | | 106 | | K | 4 |
| 724 | 20C-19-0000 | B1-07 | C | X | O | No | No | Yes | | | | 73 | | F | 4 |
| 726 | 20C-19-0000 | B1-07 | C | D | T | No | No | Yes | | | | 20 | | K | 3 |
| 727 | 20C-19-0000 | B1-07 | C | D | T | No | No | Yes | | | | 32 | | F | 4 |
| 729 | 20C-19-0000 | B1-07 | C | X | O | No | No | Yes | | | | 6 | | FF | 3 |
| 734 | 20C-19-0000 | B1-07 | C | X | T | No | No | Yes | | | | 2 | | FF | 2 |
| 737 | 20C-19-0000 | B1-07 | C | D | T | No | No | Yes | | | | 13 | | F | 4 |
| 739 | 20C-19-0000 | B1-07 | C | C | T | No | No | Yes | 23.61 | 20.44 | 4.81 | 3 | C | F | 3 |
| 748 | 20C-19-0000 | B1-07 | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 750 | 20C-19-0000 | B1-07 | C | G | O | No | No | Yes | | | | 2 | | FF | 1 |
| 756 | 20C-19-0000 | B1-07 | Q | Z | O | No | No | Yes | | | | 17 | | F | 3 |
| 757 | 20C-19-0000 | B1-07 | Z | Z | O | No | No | Yes | | | | 0.5 | | HF | 1 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 785 | 20C-19-0000 | B1-07 | C | C | T | No | No | Yes | | | | 68 | | K | 2 |
| 802 | 15N-69-0000 | B1-04 | C | C | T | No | No | Yes | | | | 5 | | FF | 3 |
| 805 | 15N-69-0000 | B1-04 | C | D | T | No | No | Yes | | | | 12 | | F | 4 |
| 809 | 15N-69-0000 | B1-04 | C | W | O | No | No | Yes | | | | 24 | | FF | 4 |
| 811 | 15N-69-0000 | B1-04 | C | W | O | No | No | Yes | | | | 43 | | FF | 4 |
| 840 | 15N-59-0000 | B1-04 | C | T | O | No | No | Yes | | | | 39 | | FF | 4 |
| 843 | 15N-59-0000 | B1-04 | C | G | O | No | No | Yes | | | | 128 | | C | 4 |
| 848 | 15N-59-0000 | B1-04 | C | W | O | No | No | Yes | | | | 45 | | FF | 4 |
| 854 | 15N-59-0000 | B1-04 | C | T | O | No | No | Yes | | | | 6 | | FF | 3 |
| 859 | 15N-59-0000 | B1-04 | C | W | O | No | No | Yes | | | | 120 | | FF | 4 |
| 860 | 15N-59-0000 | B1-04 | C | W | O | No | No | Yes | | | | 225 | | FF | 4 |
| 924 | 15N-42-0000 | B1-03-G | C | T | O | No | No | Yes | 70.15 | 41.77 | 23.88 | 55 | | FF | 4 |
| 925 | 15N-42-0000 | B1-03-G | C | T | O | No | No | Yes | | | | 14 | | FF | 4 |
| 933 | 15N-69-0000 | B1-04 | C | C | T | No | No | Yes | | | | 12 | | FF | 2 |
| 944 | 15N-69-0000 | B1-04 | C | X | O | No | No | Yes | | | | 23 | | F | 4 |
| 948 | 15N-69-0000 | B1-04 | C | C | T | No | No | Yes | | | | 47 | | F | 4 |
| 949 | 15N-69-0000 | B1-04 | C | D | T | No | No | Yes | | | | 44 | | F | 4 |
| 1049 | 15N-44-0000 | B1-03-H | C | D | O | No | No | Yes | | | | 14 | | F | 3 |
| 1053 | 15N-44-0000 | B1-03-H | C | G | O | No | No | Yes | | | | 74 | | F | 4 |
| 1054 | 15N-44-0000 | B1-03-H | C | T | O | No | No | Yes | | | | 9 | | F | 3 |
| 1056 | 15N-44-0000 | B1-03-H | C | X | O | No | No | Yes | | | | 49 | | F | 4 |
| 1058 | 15N-44-0000 | B1-03-H | C | X | O | No | No | Yes | | | | 81 | | FF | 4 |
| 1059 | 15N-44-0000 | B1-03-H | C | X | O | No | No | Yes | 55.56 | 47.92 | 30.86 | 62 | C | F | 4 |
| 1146 | 15N-25-0000 | B1-03-E | C | C | T | No | No | Yes | | | | 22 | | F | 4 |
| 1150 | 15N-69-0000 | B1-04 | C | C | T | No | No | Yes | | | | 22 | | F | 4 |
| 1160 | 15N-42-0000 | B1-03-G | C | X | O | No | No | Yes | | | | 26 | | K | 4 |
| 1173 | 15N-44-0000 | B1-03-H | C | C | T | No | No | Yes | | | | 12 | | F | 3 |
| 1182 | 15N-44-0000 | B1-03-H | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 1183 | 15N-44-0000 | B1-03-H | C | C | T | No | No | Yes | | | | 3 | | FF | 3 |
| 1186 | 15N-44-0000 | B1-03-H | C | C | T | No | No | Yes | | | | 0.5 | | FF | 2 |
| 1197 | 15N-44-0000 | B1-03-H | C | C | O | No | No | Yes | | | | 48 | | F | 4 |
| 1210 | 15N-44-0000 | B1-03-H | C | X | O | No | No | Yes | | | | 18 | | HF | 3 |
| 1211 | 15N-44-0000 | B1-03-H | C | X | O | No | No | Yes | | | | 8 | | F | 2 |
| 1212 | 15N-44-0000 | B1-03-H | C | G | O | No | No | Yes | 34.88 | 25 | 12.97 | 8 | C | F | 3 |
| 1216 | 15N-44-0000 | B1-03-H | C | G | O | No | No | Yes | | | | 15 | | FF | 2 |
| 1217 | 15N-44-0000 | B1-03-H | Z | T | O | No | No | Yes | | | | 0.5 | | HF | 2 |
| 1218 | 15N-44-0000 | B1-03-H | Z | W | O | No | No | Yes | | | | 5 | | FF | 3 |
| 1312 | 15N-69-0000 | B1-04 | C | W | O | No | No | Yes | | | | 10 | | FF | 2 |
| 1314 | 15N-69-0000 | B1-04 | C | W | O | No | No | Yes | | | | 4 | | FF | 2 |
| 1315 | 15N-69-0000 | B1-04 | C | W | O | No | No | Yes | | | | 11 | | FF | 2 |
| 1328 | 15N-42-0000 | B1-03-G | C | X | O | No | No | Yes | | | | 25 | | F | 4 |
| 1340 | 20C-19-0000 | B1-07 | C | D | T | No | No | Yes | | | | 25 | | FF | 3 |
| 1341 | 20C-19-0000 | B1-07 | C | D | T | No | No | Yes | | | | 69 | | F | 4 |
| 1368 | 20C-3-0000 | B1-05 | C | D | T | No | No | Yes | | | | 11 | | F | 3 |
| 1379 | 20C-3-0000 | B1-05 | C | X | O | No | No | Yes | | | | 2 | | HF | 2 |
| 1384 | 20C-3-0000 | B1-05 | C | X | T | No | No | Yes | | | | 2 | | F | 2 |
| 1420 | 20A-3 C1:2000 | B1-04 | C | W | O | No | No | Yes | | | | 17 | | F | 4 |
| 1424 | 20A-3 C1:2000 | B1-04 | C | X | O | No | No | Yes | | | | 53 | | K | 4 |
| 1435 | 20A-8 C1:2000 | B1-04 | C | X | O | No | No | Yes | | | | 42 | S | F | 3 |
| 1442 | 20A-8 C1:2000 | B1-04 | C | C | T | No | No | Yes | | | | 4 | | F | 2 |
| 1443 | 20A-8 C1:2000 | B1-04 | C | C | T | No | No | Yes | | | | 3 | | F | 2 |
| 1446 | 20A-8 C1:2000 | B1-04 | C | C | T | No | No | Yes | | | | 2 | | F | 2 |
| 1451 | 20A-8 C1:2000 | B1-04 | C | W | O | No | No | Yes | | | | 7 | | F | 3 |
| 1474 | 20C-3-0000 | B1-05 | C | D | T | No | No | Yes | | | | 30 | | F | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1478 | 20C-3-0000 | B1-05 | C | X | T | No | No | Yes | | | | 34 | | F | 4 |
| 1479 | 20C-3-0000 | B1-05 | C | D | O | No | No | Yes | | | | 80 | | K | 4 |
| 1483 | 20C-3-0000 | B1-05 | C | D | T | No | No | Yes | | | | 5 | C | F | 3 |
| 1487 | 20C-3-0000 | B1-05 | C | D | T | No | No | Yes | | | | 9 | | F | 4 |
| 1555 | 20A-6-0000 | B1-04 | C | C | T | No | No | Yes | | | | 24 | | F | 3 |
| 1574 | 20B-1-0000 | B1-05 | L | Z | O | No | No | Yes | | | | 14 | C | F | 2 |
| 1575 | 20B-1-0000 | B1-05 | C | Z | O | No | No | Yes | | | | 16 | | FF | 2 |
| 1659 | 20C-1-0000 | B1-05 | C | C | T | No | No | Yes | | | | 57 | | K | 4 |
| 1663 | 20C-1-0000 | B1-05 | C | D | O | No | No | Yes | 35.53 | 31.49 | 15.98 | 16 | C | F | 2 |
| 1678 | 20C-1-0000 | B1-05 | C | X | O | No | No | Yes | | | | 20 | | F | 4 |
| 1679 | 20C-1-0000 | B1-05 | C | C | T | No | No | Yes | | | | 35 | | F | 3 |
| 1681 | 20C-1-0000 | B1-05 | C | D | O | No | No | Yes | | | | 34 | | K | 4 |
| 1685 | 20C-1-0000 | B1-05 | C | D | P | No | No | Yes | | | | 14 | | F | 3 |
| 1699 | 20C-5-0000 | B1-05 | C | C | O | No | No | Yes | | | | 21 | | F | 4 |
| 1700 | 20C-5-0000 | B1-05 | C | C | T | No | No | Yes | | | | 24 | | F | 3 |
| 1704 | 20C-5-0000 | B1-05 | C | X | O | No | No | Yes | | | | 18 | | F | 3 |
| 1705 | 20C-5-0000 | B1-05 | C | G | T | No | No | Yes | | | | 7 | | F | 3 |
| 1714 | 20C-5-0000 | B1-05 | C | C | T | No | No | Yes | 32.2 | 19.37 | 6.85 | 6 | S | F | 2 |
| 1721 | 20C-5-0000 | B1-05 | C | D | T | No | No | Yes | | | | 0.5 | | F | 2 |
| 1729 | 20A-6-0000 | B1-04 | Z | Z | O | No | No | Yes | | | | 12 | | F | 2 |
| 1743 | 20A-6-0000 | B1-04 | C | D | T | No | No | Yes | | | | 4 | | F | 2 |
| 1753 | 20A-6-0000 | B1-04 | C | C | T | No | No | Yes | | | | 0.5 | | FF | 2 |
| 1756 | 20A-6-0000 | B1-04 | C | Z | O | No | No | Yes | | | | 7 | | F | 3 |
| 1761 | 20A-6-0000 | B1-04 | C | X | T | No | No | Yes | 25.5 | 11.52 | 4.74 | 3 | | F | 2 |
| 1797 | 20D-9-0000 | B1-08 | C | C | T | No | No | Yes | 37.61 | 32.26 | 17.71 | 24 | C | F | 3 |
| 1803 | 20D-9-0000 | B1-08 | C | X | O | No | No | Yes | | | | 5 | | F | 2 |
| 1809 | 20D-9-0000 | B1-08 | C | C | T | No | No | Yes | | | | 7 | C | F | 2 |
| 1815 | 20D-9-0000 | B1-08 | C | C | T | No | No | Yes | | | | 5 | | F | 2 |
| 1826 | 20D-9-0000 | B1-08 | C | C | T | No | No | Yes | | | | 1 | | FF | 2 |
| 1828 | 20D-9-0000 | B1-08 | C | C | O | No | No | Yes | | | | 2 | | F | 2 |
| 1829 | 20D-9-0000 | B1-08 | C | C | T | No | No | Yes | | | | 1 | | F | 1 |
| 1831 | 20D-9-0000 | B1-08 | C | D | T | No | No | Yes | | | | 2 | | F | 2 |
| 1836 | 20D-9-0000 | B1-08 | C | C | T | No | No | Yes | | | | 1 | | FF | 1 |
| 1880 | 20D-9-0000 | B1-08 | C | D | T | No | No | Yes | | | | 34 | | C | 2 |
| 1885 | 20D-8-0000 | B1-08 | Z | Z | O | No | No | Yes | | | | 2 | | HF | 2 |
| 1886 | 20D-8-0000 | B1-08 | C | D | T | No | No | Yes | | | | 10 | | F | 2 |
| 1897 | 20D-8-0000 | B1-08 | C | C | T | No | No | Yes | | | | 25 | | F | 3 |
| 1925 | 20A-6-0000 | B1-04 | C | W | T | No | No | Yes | | | | 61 | | F | 4 |
| 1927 | 20A-6-0000 | B1-04 | C | D | T | No | No | Yes | | | | 98 | | F | 4 |
| 1928 | 20A-6-0000 | B1-04 | C | C | T | No | No | Yes | | | | 31 | | F | 4 |
| 1931 | 20A-6-0000 | B1-04 | C | C | T | No | No | Yes | 41.75 | 23.73 | 11.05 | 10 | C | F | 3 |
| 1956 | 20A-6-0000 | B1-04 | C | X | T | No | No | Yes | | | | 61 | | F | 4 |
| 1958 | 20A-6-0000 | B1-04 | C | D | T | No | No | Yes | | | | 98 | | F | 4 |
| 1959 | 20A-6-0000 | B1-04 | C | C | T | No | No | Yes | | | | 31 | | F | 4 |
| 1962 | 20A-6-0000 | B1-04 | C | C | T | No | No | Yes | 41.75 | 23.73 | 11.05 | 10 | C | F | 3 |
| 1963 | 15N-69-0000 | B1-04 | C | G | O | No | No | Yes | 70.33 | 68.08 | 59.41 | 312 | | HF | 4 |
| 1964 | 15N-69-0000 | B1-04 | C | D | T | No | No | Yes | | | | 79 | | F | 4 |
| 1973 | 15N-69-0000 | B1-04 | Z | W | O | No | No | Yes | | | | 73 | | F | 4 |
| 1974 | 15N-69-0000 | B1-04 | C | D | T | No | No | Yes | | | | 53 | | F | 4 |
| 1975 | 15N-69-0000 | B1-04 | C | D | T | No | No | Yes | | | | 11 | | F | 3 |
| 1976 | 15N-69-0000 | B1-04 | C | D | T | No | No | Yes | | | | 22 | | F | 3 |
| 1978 | 15N-69-0000 | B1-04 | C | X | T | No | No | Yes | | | | 92 | | F | 4 |
| 1986 | 15N-69-0000 | B1-04 | C | W | O | No | No | Yes | | | | 7 | | F | 2 |
| 2046 | 20A-13-0000 | B1-13 | C | X | T | No | No | Yes | | | | 2 | | FF | 1 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2091 | 20A-13-0000 | B1-13 | C | D | O | No | No | Yes | | | | 16 | | F | 2 |
| 2098 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 9 | | F | 2 |
| 2099 | 20A-13-0000 | B1-13 | C | X | T | No | No | Yes | | | | 8 | C | F | 2 |
| 2111 | 20A-13-0000 | B1-13 | C | G | O | No | No | Yes | | | | 54 | | F | 4 |
| 2122 | 20A-13-0000 | B1-13 | Z | Z | O | No | No | Yes | | | | 5 | | HF | 3 |
| 2123 | 20A-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 4 | | F | 2 |
| 2124 | 20A-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 36 | | F | 4 |
| 2125 | 20A-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 33 | | F | 4 |
| 2126 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 11 | | F | 4 |
| 2127 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 12 | | F | 3 |
| 2128 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 8 | | F | 3 |
| 2131 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 38 | | K | 4 |
| 2133 | 20J-20-0000 | B1-13 | C | P | O | No | No | Yes | | | | 146 | | C | 4 |
| 2134 | 20J-20-0000 | B1-13 | C | X | O | No | No | Yes | | | | 41 | | C | 4 |
| 2136 | 20J-20-0000 | B1-13 | C | X | O | No | No | Yes | | | | 15 | | F | 3 |
| 2137 | 20J-20-0000 | B1-13 | C | X | O | No | No | Yes | | | | 26 | | F | 4 |
| 2221 | 15N-118-656 | B1-04 | C | C | O | No | No | Yes | | | | 316 | | C | 4 |
| 2222 | 15N-118-656 | B1-04 | C | D | T | No | No | Yes | | | | 205 | | C | 4 |
| 2223 | 15N-118-656 | B1-04 | C | C | T | No | No | Yes | | | | 160 | | C | 4 |
| 2224 | 15N-118-656 | B1-04 | C | X | O | No | No | Yes | | | | 283 | | C | 4 |
| 2225 | 15N-118-656 | B1-04 | C | X | O | No | No | Yes | | | | 538 | | C | 4 |
| 2226 | 15N-118-656 | B1-04 | C | X | T | No | No | Yes | | | | 290 | | C | 4 |
| 2227 | 15N-118-656 | B1-04 | C | X | O | No | No | Yes | | | | 435 | | C | 4 |
| 2228 | 15N-118-656 | B1-04 | C | X | T | No | No | Yes | | | | 410 | | C | 4 |
| 2229 | 15N-118-656 | B1-04 | C | W | T | No | No | Yes | | | | 451 | | C | 4 |
| 2232 | 15N-118-656 | B1-04 | C | D | T | No | No | Yes | | | | 173 | | C | 4 |
| 2241 | 20C-28-1110 | B1-08 | C | C | T | No | No | Yes | | | | 0.5 | | FF | 2 |
| 2243 | 20E-1-1150 | B1-10 | Q | C | T | No | No | Yes | | | | 2 | | HF | 1 |
| 2284 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 5 | | FF | 1 |
| 2290 | 20A-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 4 | | FF | 1 |
| 2300 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 2 | | FF | 1 |
| 2302 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 1 | | FF | 1 |
| 2309 | 20A-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 65 | | C | 3 |
| 2310 | 20A-13-0000 | B1-13 | C | D | T | No | No | Yes | | | | 19 | | F | 2 |
| 2339 | 20A-13-0000 | B1-13 | C | G | O | No | No | Yes | | | | 39 | | F | 2 |
| 2343 | 20A-13-0000 | B1-13 | C | G | T | No | No | Yes | | | | 7 | | FF | 1 |
| 2352 | 20A-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 67 | | F | 2 |
| 2353 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 5 | | F | 2 |
| 2359 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 12 | | FF | 2 |
| 2362 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 2363 | 20A-13-0000 | B1-13 | C | X | O | No | No | Yes | | | | 9 | | FF | 3 |
| 2371 | 20A-13-0000 | B1-13 | C | D | T | No | No | Yes | | | | 12 | | F | 2 |
| 2373 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 5 | | FF | 2 |
| 2381 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 2 | | FF | 1 |
| 2383 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 2385 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 4 | | FF | 2 |
| 2387 | 20A-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 8 | | FF | 2 |
| 2417 | 20A-21-1046 | B1-08 | Q | C | T | No | No | Yes | | | | 4 | | FF | 2 |
| 2469 | 20j-20-0000 | B1-13 | C | C | T | No | No | Yes | | | | 34 | | F | 4 |
| 2475 | 20j-20-0000 | B1-13 | C | C | O | No | No | Yes | | | | 444 | | C | 4 |
| 2476 | 20j-20-0000 | B1-13 | C | C | O | No | No | Yes | | | | 3 | | F | 2 |
| 2481 | 20j-20-0000 | B1-13 | C | X | T | No | No | Yes | | | | 82 | | F | 4 |
| 2488 | 20A-18-0000 | B1-13 | C | C | O | No | No | Yes | | | | 54 | | F | 4 |
| 2499 | 20A-18-0000 | B1-13 | C | X | T | No | No | Yes | | | | 8 | | FF | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2513 | 20F-3-0000 | B1-13 | C | C | O | No | No | Yes | | | | 8 | | F | 2 |
| 2520 | 20F-3-0000 | B1-13 | C | D | T | No | No | Yes | | | | 3 | | FF | 3 |
| 2523 | 20F-3-0000 | B1-13 | C | D | T | No | No | Yes | | | | 18 | | F | 3 |
| 2529 | 20F-3-0000 | B1-13 | C | X | 0 | No | No | Yes | | | | 91 | | F | 4 |
| 2548 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | | | | 115 | | K | 4 |
| 2549 | 20A-15-0000 | B1-13 | C | D | T | No | No | Yes | | | | 27 | | F | 4 |
| 2550 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | | | | 34 | | F | 4 |
| 2555 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | | | | 7 | | F | 3 |
| 2581 | 20J-20-0000 | B1-13 | C | X | T | No | No | Yes | | | | 671 | | C | 4 |
| 2584 | 20A-15-0000 | B1-13 | C | X | O | No | No | Yes | | | | 40 | | F | 4 |
| 2586 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | | | | 43 | | FF | 4 |
| 2600 | 20J-20-0000 | B1-13 | C | X | O | No | No | Yes | | | | 32 | | F | 4 |
| 2606 | 20J-20-0000 | B1-13 | Z | Z | O | No | No | Yes | | | | 0.5 | | HF | 2 |
| 2612 | 20J-20-0000 | B1-13 | C | C | T | No | No | Yes | | | | 5 | | F | 2 |
| 2613 | 20J-20-0000 | B1-13 | C | C | T | No | No | Yes | | | | 19 | | F | 3 |
| 2618 | 20J-20-0000 | B1-13 | C | C | O | No | No | Yes | | | | 2 | | F | 2 |
| 2619 | 20J-20-0000 | B1-13 | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 2630 | 20F-3-0000 | B1-13 | Z | Z | O | No | No | Yes | | | | 22 | | HF | 3 |
| 2636 | 20F-3-0000 | B1-13 | C | G | T | No | No | Yes | | | | 8 | | F | 3 |
| 2649 | 19D-6-0000 | B1-02 | C | W | O | No | No | Yes | | | | 4 | | FF | 2 |
| 2651 | 19D-6-0000 | B1-02 | C | C | T | No | No | Yes | | | | 21 | | FF | 4 |
| 2654 | 19D-6-0000 | B1-02 | C | C | T | No | No | Yes | | | | 8 | | F | 2 |
| 2661 | 19D-6-0000 | B1-02 | C | C | T | No | No | Yes | | | | 4 | | FF | 2 |
| 2665 | 19D-6-0000 | B1-02 | C | C | T | No | No | Yes | | | | 5 | | F | 2 |
| 2667 | 19D-6-0000 | B1-02 | C | C | T | No | No | Yes | | | | 4 | | F | 2 |
| 2668 | 19D-6-0000 | B1-02 | C | C | T | No | No | Yes | | | | 3 | | FF | 2 |
| 2672 | 19D-6-0000 | B1-02 | C | G | T | No | No | Yes | | | | 34 | | F | 4 |
| 2679 | 19D-6-0000 | B1-02 | C | X | O | No | No | Yes | | | | 14 | | F | 3 |
| 2681 | 19D-6-0000 | B1-02 | C | X | O | No | No | Yes | | | | 16 | | F | 4 |
| 2682 | 19D-6-0000 | B1-02 | Q | Z | O | No | No | Yes | | | | 19 | | HF | 3 |
| 2689 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | | | | 52 | | F | 4 |
| 2690 | 20A-15-0000 | B1-13 | C | D | T | No | No | Yes | | | | 13 | | F | 3 |
| 2691 | 20A-15-0000 | B1-13 | C | D | T | No | No | Yes | | | | 4 | | F | 2 |
| 2699 | 20A-15-0000 | B1-13 | C | X | O | No | No | Yes | | | | 5 | | F | 3 |
| 2716 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | 27.25 | 22.69 | 6.54 | 3 | S | F | 2 |
| 2718 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | | | | 3 | | F | 2 |
| 2719 | 20B-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 2 | | F | 2 |
| 2720 | 20B-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 1 | | F | 2 |
| 2721 | 20B-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 1 | | FF | 2 |
| 2722 | 20B-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 1 | | F | 2 |
| 2744 | 20B-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 4 | | F | 2 |
| 2746 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 4 | | F | 3 |
| 2752 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 3 | | FF | 2 |
| 2757 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 8 | | F | 3 |
| 2761 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 7 | | FF | 4 |
| 2762 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 11 | | F | 2 |
| 2763 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | 31.67 | 20.44 | 8.48 | 6 | C | F | 2 |
| 2768 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 12 | | F | 2 |
| 2777 | 20B-13-0000 | B1-13 | C | W | O | No | No | Yes | | | | 45 | | F | 4 |
| 2778 | 20B-13-0000 | B1-13 | C | W | O | No | No | Yes | | | | 62 | | C | 3 |
| 2800 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | 53.47 | 45.95 | 31.98 | 72 | S | K | 4 |
| 2802 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 57 | | F | 4 |
| 2804 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 18 | S | F | 4 |
| 2805 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 14 | | F | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2806 | 20B-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 116 | | F | 4 |
| 2807 | 20B-13-0000 | B1-13 | C | C | T | No | No | Yes | | | | 21 | | F | 4 |
| 2811 | 20B-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 13 | | F | 3 |
| 2818 | 20B-10-0000 | B1-13 | C | D | T | No | No | Yes | | | | 5 | | FF | 2 |
| 2820 | 20B-10-0000 | B1-13 | C | C | T | No | No | Yes | | | | 6 | | F | 2 |
| 2833 | 20B-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 168 | | F | 4 |
| 2843 | 20B-13-0000 | B1-13 | C | D | T | No | No | Yes | | | | 5 | | F | 2 |
| 2848 | 20B-13-0000 | B1-13 | C | X | O | No | No | Yes | | | | 89 | | C | 4 |
| 2873 | 20B-10-0000 | B1-13 | C | C | O | No | No | Yes | | | | 8 | | F | 3 |
| 2874 | 20B-10-0000 | B1-13 | C | C | O | No | No | Yes | | | | 4 | | FF | 2 |
| 2878 | 20B-10-0000 | B1-13 | C | X | O | No | No | Yes | | | | 2 | | FF | 2 |
| 2882 | 20B-10-0000 | B1-13 | C | C | T | No | No | Yes | | | | 11 | | F | 3 |
| 2884 | 20B-10-0000 | B1-13 | C | C | O | No | No | Yes | | | | 8 | | F | 3 |
| 2891 | 20B-11-0000 | B1-13 | C | X | O | No | No | Yes | | | | 8 | | FF | 3 |
| 2894 | 20B-11-0000 | B1-13 | C | C | O | No | No | Yes | | | | 5 | | F | 2 |
| 2898 | 20B-11-0000 | B1-13 | C | X | O | No | No | Yes | | | | 6 | | F | 2 |
| 2899 | 20B-11-0000 | B1-13 | C | C | O | No | No | Yes | | | | 8 | | F | 2 |
| 2900 | 20B-11-0000 | B1-13 | C | C | T | No | No | Yes | | | | 7 | | F | 2 |
| 2902 | 20B-11-0000 | B1-13 | C | C | O | No | No | Yes | | | | 15 | | F | 3 |
| 2919 | 20B-11-0000 | B1-13 | C | C | T | No | No | Yes | | | | 6 | | F | 2 |
| 2931 | 20A-18-0000 | B1-13 | C | C | T | No | No | Yes | | | | 43 | | F | 4 |
| 2932 | 20A-18-0000 | B1-13 | C | C | T | No | No | Yes | 41.93 | 21.53 | 7.54 | 10 | S | F | 3 |
| 2933 | 20A-18-0000 | B1-13 | C | C | O | No | No | Yes | | | | 30 | | F | 4 |
| 2936 | 20A-18-0000 | B1-13 | C | C | T | No | No | Yes | | | | 8 | | F | 3 |
| 2941 | 20A-18-0000 | B1-13 | C | C | T | No | No | Yes | | | | 9 | | F | 3 |
| 2946 | 20A-18-0000 | B1-13 | C | C | T | No | No | Yes | | | | 5 | | F | 3 |
| 2950 | 20B-11-0000 | B1-13 | C | D | T | No | No | Yes | | | | 22 | | F | 4 |
| 2957 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | | | | 6 | | FB | 3 |
| 2959 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | | | | 6 | | F | 2 |
| 2972 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | | | | 2 | | F | 2 |
| 2974 | 20A-15-0000 | B1-13 | C | C | T | No | No | Yes | | | | 5 | | F | 3 |
| 2975 | 20A-15-0000 | B1-13 | C | D | T | No | No | Yes | | | | 4 | | F | 2 |
| 2983 | 20A-18-0000 | B1-13 | C | C | O | No | No | Yes | | | | 248 | | C | 4 |
| 2984 | 20A-18-0000 | B1-13 | C | C | T | No | No | Yes | | | | 224 | | C | 4 |
| 2985 | 20A-18-0000 | B1-13 | C | D | T | No | No | Yes | | | | 77 | | K | 3 |
| 2986 | 20A-18-0000 | B1-13 | C | D | T | No | No | Yes | | | | 15 | | F | 4 |
| 2987 | 20A-18-0000 | B1-13 | Z | W | O | No | No | Yes | | | | 10 | | HF | 2 |
| 2989 | 20A-18-0000 | B1-13 | C | X | O | No | No | Yes | | | | 19 | | F | 3 |
| 2993 | 20A-15-0000 | B1-13 | C | D | T | No | No | Yes | | | | 19 | | F | 4 |
| 2994 | 20A-15-0000 | B1-13 | C | D | T | No | No | Yes | | | | 8 | | F | 3 |
| 3030 | 20B-11-0000 | B1-13 | C | C | T | No | No | Yes | | | | 4 | | F | 2 |
| 3031 | 20B-11-0000 | B1-13 | C | C | T | No | No | Yes | | | | 2 | | F | 2 |
| 3034 | 20B-11-0000 | B1-13 | C | C | T | No | No | Yes | | | | 5 | | F | 2 |
| 3035 | 20B-11-0000 | B1-13 | C | C | T | No | No | Yes | | | | 5 | | F | 2 |
| 3038 | 20B-11-0000 | B1-13 | C | C | O | No | No | Yes | | | | 4 | | FF | 2 |
| 3040 | 20B-11-0000 | B1-13 | C | C | T | No | No | Yes | 22.72 | 18.85 | 7.4 | 4 | C | F | 2 |
| 3046 | 20B-11-0000 | B1-13 | C | C | T | No | No | Yes | | | | 4 | | FF | 2 |
| 3055 | 20B-11-0000 | B1-13 | C | C | O | No | No | Yes | | | | 3 | | F | 2 |
| 3058 | 20B-11-0000 | B1-13 | C | C | T | No | No | Yes | | | | 1 | | FF | 2 |
| 3080 | 20B-11-0000 | B1-13 | C | C | T | No | No | Yes | | | | 5 | | FF | 2 |
| 3100 | 20B-11-0000 | B1-13 | C | D | T | No | No | Yes | | | | 7 | | FF | 2 |
| 3120 | 20J-20-0000 | B1-13 | C | C | T | No | No | Yes | | | | 101 | | F | 4 |
| 3121 | 20J-20-0000 | B1-13 | C | C | T | No | No | Yes | | | | 17 | | F | 4 |
| 3124 | 20J-20-0000 | B1-13 | C | C | T | No | No | Yes | | | | 4 | C | F | 1 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3132 | 20J-20-0000 | B1-13 | C | C | O | No | No | Yes | | | | 0.5 | | FF | 1 |
| 3229 | 20A-13-901 | B1-13 | C | C | T | No | No | Yes | | | | 3 | | FF | 2 |
| 3284 | 20F-3-0000 | B1-13 | C | C | O | No | No | Yes | | | | 6 | | FF | 2 |
| 3298 | 20F-3-0000 | B1-13 | C | C | T | No | No | Yes | | | | 3 | | FF | 2 |
| 3304 | 20F-3-0000 | B1-13 | C | C | O | No | No | Yes | | | | 6 | | F | 3 |
| 3306 | 20F-3-0000 | B1-13 | C | C | O | No | No | Yes | | | | 8 | | FF | 3 |
| 3311 | 20A-13-0000 | B1-13 | C | C | O | No | No | Yes | | | | 2 | | FF | 2 |
| 3320 | 15N-138-0000 | B1-05 | C | C | O | No | No | Yes | | | | 6 | | FF | 2 |
| 3358 | 15N-138-0000 | B1-05 | C | C | O | No | No | Yes | | | | 31 | | F | 4 |
| 3363 | 15N-138-0000 | B1-05 | C | C | T | No | No | Yes | | | | 24 | | FF | 3 |
| 3367 | 15N-138-0000 | B1-05 | C | C | T | No | No | Yes | 42.09 | 30.23 | 21.69 | 22 | C | FF | 3 |
| 3369 | 15N-122-0000 | B1-04 | C | X | O | No | No | Yes | | | | 64 | | FF | 3 |
| 3370 | 15N-122-0000 | B1-04 | C | X | T | No | No | Yes | | | | 7 | | F | 3 |
| 3376 | 15N-141-0000 | B1-05 | C | C | O | No | No | Yes | | | | 6 | | K | 3 |
| 3379 | 15N-141-0000 | B1-05 | C | C | T | No | No | Yes | | | | 0.5 | | FF | 2 |
| 3380 | 15N-141-0000 | B1-05 | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 3383 | 15N-141-0000 | B1-05 | C | C | O | No | No | Yes | | | | 2 | | FF | 3 |
| 3392 | 15N-141-0000 | B1-05 | C | C | O | No | No | Yes | | | | 26 | | F | 3 |
| 3393 | 15N-141-0000 | B1-05 | C | D | T | No | No | Yes | | | | 220 | | F | 4 |
| 3395 | 15N-126-0000 | B1-05 | C | C | T | No | No | Yes | | | | 34 | | K | 4 |
| 3396 | 15N-126-0000 | B1-05 | C | C | T | No | No | Yes | | | | 83 | | FF | 3 |
| 3397 | 15N-126-0000 | B1-05 | C | C | O | No | No | Yes | | | | 4 | | FF | 2 |
| 3404 | 15N-143-0000 | B1-05 | C | C | O | No | No | Yes | | | | 1014 | B | HS | 4 |
| 3411 | 15N-122-0000 | B1-04 | C | C | T | No | No | Yes | | | | 27 | | F | 4 |
| 3432 | 15N-137-0000 | B1-05 | C | X | T | No | No | Yes | | | | 54 | | F | 4 |
| 3440 | 15N-137-0000 | B1-05 | C | C | T | No | No | Yes | | | | 2 | | FF | 2 |
| 3454 | 15N-124-0000 | B1-04 | C | X | O | No | No | Yes | | | | 41 | | FF | 4 |
| 3456 | 15N-124-0000 | B1-04 | C | C | O | No | No | Yes | | | | 4 | | FF | 3 |
| 3460 | 15N-145-0000 | B1-05 | C | C | T | No | No | Yes | | | | 145 | | C | 4 |
| 3461 | 15N-145-0000 | B1-05 | Z | X | T | No | No | Yes | | | | 25 | | HF | 3 |
| 3462 | 15N-145-0000 | B1-05 | C | X | T | No | No | Yes | | | | 84 | | F | 4 |
| 3469 | 15N-122-0000 | B1-04 | C | C | T | No | No | Yes | | | | 41 | | FF | 4 |
| 3470 | 15N-122-0000 | B1-04 | C | C | T | No | No | Yes | | | | 12 | | FF | 2 |
| 3473 | 15N-122-0000 | B1-04 | C | C | O | No | No | Yes | | | | 23 | | F | 4 |
| 348 | 20I-6-0000 | B1-12 | C | C | T | Yes | No | Yes | | | | 15 | | F | 3 |
| 356 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 12 | | F | 3 |
| 357 | 20I-6-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 7 | | FF | 3 |
| 358 | 20I-6-0000 | B1-12 | C | G | O | Yes | No | Yes | 51 | 29.65 | 11.63 | 19 | C | FF | 4 |
| 359 | 20I-6-0000 | B1-12 | C | G | O | Yes | No | Yes | | | | 6 | | FF | 3 |
| 364 | 20I-6-0000 | B1-12 | C | R | O | Yes | No | Yes | | | | 9 | | FF | 3 |
| 382 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | Yes | 61.32 | 20.53 | 14.69 | 17 | C | FB | 4 |
| 386 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 9 | | FF | 2 |
| 392 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 423 | 20I-11-0000 | B1-12 | C | X | O | Yes | No | Yes | | | | 3 | | F | 2 |
| 425 | 20I-11-0000 | B1-12 | C | D | O | Yes | No | Yes | | | | 21 | | F | 4 |
| 426 | 20I-11-0000 | B1-12 | C | X | O | Yes | No | Yes | | | | 23 | | FF | 4 |
| 427 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 19 | | K | 3 |
| 429 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 4 | | F | 2 |
| 430 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 9 | | F | 2 |
| 431 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 4 | | FF | 2 |
| 473 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | Yes | | | | 8 | | FF | 2 |
| 474 | 20I-11-0000 | B1-12 | C | G | O | Yes | No | Yes | | | | 7 | | FF | 2 |
| 480 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | Yes | | | | 3 | | FF | 2 |
| 481 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 2 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 487 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | Yes | | | | 0.5 | | FF | 1 |
| 488 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | Yes | | | | 0.5 | | FF | 1 |
| 512 | 19D-21-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 12 | | K | 2 |
| 518 | 19D-21-0000 | B1-08 | C | R | O | Yes | No | Yes | | | | 4 | | FF | 3 |
| 520 | 19D-21-0000 | B1-08 | C | N | O | Yes | No | Yes | 21.63 | 15.17 | 10.08 | 2 | | FF | 2 |
| 521 | 19D-21-0000 | B1-08 | C | R | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 543 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 2 | | F | 3 |
| 544 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 18 | | F | 2 |
| 545 | 20I-11-0000 | B1-12 | C | R | T | Yes | No | Yes | | | | 4 | | F | 2 |
| 553 | 20I-11-0000 | B1-12 | C | R | O | Yes | No | Yes | | | | 0.5 | | FF | 2 |
| 554 | 20I-11-0000 | B1-12 | C | B | O | Yes | No | Yes | | | | 2 | | FF | 1 |
| 639 | 19D-15-0000 | B1-06 | C | Z | O | Yes | No | Yes | | | | 3 | | FF | 2 |
| 645 | 19D-15-0000 | B1-06 | C | C | T | Yes | No | Yes | | | | 62 | | F | 4 |
| 663 | 19D-15-0000 | B1-06 | C | W | O | Yes | No | Yes | | | | 56 | | K | 4 |
| 664 | 19D-15-0000 | B1-06 | C | R | T | Yes | No | Yes | | | | 37 | | FF | 3 |
| 667 | 19D-15-0000 | B1-06 | C | R | T | Yes | No | Yes | | | | 3 | | F | 3 |
| 675 | 19D-15-0000 | B1-06 | C | R | T | Yes | No | Yes | | | | 18 | | K | 2 |
| 677 | 19D-15-0000 | B1-06 | C | R | O | Yes | No | Yes | | | | 3 | | F | 2 |
| 681 | 19D-15-0000 | B1-06 | C | R | T | Yes | No | Yes | | | | 2 | | FF | 2 |
| 684 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | Yes | | | | 11 | | FF | 2 |
| 687 | 20C-19-0000 | B1-07 | C | C | T | Yes | No | Yes | | | | 40 | | F | 4 |
| 688 | 20C-19-0000 | B1-07 | C | G | T | Yes | No | Yes | | | | 40 | | F | 3 |
| 689 | 20C-19-0000 | B1-07 | C | C | T | Yes | No | Yes | | | | 24 | | F | 3 |
| 690 | 20C-19-0000 | B1-07 | C | C | T | Yes | No | Yes | | | | 72 | | F | 3 |
| 691 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | | | | 12 | | F | 3 |
| 694 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | Yes | | | | 6 | | FF | 3 |
| 697 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | | | | 5 | | F | 3 |
| 700 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | 32.31 | 26.07 | 7.62 | 8 | C | F | 2 |
| 701 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | Yes | | | | 6 | | FF | 2 |
| 711 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | | | | 8 | | F | 2 |
| 712 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | | | | 2 | | FF | 2 |
| 713 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | | | | 2 | | F | 2 |
| 715 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | | | | 0.5 | | FF | 1 |
| 716 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | Yes | | | | 2 | | F | 2 |
| 751 | 20C-19-0000 | B1-07 | C | D | O | Yes | No | Yes | | | | 0.5 | | F | 4 |
| 753 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | | | | 14 | | FF | 3 |
| 754 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | | | | 15 | | K | 4 |
| 755 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | | | | 96 | | F | 3 |
| 765 | 20C-19-0000 | B1-07 | C | X | O | Yes | No | Yes | | | | 23 | | K | 4 |
| 779 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 813 | 15N-69-0000 | B1-04 | C | X | T | Yes | No | Yes | | | | 32 | | F | 4 |
| 815 | 15N-69-0000 | B1-04 | C | W | O | Yes | No | Yes | 69.02 | 45.08 | 26.26 | 85 | S | K | 4 |
| 816 | 15N-69-0000 | B1-04 | C | G | O | Yes | No | Yes | | | | 41 | | F | 4 |
| 817 | 15N-69-0000 | B1-04 | C | W | O | Yes | No | Yes | | | | 62 | | F | 4 |
| 819 | 15N-69-0000 | B1-04 | C | G | O | Yes | No | Yes | | | | 18 | | F | 4 |
| 828 | 15N-69-0000 | B1-04 | C | G | O | Yes | No | Yes | | | | 6 | | F | 2 |
| 831 | 15N-69-0000 | B1-04 | C | G | O | Yes | No | Yes | | | | 2 | | F | 2 |
| 837 | 15N-69-0000 | B1-04 | C | T | O | Yes | No | Yes | | | | 27 | | FF | 4 |
| 866 | 15N-59-0000 | B1-04 | C | W | O | Yes | No | Yes | | | | 179 | | K | 4 |
| 867 | 15N-59-0000 | B1-04 | C | G | O | Yes | No | Yes | | | | 92 | | K | 4 |
| 869 | 15N-59-0000 | B1-04 | C | R | T | Yes | No | Yes | | | | 83 | | F | 4 |
| 870 | 15N-59-0000 | B1-04 | C | G | O | Yes | No | Yes | | | | 32 | | FF | 3 |
| 877 | 15N-59-0000 | B1-04 | C | Z | O | Yes | No | Yes | | | | 10 | | FF | 3 |
| 879 | 15N-59-0000 | B1-04 | C | X | O | Yes | No | Yes | | | | 22 | | FF | 4 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 880 | 15N-59-0000 | B1-04 | C | G | O | Yes | No | Yes | | | | 8 | | FF | 3 |
| 881 | 15N-59-0000 | B1-04 | C | Z | O | Yes | No | Yes | | | | 15 | | FF | 3 |
| 882 | 15N-59-0000 | B1-04 | C | G | O | Yes | No | Yes | | | | 7 | | FF | 3 |
| 883 | 15N-59-0000 | B1-04 | C | Z | O | Yes | No | Yes | 56.42 | 43.62 | 16.82 | 36 | S | FF | 4 |
| 917 | 15N-42-0000 | B1-03-G | C | D | T | Yes | No | Yes | | | | 11 | | FF | 3 |
| 926 | 15N-42-0000 | B1-03-G | C | Z | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 931 | 15N-42-0000 | B1-03-G | C | Z | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 945 | 15N-69-0000 | B1-04 | C | W | O | Yes | No | Yes | | | | 10 | | F | 3 |
| 947 | 15N-69-0000 | B1-04 | C | Z | O | Yes | No | Yes | | | | 15 | | F | 3 |
| 950 | 15N-69-0000 | B1-04 | C | W | O | Yes | No | Yes | | | | 22 | | F | 4 |
| 1164 | 15N-42-0000 | B1-03-G | C | R | O | Yes | No | Yes | | | | 5 | | FF | 3 |
| 1166 | 15N-42-0000 | B1-03-G | C | C | O | Yes | No | Yes | | | | 8 | | F | 3 |
| 1189 | 15N-44-0000 | B1-03-H | C | R | T | Yes | No | Yes | | | | 23 | | FF | 4 |
| 1192 | 15N-44-0000 | B1-03-H | C | X | O | Yes | No | Yes | | | | 17 | | FF | 4 |
| 1194 | 15N-44-0000 | B1-03-H | C | R | O | Yes | No | Yes | | | | 12 | | F | 3 |
| 1206 | 15N-44-0000 | B1-03-H | C | C | T | Yes | No | Yes | | | | 0.5 | | FF | 2 |
| 1207 | 15N-44-0000 | B1-03-H | C | R | O | Yes | No | Yes | | | | 8 | | FF | 3 |
| 1303 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 1305 | 15N-69-0000 | B1-04 | C | R | T | Yes | No | Yes | | | | 44 | | F | 4 |
| 1309 | 15N-69-0000 | B1-04 | C | X | O | Yes | No | Yes | | | | 23 | | F | 3 |
| 1323 | 15N-69-0000 | B1-04 | C | W | O | Yes | No | Yes | | | | 4 | | FF | 2 |
| 1324 | 15N-69-0000 | B1-04 | C | X | O | Yes | No | Yes | | | | 13 | | F | 3 |
| 1346 | 20C-19-0000 | B1-07 | C | Z | O | Yes | No | Yes | | | | 43 | | FF | 3 |
| 1347 | 20C-19-0000 | B1-07 | C | C | O | Yes | No | Yes | | | | 32 | | F | 4 |
| 1348 | 20C-19-0000 | B1-07 | C | D | T | Yes | No | Yes | | | | 68 | | K | 4 |
| 1349 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | Yes | | | | 7 | | F | 3 |
| 1351 | 20C-19-0000 | B1-07 | C | X | O | Yes | No | Yes | | | | 4 | | F | 2 |
| 1355 | 20C-19-0000 | B1-07 | C | G | O | Yes | No | Yes | | | | 3 | | F | 2 |
| 1356 | 20C-19-0000 | B1-07 | C | R | T | Yes | No | Yes | | | | 3 | | F | 2 |
| 1357 | 20C-19-0000 | B1-07 | C | R | O | Yes | No | Yes | | | | 7 | | FF | 3 |
| 1369 | 20C-3-0000 | B1-05 | C | W | O | Yes | No | Yes | | | | 5 | | F | 2 |
| 1419 | 20A-3 C1:2000 | B1-04 | C | R | T | Yes | No | Yes | | | | 8 | | F | 4 |
| 1421 | 20A-3 C1:2000 | B1-04 | C | R | T | Yes | No | Yes | | | | 3 | | FF | 2 |
| 1423 | 20A-3 C1:2000 | B1-04 | C | R | O | Yes | No | Yes | | | | 13 | | F | 2 |
| 1445 | 20A-8 C1:2000 | B1-04 | C | R | T | Yes | No | Yes | | | | 5 | | F | 2 |
| 1467 | 20C-3-0000 | B1-05 | C | G | O | Yes | No | Yes | | | | 11 | C | F | 2 |
| 1468 | 20C-3-0000 | B1-05 | C | G | O | Yes | No | Yes | | | | 10 | C | F | 3 |
| 1660 | 20C-1-0000 | B1-05 | C | C | T | Yes | No | Yes | | | | 22 | | FF | 2 |
| 1662 | 20C-1-0000 | B1-05 | C | D | T | Yes | No | Yes | | | | 9 | | F | 2 |
| 1668 | 20C-1-0000 | B1-05 | C | C | T | Yes | No | Yes | | | | 4 | | FF | 3 |
| 1673 | 20C-1-0000 | B1-05 | C | R | T | Yes | No | Yes | 47.42 | 45.11 | 22.13 | 50 | S | F | 3 |
| 1676 | 20C-1-0000 | B1-05 | C | C | T | Yes | No | Yes | | | | 37 | | F | 3 |
| 1702 | 20C-5-0000 | B1-05 | C | X | T | Yes | No | Yes | | | | 79 | | F | 4 |
| 1717 | 20C-5-0000 | B1-05 | C | X | O | Yes | No | Yes | | | | 2 | | F | 2 |
| 1718 | 20C-5-0000 | B1-05 | C | C | T | Yes | No | Yes | | | | 0.5 | | FF | 2 |
| 1775 | 20A-6-0000 | B1-04 | C | R | O | Yes | No | Yes | | | | 6 | | F | 2 |
| 1780 | 20A-6-0000 | B1-04 | C | R | O | Yes | No | Yes | | | | 0.5 | | FF | 1 |
| 1788 | 20A-6-0000 | B1-04 | C | R | O | Yes | No | Yes | 22.65 | 12.29 | 5.68 | 0.5 | | FF | 2 |
| 1798 | 20D-9-0000 | B1-08 | C | C | T | Yes | No | Yes | | | | 43 | | K | 4 |
| 1800 | 20D-9-0000 | B1-08 | C | R | O | Yes | No | Yes | | | | 9 | | F | 2 |
| 1807 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 14 | | F | 2 |
| 1816 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 2 | | F | 3 |
| 1817 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | Yes | 41.14 | 31.27 | 8.12 | 33 | C | F | 3 |
| 1818 | 20D-9-0000 | B1-08 | C | R | O | Yes | No | Yes | | | | 14 | | F | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1850 | 20D-9-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 0.5 | | FF | 2 |
| 1875 | 20D-9-0000 | B1-08 | C | C | T | Yes | No | Yes | | | | 1 | | FF | 1 |
| 1881 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 18 | | F | 3 |
| 1892 | 20D-8-0000 | B1-08 | C | Z | O | Yes | No | Yes | | | | 1 | | FF | 2 |
| 1902 | 20D-8-0000 | B1-08 | C | C | O | Yes | No | Yes | | | | 49 | | FF | 3 |
| 1903 | 20D-8-0000 | B1-08 | C | X | O | Yes | No | Yes | | | | 54 | | K | 4 |
| 1906 | 20D-8-0000 | B1-08 | C | W | O | Yes | No | Yes | | | | 1 | | FF | 2 |
| 1916 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | Yes | | | | 2 | | FF | 3 |
| 1918 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | Yes | | | | 1 | | FF | 1 |
| 1921 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 1 | | FF | 2 |
| 1922 | 20D-8-0000 | B1-08 | C | G | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 1930 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | Yes | | | | 10 | | F | 3 |
| 1933 | 20D-8-0000 | B1-08 | C | C | O | Yes | No | Yes | | | | 49 | | K | 3 |
| 1934 | 20D-8-0000 | B1-08 | C | X | O | Yes | No | Yes | | | | 54 | | K | 4 |
| 1937 | 20D-8-0000 | B1-08 | C | W | O | Yes | No | Yes | | | | 1 | | FF | 2 |
| 1947 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | Yes | | | | 2 | | FF | 3 |
| 1949 | 20D-8-0000 | B1-08 | C | R | O | Yes | No | Yes | | | | 1 | | FF | 1 |
| 1952 | 20D-8-0000 | B1-08 | C | R | T | Yes | No | Yes | | | | 1 | | FF | 2 |
| 1961 | 20A-6-0000 | B1-04 | C | R | T | Yes | No | Yes | | | | 10 | | F | 3 |
| 1972 | 15N-69-0000 | B1-04 | C | Z | O | Yes | No | Yes | | | | 9 | | FF | 4 |
| 1991 | 15N-69-0000 | B1-04 | C | W | O | Yes | No | Yes | | | | 34 | | F | 4 |
| 1996 | 15N-69-0000 | B1-04 | C | C | O | Yes | No | Yes | | | | 17 | | F | 3 |
| 2049 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 20 | | FF | 2 |
| 2059 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 6 | | FF | 2 |
| 2061 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 5 | | FF | 1 |
| 2075 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 0.5 | | FF | 1 |
| 2087 | 20A-13-0000 | B1-13 | C | C | T | Yes | No | Yes | | | | 2 | | FF | 1 |
| 2114 | 20A-13-0000 | B1-13 | C | C | O | Yes | No | Yes | | | | 10 | | F | 3 |
| 2115 | 20A-13-0000 | B1-13 | C | X | T | Yes | No | Yes | | | | 13 | | F | 4 |
| 2116 | 20A-13-0000 | B1-13 | C | G | T | Yes | No | Yes | 35.23 | 14.97 | 13.66 | 9 | C | FF | 3 |
| 2230 | 15N-118-656 | B1-04 | C | X | T | Yes | No | Yes | | | | 173 | | C | 4 |
| 2231 | 15N-118-656 | B1-04 | C | X | T | Yes | No | Yes | | | | 213 | | C | 4 |
| 2293 | 20A-13-0000 | B1-13 | C | C | T | Yes | No | Yes | | | | 1 | | FF | 1 |
| 2296 | 20A-13-0000 | B1-13 | C | C | T | Yes | No | Yes | | | | 3 | | F | 1 |
| 2317 | 20A-13-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 14 | | FF | 2 |
| 2318 | 20A-13-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 7 | | F | 1 |
| 2333 | 20A-13-0000 | B1-13 | C | X | O | Yes | No | Yes | | | | 7 | | FB | 2 |
| 2345 | 20A-13-0000 | B1-13 | C | G | O | Yes | No | Yes | | | | 8 | | FF | 1 |
| 2390 | 15N-170-1164 | B1-07 | C | C | T | Yes | No | Yes | | | | 160 | | C | 4 |
| 2453 | 20C-24-1095 | B1-07 | C | R | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 2453 | 20C-24-1095 | B1-07 | C | R | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 2454 | 20C-24-1095 | B1-07 | C | G | O | Yes | No | Yes | | | | 2 | | F | 2 |
| 2454 | 20C-24-1095 | B1-07 | C | G | O | Yes | No | Yes | | | | 2 | | F | 2 |
| 2487 | 20A-18-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 6 | | FF | 2 |
| 2493 | 20A-18-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 4 | | FF | 2 |
| 2505 | 20F-3-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 3 | | F | 2 |
| 2561 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 8 | | F | 3 |
| 2571 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 2574 | 20A-15-0000 | B1-13 | C | G | T | Yes | No | Yes | | | | 13 | | FF | 3 |
| 2575 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 13 | | FF | 3 |
| 2585 | 20A-15-0000 | B1-13 | C | C | T | Yes | No | Yes | | | | 25 | | F | 4 |
| 2593 | 20A-15-0000 | B1-13 | C | D | T | Yes | No | Yes | | | | 13 | | FF | 3 |
| 2644 | 20F-3-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 5 | | FF | 2 |
| 2646 | 20F-3-0000 | B1-13 | C | X | O | Yes | No | Yes | | | | 4 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2687 | 20B-13-0000 | B1-13 | C | C | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 2709 | 20A-15-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 4 | | F | 3 |
| 2713 | 20A-15-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 5 | | FF | 2 |
| 2741 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 8 | | F | 3 |
| 2745 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 10 | | F | 2 |
| 2783 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 161 | | K | 4 |
| 2784 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 51 | | F | 4 |
| 2788 | 20B-13-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 12 | | F | 2 |
| 2789 | 20B-13-0000 | B1-13 | C | C | T | Yes | No | Yes | | | | 27 | | F | 4 |
| 2790 | 20B-13-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 30 | | F | 4 |
| 2791 | 20B-13-0000 | B1-13 | C | W | O | Yes | No | Yes | | | | 7 | | F | 4 |
| 2798 | 20B-13-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 3 | | F | 2 |
| 2849 | 20B-10-0000 | B1-13 | C | D | T | Yes | No | Yes | | | | 102 | | F | 4 |
| 2856 | 20B-10-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 7 | | F | 3 |
| 2865 | 20B-10-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 15 | | FF | 3 |
| 2871 | 20B-10-0000 | B1-13 | C | C | O | Yes | No | Yes | | | | 19 | | F | 3 |
| 2915 | 20B-11-0000 | B1-13 | C | C | T | Yes | No | Yes | | | | 8 | | FF | 2 |
| 2921 | 20A-18-0000 | B1-13 | C | C | T | Yes | No | Yes | | | | 16 | | F | 3 |
| 2922 | 20A-18-0000 | B1-13 | C | X | O | Yes | No | Yes | | | | 19 | | FF | 3 |
| 2928 | 20A-18-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 2 | | FF | 2 |
| 2990 | 20A-18-0000 | B1-13 | C | X | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 2992 | 20A-18-0000 | B1-13 | C | C | O | Yes | No | Yes | | | | 13 | | F | 3 |
| 3002 | 20A-15-0000 | B1-13 | C | X | O | Yes | No | Yes | | | | 10 | | FF | 3 |
| 3013 | 20A-15-0000 | B1-13 | C | C | T | Yes | No | Yes | | | | 2 | | FF | 2 |
| 3060 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 19 | | F | 3 |
| 3065 | 20B-11-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 8 | | FF | 2 |
| 3066 | 20B-11-0000 | B1-13 | C | C | T | Yes | No | Yes | 40.51 | 31.65 | 18.14 | 21 | S | F | 3 |
| 3073 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 6 | | FF | 2 |
| 3075 | 20B-11-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 6 | | FF | 2 |
| 3077 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 7 | | FF | 2 |
| 3078 | 20B-11-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 5 | | FF | 2 |
| 3081 | 20B-11-0000 | B1-13 | C | G | O | Yes | No | Yes | | | | 6 | | FF | 2 |
| 3086 | 20B-11-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 12 | | F | 3 |
| 3099 | 20B-11-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 3 | | FF | 2 |
| 3101 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 49 | | F | 4 |
| 3102 | 20J-20-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 12 | | FF | 3 |
| 3167 | 20B-11-996 | B1-13 | C | R | O | Yes | No | Yes | | | | 4 | | FF | 2 |
| 3232 | 20A-13-901 | B1-13 | C | C | T | Yes | No | Yes | | | | 0.5 | | FF | 2 |
| 3235 | 20A-13-901 | B1-13 | C | R | T | Yes | No | Yes | | | | 0.5 | | FF | 2 |
| 3241 | 20B-11-997 | B1-13 | C | R | T | Yes | No | Yes | | | | 0.5 | | FF | 2 |
| 3242 | 20B-11-997 | B1-13 | C | R | T | Yes | No | Yes | | | | 2 | | FF | 2 |
| 3282 | 20F-3-0000 | B1-13 | C | R | T | Yes | No | Yes | | | | 6 | | FF | 2 |
| 3285 | 20F-3-0000 | B1-13 | C | R | O | Yes | No | Yes | | | | 15 | | F | 3 |
| 3337 | 15N-126-0000 | B1-05 | C | R | O | Yes | No | Yes | | | | 0.5 | | FF | 1 |
| 3349 | 15N-138-0000 | B1-05 | C | W | O | Yes | No | Yes | | | | 6 | | FF | 3 |
| 3352 | 15N-138-0000 | B1-05 | C | R | O | Yes | No | Yes | 24.97 | 188.52 | 11.08 | 4 | C | FF | 2 |
| 3386 | 15N-141-0000 | B1-05 | C | R | O | Yes | No | Yes | | | | 5 | | FF | 2 |
| 3387 | 15N-141-0000 | B1-05 | C | R | O | Yes | No | Yes | | | | 2 | | FF | 2 |
| 3398 | 15N-126-0000 | B1-05 | C | R | O | Yes | No | Yes | | | | 7 | | FF | 3 |
| 3399 | 15N-126-0000 | B1-05 | C | C | O | Yes | No | Yes | | | | 0.5 | | FF | 2 |
| 3407 | 15N-143-0000 | B1-05 | C | C | T | Yes | No | Yes | 92.85 | 51.43 | 30.98 | 161 | S | F | 4 |
| 3447 | 15N-137-0000 | B1-05 | C | Z | O | Yes | No | Yes | | | | 6 | | F | 3 |
| 3449 | 15N-137-0000 | B1-05 | C | C | O | Yes | No | Yes | 45.76 | 24.51 | 8.42 | 11 | C | F | 4 |
| 159 | 19D-9-0000 | B1-02 | C | C | T | No | Yes | Yes | | | | 2 | | FF | 2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 233 | 20I-10-0000 | B1-12 | C | D | O | No | Yes | Yes | | | | 31 | | F | 4 |
| 568 | 19D-17-0000 | B1-06 | C | C | T | No | Yes | Yes | | | | 2 | | F | 2 |
| 647 | 19D-15-0000 | B1-06 | C | D | T | No | Yes | Yes | | | | 45 | | FF | 4 |
| 740 | 20C-19-0000 | B1-07 | C | C | T | No | Yes | Yes | | | | 6 | | F | 3 |
| 781 | 20C-19-0000 | B1-07 | C | W | O | No | Yes | Yes | | | | 3 | | F | 2 |
| 799 | 15N-69-0000 | B1-04 | C | X | O | No | Yes | Yes | | | | 28 | | F | 4 |
| 807 | 15N-69-0000 | B1-04 | C | D | T | No | Yes | Yes | | | | 23 | | FF | 4 |
| 842 | 15N-59-0000 | B1-04 | C | D | O | No | Yes | Yes | | | | 30 | | K | 3 |
| 847 | 15N-59-0000 | B1-04 | C | D | T | No | Yes | Yes | | | | 44 | | F | 4 |
| 857 | 15N-59-0000 | B1-04 | C | C | T | No | Yes | Yes | | | | 92 | | K | 4 |
| 858 | 15N-59-0000 | B1-04 | C | C | T | No | Yes | Yes | | | | 159 | | FF | 4 |
| 864 | 15N-59-0000 | B1-04 | C | T | O | No | Yes | Yes | | | | 19 | | F | 4 |
| 865 | 15N-59-0000 | B1-04 | C | C | T | No | Yes | Yes | 49.43 | 28.85 | 13.2 | 15 | C | F | 4 |
| 934 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | Yes | | | | 37 | | F | 4 |
| 938 | 15N-69-0000 | B1-04 | C | D | O | No | Yes | Yes | | | | 43 | | K | 4 |
| 1145 | 15N-25-0000 | B1-03-E | C | D | T | No | Yes | Yes | | | | 7 | | FF | 3 |
| 1151 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | Yes | | | | 30 | C | F | 4 |
| 1152 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | Yes | | | | 33 | | FF | 4 |
| 1155 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | Yes | | | | 53 | | F | 4 |
| 1161 | 15N-42-0000 | B1-03-G | C | D | T | No | Yes | Yes | | | | 54 | | FF | 3 |
| 1176 | 15N-44-0000 | B1-03-H | C | C | T | No | Yes | Yes | | | | 19 | | FF | 3 |
| 1214 | 15N-44-0000 | B1-03-H | C | D | T | No | Yes | Yes | | | | 5 | | F | 4 |
| 1215 | 15N-44-0000 | B1-03-H | C | W | O | No | Yes | Yes | | | | 77 | | F | 3 |
| 1222 | 15N-44-0000 | B1-03-H | C | C | T | No | Yes | Yes | | | | 0.5 | | F | 2 |
| 1332 | 20C-19-0000 | B1-07 | C | C | T | No | Yes | Yes | | | | 22 | | F | 3 |
| 1350 | 20C-19-0000 | B1-07 | C | C | T | No | Yes | Yes | | | | 16 | | F | 3 |
| 1370 | 20C-3-0000 | B1-05 | C | C | T | No | Yes | Yes | | | | 14 | | FF | 3 |
| 1438 | 20A-8 C1:2000 | B1-04 | C | C | T | No | Yes | Yes | | | | 18 | | FF | 2 |
| 1453 | 20A-8 C1:2000 | B1-04 | C | C | T | No | Yes | Yes | | | | 7 | C | F | 3 |
| 1460 | 20C-3-0000 | B1-05 | C | C | T | No | Yes | Yes | | | | 19 | | F | 4 |
| 1463 | 20C-3-0000 | B1-05 | C | W | T | No | Yes | Yes | | | | 73 | | FF | 3 |
| 1466 | 20C-3-0000 | B1-05 | C | D | T | No | Yes | Yes | | | | 12 | | F | 3 |
| 1475 | 20C-3-0000 | B1-05 | C | X | T | No | Yes | Yes | | | | 32 | | F | 4 |
| 1488 | 20C-3-0000 | B1-05 | C | D | T | No | Yes | Yes | | | | 26 | | C | 3 |
| 1552 | 20A-6-0000 | B1-04 | C | C | T | No | Yes | Yes | | | | 117 | | K | 3 |
| 1553 | 20A-6-0000 | B1-04 | C | C | T | No | Yes | Yes | | | | 27 | D | F | 4 |
| 1571 | 20B-1-0000 | B1-05 | C | D | T | No | Yes | Yes | | | | 15 | | F | 3 |
| 1576 | 20B-1-0000 | B1-05 | C | D | O | No | Yes | Yes | | | | 3 | | F | 2 |
| 1664 | 20C-1-0000 | B1-05 | C | C | O | No | Yes | Yes | | | | 75 | | K | 4 |
| 1694 | 20C-5-0000 | B1-05 | C | C | O | No | Yes | Yes | | | | 5 | | F | 2 |
| 1697 | 20C-5-0000 | B1-05 | C | C | O | No | Yes | Yes | | | | 88 | | K | 4 |
| 1698 | 20C-5-0000 | B1-05 | C | W | O | No | Yes | Yes | | | | 32 | | F | 4 |
| 1723 | 20C-5-0000 | B1-05 | C | C | T | No | Yes | Yes | | | | 0.5 | | FF | 2 |
| 1768 | 20A-6-0000 | B1-04 | C | X | O | No | Yes | Yes | | | | 10 | | F | 3 |
| 1810 | 20D-9-0000 | B1-08 | C | C | T | No | Yes | Yes | 31.11 | 23.29 | 12.55 | 7 | | FF | 2 |
| 1883 | 20D-8-0000 | B1-08 | C | C | T | No | Yes | Yes | | | | 140 | | C | 4 |
| 1898 | 20D-8-0000 | B1-08 | C | C | T | No | Yes | Yes | | | | 10 | | F | 3 |
| 1923 | 20A-6-0000 | B1-04 | C | X | O | No | Yes | Yes | | | | 67 | | F | 4 |
| 1954 | 20A-6-0000 | B1-04 | C | X | O | No | Yes | Yes | | | | 67 | | F | 4 |
| 1965 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | Yes | | | | 21 | | F | 4 |
| 1969 | 15N-69-0000 | B1-04 | C | C | T | No | Yes | Yes | | | | 17 | | F | 3 |
| 2594 | 20A-15-0000 | B1-13 | C | D | T | No | Yes | Yes | 42.44 | 24.87 | 9.69 | 10 | C | F | 3 |
| 3324 | 15N-138-0000 | B1-05 | C | C | T | No | Yes | Yes | | | | 6 | | FF | 2 |
| 3405 | 15N-143-0000 | B1-05 | C | C | T | No | Yes | Yes | | | | 14 | | F | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3437 | 15N-137-0000 | B1-05 | C | C | T | No | Yes | Yes | | | | 8 | | FF | 2 |
| 649 | 19D-15-0000 | B1-06 | C | C | T | Yes | Yes | Yes | | | | 27 | | F | 4 |
| 682 | 19D-15-0000 | B1-06 | C | C | T | Yes | Yes | Yes | | | | 2 | | F | 2 |
| 685 | 20C-19-0000 | B1-07 | C | X | O | Yes | Yes | Yes | | | | 45 | | F | 4 |
| 686 | 20C-19-0000 | B1-07 | C | W | O | Yes | Yes | Yes | | | | 21 | | K | 3 |
| 692 | 20C-19-0000 | B1-07 | C | C | T | Yes | Yes | Yes | | | | 27 | | F | 3 |
| 693 | 20C-19-0000 | B1-07 | C | R | T | Yes | Yes | Yes | 27.89 | 28.05 | 11.91 | 26 | | K | 3 |
| 719 | 20C-19-0000 | B1-07 | C | R | T | Yes | Yes | Yes | 28.7 | 24.62 | 5.18 | 3 | C | FF | 2 |
| 773 | 20C-19-0000 | B1-07 | C | C | T | Yes | Yes | Yes | | | | 2 | | FF | 2 |
| 832 | 15N-69-0000 | B1-04 | C | R | T | Yes | Yes | Yes | | | | 5 | | FF | 2 |
| 833 | 15N-69-0000 | B1-04 | C | Z | O | Yes | Yes | Yes | | | | 29 | | K | 4 |
| 884 | 15N-59-0000 | B1-04 | C | Z | O | Yes | Yes | Yes | | | | 5 | | F | 3 |
| 1050 | 15N-44-0000 | B1-03-H | C | D | T | Yes | Yes | Yes | 52.83 | 33.15 | 13.31 | 17 | S | F | 4 |
| 1051 | 15N-44-0000 | B1-03-H | C | D | T | Yes | Yes | Yes | | | | 41 | | FF | 4 |
| 1148 | 15N-25-0000 | B1-03-E | C | W | O | Yes | Yes | Yes | | | | 27 | | FF | 3 |
| 1165 | 15N-42-0000 | B1-03-G | C | C | T | Yes | Yes | Yes | | | | 24 | | F | 4 |
| 1167 | 15N-42-0000 | B1-03-G | C | R | O | Yes | Yes | Yes | | | | 13 | | F | 3 |
| 1168 | 15N-42-0000 | B1-03-G | C | R | O | Yes | Yes | Yes | | | | 18 | | F | 3 |
| 1196 | 15N-44-0000 | B1-03-H | C | W | O | Yes | Yes | Yes | | | | 5 | | F | 3 |
| 1205 | 15N-44-0000 | B1-03-H | C | W | O | Yes | Yes | Yes | | | | 12 | | FF | 2 |
| 1209 | 15N-44-0000 | B1-03-H | C | R | O | Yes | Yes | Yes | | | | 19 | | FF | 3 |
| 1306 | 15N-69-0000 | B1-04 | C | R | O | Yes | Yes | Yes | | | | 42 | | F | 4 |
| 1418 | 20A-3 C1:2000 | B1-04 | C | R | T | Yes | Yes | Yes | | | | 7 | | F | 2 |
| 1452 | 20A-8 C1:2000 | B1-04 | C | D | O | Yes | Yes | Yes | | | | 5 | | FF | 2 |
| 1620 | 19D-4-1313 | B1-02 | C | R | O | Yes | Yes | Yes | 52.39 | 37.65 | 23.69 | 47 | | B | 4 |
| 1712 | 20C-5-0000 | B1-05 | C | D | T | Yes | Yes | Yes | | | | 6 | | F | 2 |
| 1783 | 20A-6-0000 | B1-04 | C | D | T | Yes | Yes | Yes | | | | 0.5 | | FF | 1 |
| 1841 | 20D-9-0000 | B1-08 | C | W | O | Yes | Yes | Yes | 28.01 | 19.43 | 6.43 | 4 | | F | 3 |
| 1862 | 20D-9-0000 | B1-08 | C | R | T | Yes | Yes | Yes | | | | 2 | | FF | 1 |
| 1874 | 20D-9-0000 | B1-08 | C | R | O | Yes | Yes | Yes | | | | 0.5 | | FF | 1 |
| 1912 | 20D-8-0000 | B1-08 | C | R | T | Yes | Yes | Yes | | | | 2 | | FF | 2 |
| 1929 | 20A-6-0000 | B1-04 | C | R | T | Yes | Yes | Yes | | | | 30 | | F | 4 |
| 1943 | 20D-8-0000 | B1-08 | C | R | T | Yes | Yes | Yes | | | | 2 | | FF | 2 |
| 1960 | 20A-6-0000 | B1-04 | C | R | T | Yes | Yes | Yes | | | | 30 | | F | 4 |
| 1994 | 15N-69-0000 | B1-04 | C | R | O | Yes | Yes | Yes | | | | 5 | | F | 2 |
| 1997 | 15N-69-0000 | B1-04 | C | C | T | Yes | Yes | Yes | | | | 21 | | F | 4 |
| 2578 | 20A-15-0000 | B1-13 | C | R | O | Yes | Yes | Yes | | | | 0.5 | | FF | 2 |
| 3328 | 15N-138-0000 | B1-05 | C | C | T | Yes | Yes | Yes | | | | 35 | | F | 4 |
| 3340 | 15N-138-0000 | B1-05 | C | G | O | Yes | Yes | Yes | | | | 109 | | FF | 4 |
| 3428 | 15N-122-0000 | B1-04 | C | R | T | Yes | Yes | Yes | | | | 29 | | FF | 4 |
| 3446 | 15N-137-0000 | B1-05 | C | R | O | Yes | Yes | Yes | | | | 6 | | F | 3 |