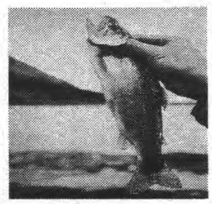
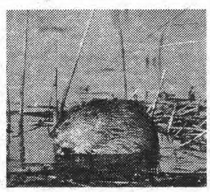
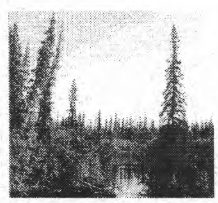
Canada Alberta Northwest Territories

Northern River Basins Study





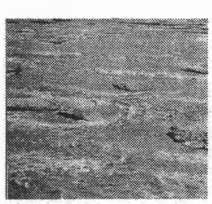




NORTHERN RIVER BASINS STUDY PROJECT REPORT NO. 53

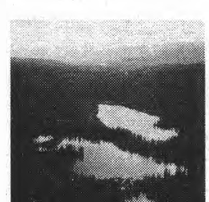
A GENERAL FISH AND RIVERINE HABITAT INVENTORY

ATHABASCA RIVER

MAY, 1994








Prepared for the
Northern River Basins Study
under Project 3141-D1

by

R.L. & L. Environmental Services Ltd.

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PREFACE:

The Northern River Basins Study was initiated through the "Canada-Alberta-Northwest Territories Agreement Respecting the Peace-Athabasca-Slave River Basin Study, Phase II - Technical Studies" which was signed September 27, 1991. The purpose of the Study is to understand and characterize the cumulative effects of development on the water and aquatic environment of the Study Area by coordinating with existing programs and undertaking appropriate new technical studies.

This publication reports the method and findings of particular work conducted as part of the Northern River Basins Study. As such, the work was governed by a specific terms of reference and is expected to contribute information about the Study Area within the context of the overall study as described by the Study Final Report. This report has been reviewed by the Study Science Advisory Committee in regards to scientific content and has been approved by the Study Board of Directors for public release.

It is explicit in the objectives of the Study to report the results of technical work regularly to the public. This objective is served by distributing project reports to an extensive network of libraries, agencies, organizations and interested individuals and by granting universal permission to reproduce the material.

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Whereas the above publication is the result of a project conducted under the Northern River Basins Study and the terms of reference for that project are deemed to be fulfilled,
IT IS THEREFORE REQUESTED BY THE STUDY OFFICE THAT;
this publication be subjected to proper and responsible review and be considered for release to the public.

F. J. Wrona | 7 June 95

(Dr. F. ~~J.~~ Wrona, Ph.D., Science Director) | (Date)

Whereas it is an explicit term of reference of the Science Advisory Committee "to review, for scientific content, material for publication by the Board",
IT IS HERE ADVISED BY THE SCIENCE ADVISORY COMMITTEE THAT;
this publication has been reviewed for scientific content and that the scientific practices represented in the report are acceptable given the specific purposes of the project and subject to the field conditions encountered.
SUPPLEMENTAL COMMENTARY HAS BEEN ADDED TO THIS PUBLICATION: [ ] Yes [ ] No

P. A. Larkin | 7 June 95

(Dr. P. A. Larkin, Ph.D., Chair) | (Date)

Whereas the Study Board is satisfied that this publication has been reviewed for scientific content and for immediate health implications,
IT IS HERE APPROVED BY THE BOARD OF DIRECTORS THAT;
this publication be released to the public, and that this publication be designated for: **[ ] STANDARD AVAILABILITY [ ] EXPANDED AVAILABILITY**

Lucille Partington | June 8 / 95

(Lucille Partington, Co-chair) | (Date)

Robert McLeod | June 12/95

(Robert McLeod, Co-chair) | (Date)

A GENERAL FISH AND RIVERINE HABITAT INVENTORY, ATHABASCA RIVER, MAY, 1994

STUDY PERSPECTIVE

The composition of a fish community and its seasonal use of riverine habitats for spawning, growth and overwintering, can be important indicators for assessing the health of the Peace, Athabasca and Slave rivers aquatic ecosystem. The information is also critical to understanding the dynamics of contaminant exchange and effects in fish populations. The extent to which the fish community has been affected by existing development is a major area of interest to the Northern River Basins Study (NRBS). Earlier field and laboratory investigations of physiological responses in Athabasca River fish near Hinton supported efforts to better characterize fish populations exposed to pulp mill effluent. This project follows up fall '93 investigations for a stretch of the Athabasca River not previously subjected to any significant investigative work prior to NRBS. The project covers the same area studied in the fall of 1993; Athabasca River between Athabasca Falls in Jasper National Park (JNP), and the town of Athabasca, including three major tributaries within JNP.

Related Study Questions

6) *What is the distribution and movement of fish species in the watersheds of the Peace, Athabasca and Slave rivers? Where and when are they most likely to be exposed to changes in water quality and where are their important habitats?*

13b) *What are the cumulative effects of man made discharges on the water and aquatic environment?*

14) *What long term monitoring programs and predictive models are required to provide an ongoing assessment of the state of the aquatic ecosystems? These programs must ensure that all stakeholders have the opportunity for input.*

The fall '93 NRBS work focused on characterization of habitats available to fish, community composition and size, particularly in the stretch of river near Whitecourt, Alberta. This project focused on describing the early spring distribution of forage fish, major fish aggregations and the recapture of previously tagged fish.

Field work from this project verified the significance of the Snake Indian River for mountain whitefish and likely bull trout. It also better delineated the community composition of smaller "forage" fish populations. The project also succeeded in yielding more insight into the composition of the fish community soon after ice-out. The low recapture of previously tagged fish confirmed the complex nature of fish population dynamics within the mainstem river. Although the recapture result was not unexpected for a river the size of the Athabasca, and for the level of effort expended on the area studied, there were higher expectations that significant recaptures would occur in the Whitecourt reach because of the 2,400 fish tagged the previous fall. Consequently, further investigation of fish population exposure history will be an important prerequisite to understanding the distribution, accumulation and effects of waterborne contaminants on fish in this large river. A base of knowledge for monitoring fish community changes arising from natural and man made activities has been developed for a stretch of the Athabasca River that had not been subjected to any significant investigative work prior to NRBS.

ACKNOWLEDGEMENTS

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J. O'Neil - Editor
R. Pattenden - Project Manager and Biologist (Large-fish Inventory)
T. Clayton - Fisheries Biologist (Small-fish Inventory)
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The following Jasper residents were employed through the Parks Canada Employment Program and contributed to field collections:

Ryan Galbraith
Trevor McFayden
Jonathan Warrenchuk

REPORT SUMMARY

In spring 1994, R.L. & L. Environmental Services Ltd. was contracted by Northern River Basins Study (NRBS) to undertake an inventory of fish populations in the mainstem Athabasca River. The study area extended from Athabasca Falls, which is situated in Jasper National Park, to the Town of Athabasca. Also included in the study area was the Snaring River, a tributary to the mainstem situated in Jasper National Park. The objectives of the study were to:

- record the occurrence and relative abundance of fish in four areas of the mainstem Athabasca River and the lower section of the Snaring River,
- recover fish tagged during previous NRBS projects and describe probable movements, distribution, and habitat associations during the intervening periods,
- provide an interpretive report on fish distribution and abundance within the study area,
- record the occurrence and abundance of small fish, placing emphasis on early life history stages (particularly for mountain whitefish),
- determine the length-weight frequency distribution of mountain whitefish in three areas of the Athabasca River, and
- apply NRBS Floy anchor tags to fish belonging to selected species.

To accomplish these objectives, field studies were undertaken in four representative areas of the mainstem Athabasca River: Jasper National Park and near the towns of Hinton, Knight, and Whitecourt. Additional sampling was conducted near the Town of Smith to collect mountain whitefish for length-weight frequency analysis.

Two sampling programs, using different methodologies were undertaken during the spring 1994 study: (1) the large-fish inventory, which employed boat electrofishing to sample juvenile and adult fish in nine sections of the Athabasca River, and (2) the small-fish inventory, which sampled 16 sites using a variety of techniques (including beach seining, backpack electrofishing, and dipnetting). Fish populations in the Snaring River were sampled utilizing boat electrofishing, underwater surveillance, and backpack electrofishing.

During the large-fish inventory in the mainstem Athabasca River 16 fish species were encountered. Based on capture data, mountain whitefish was the most abundant species in all inventory sections. Most rainbow trout and bull trout were captured in upper inventory sections, while northern pike,

walleye, and minnow species were more numerous at downstream sampling locations. Species diversity tended to be highest in downstream sections. Both juvenile and adult age-classes of most species were well represented. A single pygmy whitefish (an adult) was captured within Jasper National Park at Km 1289.5 of the Athabasca River.

Nine species of fish were recorded during the small-fish inventory program. Larval mountain whitefish dominated the catch at all sites; yearling mountain whitefish and all other species were much less abundant. Fish capture data indicates that the upper Athabasca River within Jasper National Park is an important nursery area for young-of-the-year mountain whitefish. This particular section provides a diverse assemblage of habitats suitable for rearing of larval mountain whitefish. Habitats with the highest densities of larval mountain whitefish were either shallow, low velocity areas along the mainstem margin, or lacustrine habitats. Our data suggests that juvenile (primarily yearling) mountain whitefish preferred different habitats than young-of-the-year individuals. Sampling moderate velocity areas resulted in increased captures of yearlings.

We determined that species diversity and fish numbers were low in the Snaring River during spring. In fact, only mountain whitefish and bull trout were captured and smaller size-classes of fish were not encountered.

The size distribution of mountain whitefish (based on individuals collected during the large-fish inventory) differed between areas sampled. Smaller individuals made a greater contribution to the catch at the Smith and Hinton sites, while larger fish predominated the Jasper National Park sample. The data also suggested variability in fish growth rates between areas. For example, the size of yearling fish, increased progressively in a downstream direction, which may indicate higher productivity in lower reaches.

Of the 7591 fish captured during the study, 747 were tagged. Most of these (623 fish) were mountain whitefish. Some previously tagged fish (sample size = 12) were recovered during the spring program; these individuals had been tagged during fall 1993 (R.L. & L Environmental Services Ltd. 1994*a* and Golder Associates Ltd. 1994). Of the recaptured fish, nine were mountain whitefish, two were northern pike, and one was a longnose sucker. Of the 12 recaptured individuals, only one had moved more than 10 km from its release location.

A small number of fish (sample size = 15) captured during the spring 1994 program exhibited external "abnormalities" in the form of open sores. Several species were involved, including mountain whitefish, northern pike, burbot, longnose sucker, and white sucker. All fish exhibiting abnormalities were captured in a 15 kilometre section (Km 1026 to 1011) of the Athabasca River located immediately downstream from the McLeod River confluence. A photographic record of a representative sample of these fish is presented in Addendum A to this report.

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1.0 INTRODUCTION

1.1 BACKGROUND

R.L. & L. Environmental Services Ltd. was contracted in May 1994 to conduct the spring inventory of fish populations in the mainstem Athabasca River upstream of the Town of Athabasca. This included sections of river within Jasper National Park, as well as downstream locations. The study area also included the lower portion of the Snaring River, a major tributary of the Athabasca River within Jasper National Park.

Prior to this study, only limited fisheries information was available for the Athabasca River upstream of the Town of Athabasca (Km 683) during the spring period. A survey undertaken by the Northern River Basins Study (NRBS) during spring 1992 collected baseline fisheries data (R.L. & L. Environmental Services Ltd. 1993*a*), but the program did not involve in-depth investigations within Jasper National Park (Km 1254 to 1348). A fall 1993 study included representative sections of the Athabasca River within Jasper National Park, as well as portions of the river downstream to the Town of Athabasca (R.L. & L. Environmental Studies Ltd. 1994*a*). The present study was designed to complement the fall 1993 investigation.

The NRBS surveys described above included assessments of fish distribution and habitat utilization, as well as tagging programs. Valued species (i.e., with recreation, domestic, or commercial importance) were marked with visible tags. During fall 1993, fish were tagged and released in the study area (R.L. & L. Environmental Services Ltd. 1994*a* and Golder Associates Ltd. 1994). The intent of the spring 1994 program was to recover these marked individuals, and thereby provide insight into movement patterns and the potential exposure of fish to contaminants.

1.2 STUDY OBJECTIVES

The overall purpose of the study was to obtain information on fish abundance and distribution in the upper reaches of the Athabasca River during the spring period. The specific objectives as outlined in the Terms of Reference dated 29 April 1994 (Appendix A1), are listed below.

1) To identify and record the occurrence and relative abundance of fish species occurring within four reaches of the upper Athabasca River between Athabasca Falls and the Town of Whitecourt,

2) To recover fish previously tagged during NRBS projects and to describe the probable movement, distribution, habitat association, and assemblage of fish species in the mainstem Athabasca,

3) To identify and record the occurrence and relative abundance of "forage" fish placing emphasis on the early life stages of sport, commercial, and domestic species occurring in shallow water habitats of the four reaches being investigated,

4) To provide an interpretive report on fish distribution and abundance within the study area based on the investigation and previous inventory efforts inclusive of identifying critical areas for fish rearing, specifically for mountain whitefish.

Additional objectives outlined within specific directives of the Terms of Reference were as follows:

- Determine the length-weight frequency distribution for mountain whitefish within Jasper National Park, R2 (Hinton - Oldman Creek), and R5 (Lesser Slave River - Town of Athabasca). Assess a minimum of 150 individuals per reach.

- Apply NRBS Floy tags on suitability-sized specimens (>250 mm in fork length) of the following: Arctic grayling, northern pike, walleye, whitefish, bull trout, goldeye, and burbot.

1.3 STUDY AREA AND TIMING

The study area included the upper reaches of the mainstem Athabasca River between Athabasca Falls (Km 1348) and the Town of Athabasca (Km 683) (Figure 1.1 and Table 1.1). These reaches were used during previous NRBS inventory programs (R.L. & L. Environmental Services Ltd. 1993*a* and 1994*a*) and were assigned principally on the basis of changes in stream gradient.

Stream gradient changes are most evident in the mountainous region of Jasper National Park, where the average channel gradient decreases from 4.2 m/km near Athabasca Falls to 0.9 m/km at the eastern boundary of the park (Figure 1.2). Within this section of river, four distinct reaches are evident (Table 1.1). Reach RJ1, (the farthest upstream situated reach), exhibits the highest gradient (4.2 m/km). Reach RJ2 is characterized by a lower gradient (1.2 m/km). Reach RJ3, which encompasses Jasper Lake, exhibits an undefined channel and a very low gradient. Prior to exiting the park (Km 1261.5), the river has a well-defined channel (Reach RJ4) and exhibits a moderate gradient (0.9 m/km).

The portion of the mainstem study area, downstream of Jasper National Park, was separated into five reaches. With the exception of Brule Lake, which is situated in the upstream portion of Reach R1 (Km 1250 to 1261), this section of the river generally exhibits a moderate gradient (approximately 1 m/km) and contains silt, gravel, and cobble substrates.

Sampling areas were selected based on criteria outlined in Section III of the Terms of Reference dated 29 April 1994. These criteria specified that sampling be undertaken in areas of the upper Athabasca River that did not always correspond with the habitat-based reaches described previously. As a result, field sampling was located within designated river areas and not within specific river reaches (Figure 1.2).

Field sampling was conducted between 10 and 22 May 1994; the large-fish inventory and the small-fish inventory were conducted concurrently. For identification purposes within this report, large-fish inventory sampling areas are referred to as "sections" and small fish sampling areas are referred to as "sites".

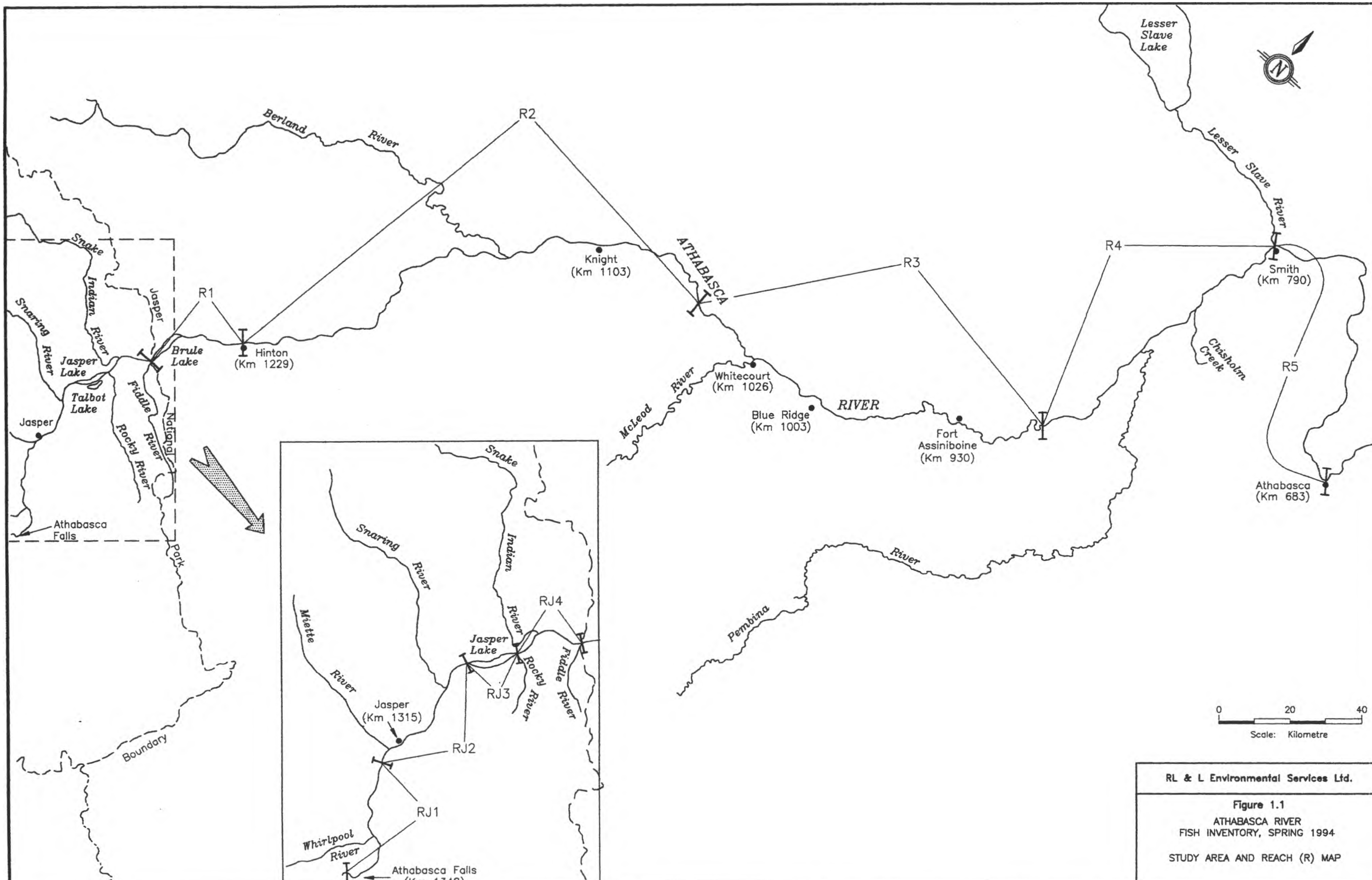
Sampling under the large-fish inventory program was conducted in five areas: Jasper National Park, Hinton, Knight, Whitecourt, and Smith. (Figure 1.3 and Table 1.2). Five sections were established within Jasper National Park, while one section was sampled in each of the four remaining areas.

Four of the five Jasper Park sections (Sections J2 to J5) were previously sampled during fall 1993 (R.L. & L. Environmental Services Ltd. 1994*a*). A fifth section inventoried during fall 1993, J1 (Km 1344.5 to 1339.5), was unnavigable at the time of the spring survey, and could not be sampled. As a result, this section was relocated immediately downstream (Km 1340.0 to 1335.0) and referred to as Section J1A. This section exhibited habitat characteristics that were very similar to those encountered in the original section (Section J1).

Of the four inventory sections located downstream of Jasper National Park (A1 at Hinton, A2 at Knight, A3 at Whitecourt and A5 at Smith) all included portions previously sampled during the spring 1992 and fall 1993 surveys. Although not part of the detailed fish inventory program, the Smith section was included in order to collect length-weight frequency distribution information for mountain whitefish in reach R5 (Lesser Slave River - Town of Athabasca).

The small-fish inventory was undertaken at 16 sites distributed amongst four areas: Jasper National Park, Hinton, Knight, and Whitecourt (Figure 1.3 and Table 1.3). Sampling was carried out at seven sites in the Jasper area and three sites in each of the remaining areas. The Smith area was not included in the small-fish inventory program.

A fish inventory also was undertaken on the lower Snaring River (Km 3.8 to 0.0) (Figure 1.3). Sample site selection was based on accessibility (e.g., proximity to roads) and safety considerations (i.e., this portion could be navigated without undue risk to personnel and equipment).



RL & L Environmental Services Ltd.

Figure 1.1
ATHABASCA RIVER
FISH INVENTORY, SPRING 1994

STUDY AREA AND REACH (R) MAP

Table 1.1 Reach locations on the Athabasca River from Athabasca Falls to the Town of Athabasca.

Area	Reach	Reach Location (km)	Reach Length (km)	Gradient[a] (m/km)
Jasper National Park[b]	RJ1	1348.0-1320.0	28.0	4.2
	RJ2	1320.0-1292.0	28.0	1.2
	RJ3	1292.0-1278.0	14.0	N/D[c]
	RJ4	1278.0-1261.5	16.5	0.9
Downstream of Park[d]	R1[e]	1261.5-1226.0	35.5	1.0
	R2	1226.0-1056.9	169.1	1.4
	R3	1056.9-890.0	166.9	0.9
	R4	890.0-790.0	100.0	0.3
	R5	790.0-683.5	106.5	0.4

[a] Gradients calculated from contour intervals on 1:50 000 NTS maps.
[b] Reach allocations developed during Fall 1993 Fish Inventory (R.L. & L. Environmental Services Ltd. 1994*a*).
[c] N/D - no data.
[d] Allocation developed during Spring 1992 Inventory (R.L. & L. Environmental Services Ltd. 1993*a*).
[e] Reach location originally specified in Spring 1992 Inventory (R.L. & L. Environmental Services Ltd. 1993*a*) as 1278.0-1226.0.

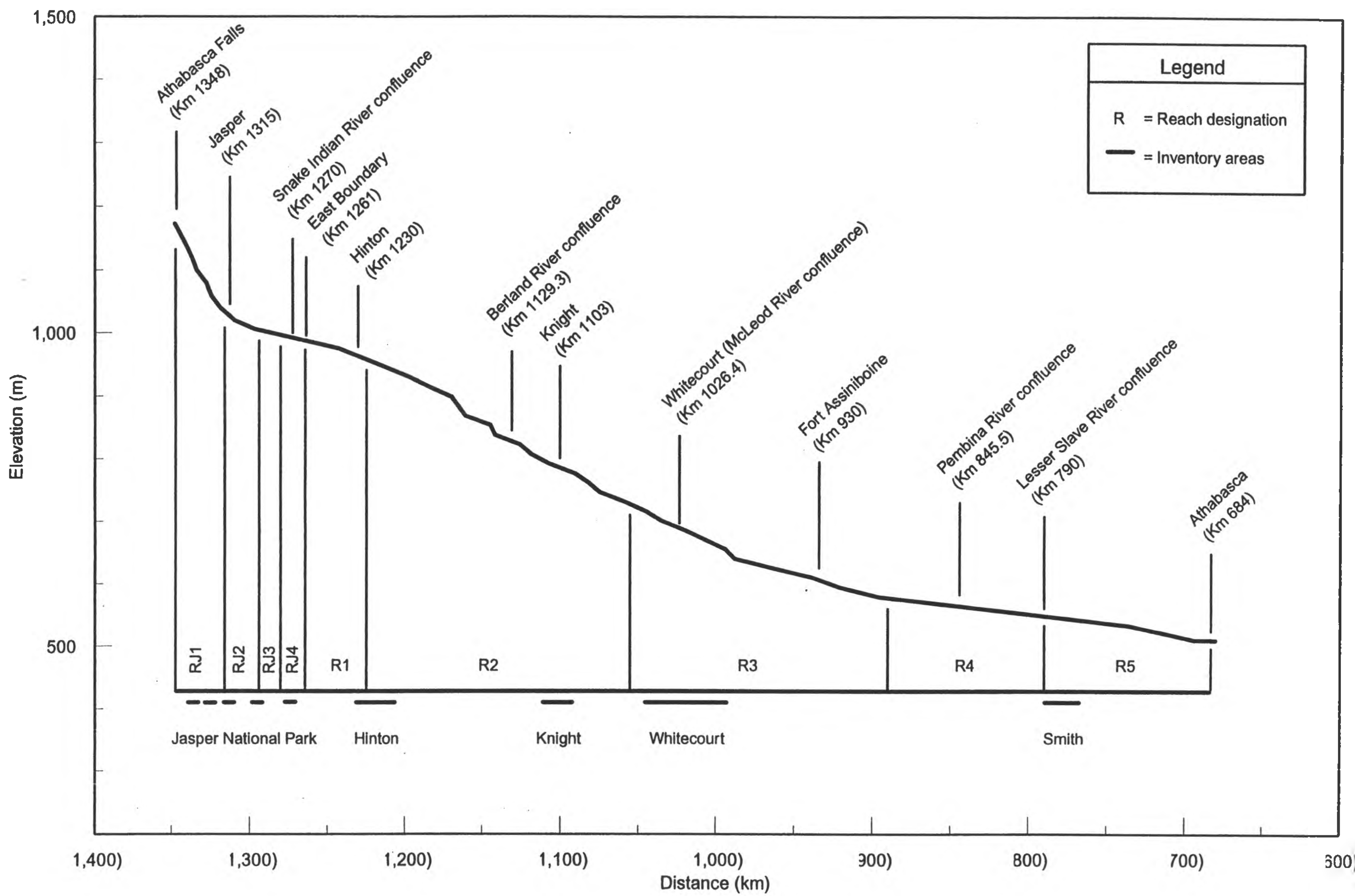
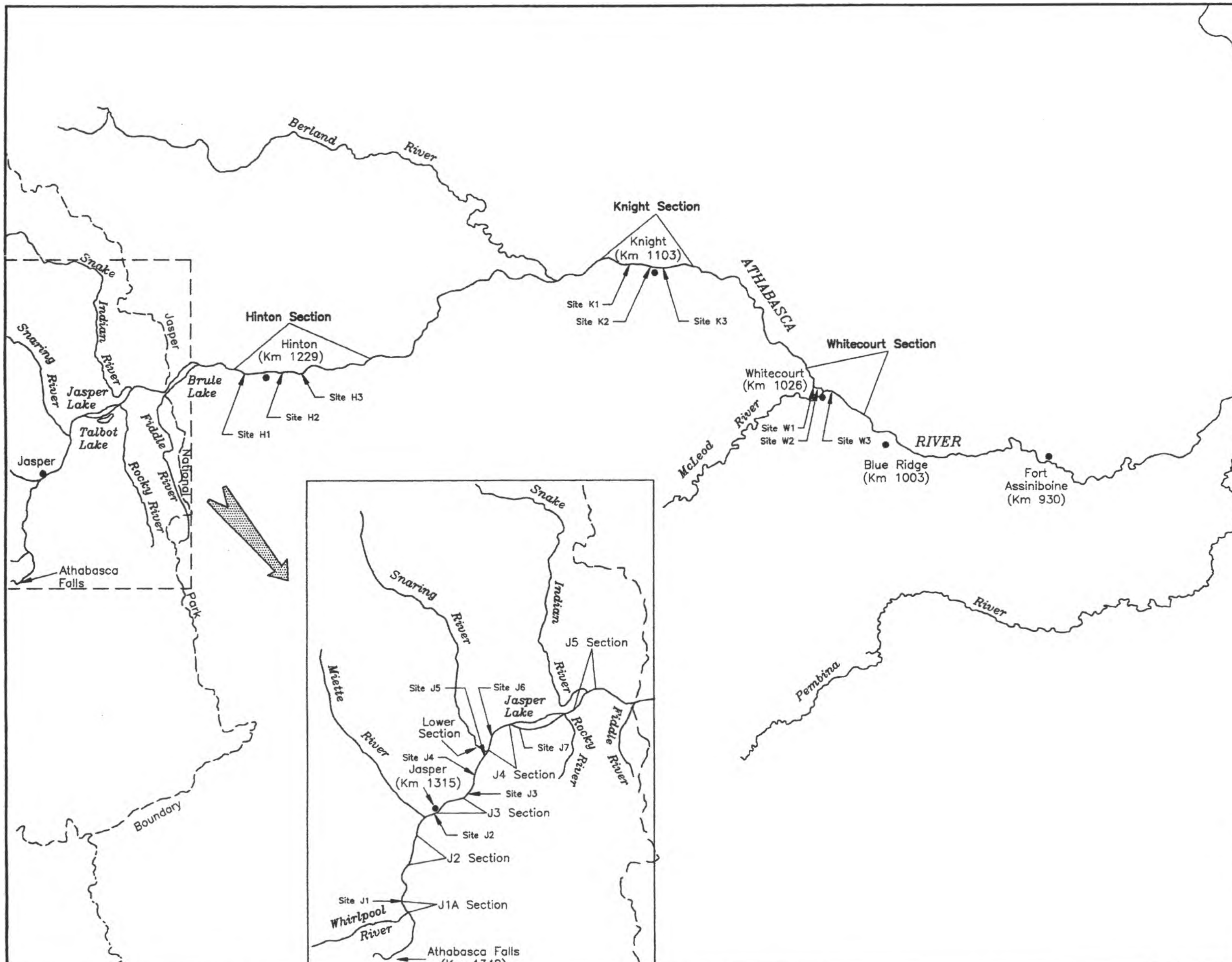


Figure 1.2 Gradient profile of the Athabasca River, reach boundaries, major features, and inventory areas sampled, spring 1994. (Based on contour intervals from 1:50 000 topographic maps.)



RL & L Environmental Services Ltd.

Figure 1.3
ATHABASCA RIVER
FISH INVENTORY, SPRING 1994

INVENTORY LOCATIONS

Table 1.2 Location of large-fish inventory sections on the mainstem Athabasca River and the Snaring River, 10-22 May 1994.

Area	River Reach	Inventory Section	UTM Coordinates		Location (km)[a]		Length (km)	Appendix C1 Reference Figure
			Upstream	Downstream	Upstream	Downstream		
Jasper National Park	RJ1	J1A	11U 438500E 5842700N	11U 438900E 5848850N	1340.0	1335.0	5.0	C1.1
	RJ1	J2	11U 431150E 5850500N	11U 428850E 5853500N	1327.0	1322.0	5.0	C1.2
	RJ2	J3	11U 428300E 5858350N	11U 429000E 5862900N	1316.0	1311.0	5.0	C1.3
	RJ3	J4	11U 429250E 5881500N	11U 429120E 5881150N	1294.0	1289.0	5.0	C1.4
	RJ4	J5	11U 434650E 5889900N	11U 434600E 5894400N	1276.0	1271.0	5.0	C1.5
Downstream of Jasper National Park	R1, R2	Hinton	11U 454550E 5914650N	11U 482500E 5937850N	1238.0	1197.0	41.0	C1.6A,B
	R2	Knight	11U 518750E 5996400N	11U 533350E 6004750N	1113.0	1094.0	19.0	C1.7
	R3	Whitecourt	11U 572500E 60041400N	11U 599950E 6002500N	1045.0	999.0	46.0	C1.8A,B
	R5	Smith	11U 687700E 6117100N	12U 316450E 6119150N	790.0	778.0	12.0	C1.9
Snaring River	-	Lower	11U 424650E 5874450N	11U 427900E 5874350N	3.8	0.0	3.8	C1.10

[a] Number of kilometres from point of entry into Lake Athabasca (mainstem Athabasca River) and Athabasca River (Snaring River).

Table 1.3 Location of small-fish inventory sites on the mainstem Athabasca River, 11-20 May 1994.

Area	River Reach	Inventory Site	Location (km)[a]	UTM Coordinates	Capture Method(s)[b]	Appendix C1 Reference Figures
Jasper National Park	RJ1	J1	1333.3	11U 434181E 5845482N	BS	C1.1
	RJ2	J2	1316.2	11U 428445E 5858534N	BS/EF	C1.3
	RJ2	J3	1311.2	11U 0428928E 5863104N	EF	C1.3
	RJ2	J4	1308.3	11U 430536E 5865230N	BS/EF	C1.3
	RJ2	J5	1297.6	11U 427928E 5874260N	BS/EF	C1.10
	RJ2	J6	1294.3	11U 426970E 5877324N	BS/EF	C1.4
	RJ3	J7	1287.5	11U 430663E 5881822N	BS/DN	C1.4
Hinton	R1	H1	1234.9	11U 456464E 5914783N	BS/EF	C1.6A
	R1	H2	1226.7	11U 462798E 4920239N	BS/EF	C1.6A
	R2	H3	1218.5	11U 522728E 5997700N	BS/EF	C1.6B
Knight	R2	K1	1107.5	11U 523000E 5997600N	BS/EF	C1.7
	R2	K2	1103.1	11U 526245E 6000071N	BS/EF	C1.7
	R2	K3	1102.5	11U 526670E 6000735N	BS/EF	C1.7
Whitecourt	R3	W1	1027.8	11U 583475E 6001207N	BS/EF	C1.8A
	R3	W2	1027.1	11U 584074E 6001187N	BS/EF	C1.8A
	R3	W3	1024.5	11U 586459E 6002008N	BS/EF	C1.8A

[a] Number of kilometres from point of entry into Lake Athabasca (mainstem Athabasca River) and Athabasca River (Snaring River).
[b] BS - beach seining, EF - backpack electrofishing, DN - dipnetting.

2.0 METHODS

2.1 FISH POPULATION INVENTORY

2.1.1 Mainstem Athabasca River

Boat Electrofishing (Large-Fish Inventory)

Boat electrofishing was the primary capture method for the larger size-classes of fish in the mainstem Athabasca River. A Smith-Root SR-18 electrofishing boat (5.5 m) operated by a three-person crew was used. The boat, which was propelled by a 115-HP outboard-jet motor, utilized a Smith-Root GPP-5.0 electrofishing system. Amperage output produced during sampling ranged from 3.0 to 7.0 A, at a pulse rate of 60 Hz of direct current. Two individuals were positioned on a netting platform located on the bow of the boat to net immobilized fish. Captured fish were immediately placed in a 210 L livewell that received a continuous flow of fresh, aerated water.

Electrofishing sites (one kilometre in length) were established in each of the nine inventory sections. These electrofishing sites were sampled once by drift-shocking in a downstream direction. Sampling effort was concentrated on habitats adjacent to stream banks in water depths < 2.0 m because boat electrofishing is most effective in these areas and fish tend to prefer bank-associated habitats. Midchannel areas, where water depths often exceeded 2.0 m, were avoided due to low capture efficiency under these conditions. To avoid recapturing fish that drifted downstream after being processed and released during the previous sampling run, sampling was alternated between the left and right banks. Pertinent data recorded included number of fish captured and observed, downstream location of section (Km and UTM coordinates), sampling time (s), water temperature (°C), and electrofisher settings (A and Hz).

Beach Seining, Backpack Electrofishing, and Dipnetting (Small-Fish Inventory)

The study objectives also emphasized the need to sample larval and juvenile fish in the mainstem Athabasca River. To accomplish this, a three to four-person crew, conducted systematic beach seining and/or backpack electrofishing at a number of representative sites. Site selection was generally based on availability of reasonable road access and the suitability of the site relative to the capture gear. Sites with good road access were selected to maximize sampling effort (i.e., more sites could be accessed by road than by boat in a given time period).

Habitats were defined using the criteria outlined in the habitat classification system (Appendix B1).

The objective was to sample a wide range of habitats in the mainstem Athabasca River. During spring shallow-water margins adjacent to midchannel bars and inside meander-bends were likely distributed. As such, a large proportion of sampling effort was devoted to these habitats (15 of 16 sites). Lacustrine-type habitat (i.e., Brule Lake, Jasper Lake), which comprised only 7% of the study area's length, and was represented by only one site (6% of effort).

Within each area, a minimum of three beach seine sites was established. At each site, a minimum of three beach seine hauls, covering 100 linear metres were completed. In order to relate abundance to habitat type, individual seine hauls were restricted to discrete habitat types whenever possible. In addition to the beach seining, a minimum of 100 metres was sampled by backpack electrofishing at each site.

During the initial phase of the study, fine-mesh dip nets were used to sample the shallow-water margins of the channel. Because few larvae were collected using this technique in comparison to beach seining, it was deleted from the sampling program.

Pertinent data recorded at all sites included: number of fish captured, habitat type, mean and maximum depth (m), stream velocity (at mid-haul point), haul length (m), width (m), substrate composition (using the Modified Wentworth Scale; Appendix B2), and water temperature (°C). UTM coordinates also were recorded at each site utilizing a Garmen GPS 75 receiver.

2.1.2 Snaring River

The lower section of the Snaring River was investigated. Sampling was restricted to the section of river that could be accessed easily from the ground (Km 3.8 to 0.0).

Synoptic-level drift-boat electrofishing was conducted on the lower 1.5 km of the Snaring River (Km 1.5 to 0.0). To accomplish this, a two-person crew operated a Smith-Root Type VI portable boat electrofisher from an inflatable Zodiac. The system used a single floating anode ring; a crew member situated in the bow netted immobilized fish, while the second crew member was responsible for navigating the boat. Amperage output during sampling ranged between 2.0 and 5.0 A, at a pulse rate of 60 Hz of direct current. Captured individuals were held in a 35 L livewell until a sufficient number of fish were collected. Pertinent data recorded in each boat electrofishing section included number of fish captured and observed, section length (km), sampling time (s), water temperature (°C), section location (Km and UTM coordinates), and electrofisher settings (A and Hz).

Underwater surveillance also was utilized to enumerate fish in the Snaring River (Km 3.8 to 0.0). This technique was employed successfully by biologists during the fall 1993 program (R.L. & L. Environmental Services Ltd. 1994*a*). This technique was effective because water clarity was high at the time of spring sampling. A two-person crew visually surveyed the entire stream channel while drifting downstream. Fish were enumerated and classified according to size (adult and juvenile).

Shallow-water rearing areas also were sampled on the Snaring River. A high output Smith-Root Type XII backpack electrofisher was employed to sample a 300 m section of a shallow sidechannel located at Km 2.0. This unit is specifically designed to sample low-conductivity waters. Voltage output settings ranged between 600 and 800 V. Pertinent data recorded included number of fish captured and observed, section length (m), sampling time (s), water temperature (°C), downstream location of section (Km and UTM coordinates), and electrofisher settings (A and Hz).

2.1.3 Collection of Life History Data

All captured fish were processed (i.e., measured, weighed, etc.) immediately and released, unless required for other study components. Information collected during boat electrofishing included species, fork length (mm), total length (mm), weight (g), sex and maturity (if possible via external examination), date of capture, and release location (reach, km, UTM coordinates). All captured fish were examined externally to determine the presence of lesions or physical abnormalities. Pertinent information was recorded on Gross Pathology Forms (Appendix A2) and a labelled, indexed photographic record was kept of representative fish exhibiting abnormalities.

Selected species of sport fish (Arctic grayling, northern pike, walleye, mountain whitefish, lake whitefish, bull trout, rainbow trout, goldeye, and burbot) that were of sufficient size (>250 mm fork length) and in good physical condition were marked with uniquely numbered NRBS external tags (Floy FD68B anchor tags). The tag was inserted into the dorsal musculature immediately below the dorsal fin; a Dennison Mark II applicator gun was utilized for this purpose. UTM coordinates and kilometre location of the release site were recorded for all tagged fish.

Additional life history information (sex, maturity, and stomach contents), along with an ageing structure (Mackay et al. 1990), was collected from incidental mortalities.

Larval fish were enumerated, preserved in 4% formalin, and returned to the laboratory for examination. Sculpin species were preserved in 10% formalin and also returned to the laboratory.

2.1.4 Identification of Larval Fish

Larval fish were identified to family using the key presented in Auer (1982). The shape and position of melanophores, as illustrated in figures presented in Faber (1970), were used to differentiate mountain whitefish from lake whitefish. A representative sample of larvae was stained with alizarin red to accentuate myomere and fin ray elements. Preanal and postanal myomere counts were made on 30 individuals from each of the Jasper, Knight, and Whitecourt areas.

2.1.5 Recovery of Tagged Fish

An important component of this study was recovery of tagged fish from previous NRBS and other studies. Floy tags were most often utilized during previous studies (R.L. & L. Environmental Services Ltd. 1993*a*, 1994*a*), although fin clips and visual implant tags were also employed during fall 1993 (Golder Associates Ltd. 1994).

During processing of captured fish, particular attention was given to identifying the presence of a tag or a tagging scar (indicating a lost tag). The dorsal fin region was examined on all individuals for the presence of a Floy tag. Fish were also examined, following the protocol outlined in Golder Associates Ltd. (1994), for fin clips on either the adipose fin (mountain whitefish) or anal fin (longnose sucker) of smaller individuals. The clear membranous tissue behind the posterior orbit of the left eye of smaller mountain whitefish, longnose suckers, Arctic grayling, and flathead chub was examined for the presence of a visual implant tag. For smaller size-classes of northern pike, the base of the anal fin was examined for evidence of an implant tag.

2.1.6 Data Analyses

All raw data were entered into computerized dBase database files. (All data were checked by visual assessment for input errors prior to analyses). Analyses were conducted using either Lotus for Windows (Ver. 4.0) or SPSS for Windows (Ver. 6.1) software.

Catch data were used to calculate catch-per-unit-effort values (CPUE) based on distance sampled (i.e., no. fish/km) during boat electrofishing; these data represented averages. CPUE summaries also were generated for beach seining (no. fish/100 m^2), backpack electrofishing (no. fish/min) and underwater surveillance data (no. fish observed/km); these represented single values, not averages. The decision to calculate the backpack electrofishing CPUEs based on time rather than distance reflected the nature of the habitat. For example, riffles often occurred along the upstream margins of islands, and main channel inside meanders. The riffle itself was sampled, not just the channel margin. However, the margin was often the only suitable sampling location in RUN habitats; thus the two habitat types were not comparable on a linear length basis.

To assess the relative importance and abundance of different age-classes of larger fish, it was necessary to differentiate individuals into juveniles or adults based on differences in fork length. Juvenile fish were defined as being in their second year of life or older, but not sexually mature. Fish that were considered to be sexually mature during the year of capture were classified as adults. Young-of-the-year fish were not encountered during boat electrofishing.

Several factors were used to develop life-stage criteria for each species. Size distributions were generated from the database to establish modal peaks. Age-at-maturity and growth rate information were obtained from other studies conducted in the same drainage and from reference material. Age data collected from mountain whitefish captured in the study area during fall 1993 (R.L. & L. Environmental Services Ltd. 1994*a*) also were employed. Table 2.1 lists the size-ranges used to assign an individual to a particular life-stage.

During the small-fish inventory two age-classes were most often encountered; young-of-the-year (i.e., larval fish) and yearlings. Larvae were defined as those fish that had hatched during spring 1994, while yearlings were individuals beginning their second year of life. These two life-stages were easily distinguished by differences in size. For comparative purposes, catch data for beach seining and backpack electrofishing on the mainstem Athabasca River have been grouped according to these two age-classes.

Table 2.1 Size designations (fork length in millimetres) for various species and life-stage categories, for fish captured during the large-fish inventory, 10-22 May 1994.

Species	Scientific Name	Code[a]	Juvenile	Adult
Arctic grayling	*Thymallus arcticus* (Pallas)	ARGR	< 270	≥ 270
Brook trout	*Salvelinus fontinalis* (Mitchill)	BKTR	< 200	≥ 200
Bull trout	*Salvelinus confluentus* (Suckley)	BLTR	< 360	≥ 360
Burbot	*Lota lota* (Linnaeus)	BURB	< 360	≥ 360
Lake whitefish	*Coregonus clupeaformis* (Mitchill)	LKWH	< 400	≥ 400
Northern pike	*Esox lucius* (Linnaeus)	NRPK	< 440	≥ 440
Rainbow trout	*Oncorhynchus mykiss* (Walbaum)	RNTR	< 200	≥ 200
Walleye	*Stizostedion vitreum* (Mitchill)	WALL	< 350	≥ 350
Longnose sucker	*Catostomus catostomus* (Forster)	LNSC	< 310	≥ 310
White sucker	*Catostomus commersoni* (Lacépède)	WHSC	< 310	≥ 310
Mountain whitefish	*Prosopium williamsoni* (Girard)	MNWH		
- Jasper[b]			< 220	≥ 220
- Hinton[c]			< 240	≥ 240
- Smith[d]			< 330	≥ 330

[a] Mackay et al. 1990.
[b] Includes Sections J1A, J2, J3, J4, and the Snaring River.
[c] Includes Section J5, Hinton, Knight.
[d] Includes the Whitecourt and Smith areas.

3.0 INVENTORY RESULTS

3.1 MAINSTEM ATHABASCA RIVER

Following is a summary of data collected during the fisheries inventory of the mainstem Athabasca River between the Town of Athabasca and Athabasca Falls. Complete data are provided in Appendices C1 to C9 of this report and as electronic copies in dBase format.

The mainstem Athabasca River increases substantially in size between the town sites of Jasper and Athabasca, as evidenced by a five-fold increase in mean annual discharge between these two locations (Figure 3.1). The increase is due to inflow from several major tributaries, including the Berland River, McLeod River and Pembina River. River discharge during spring field sampling varied depending on location and sampling date. The Whitecourt area (Athabasca Gauging Site) was sampled from 11 to 14 May 1994, during a period of rapidly increasing discharge. The Knight and Hinton areas (Hinton Gauging Site), were sampled between 14 and 18 May 1994, when under a cooler air temperature regime, river discharges decreased from a peak flow of 395 to 273 m^3/s. During sampling in Jasper National Park (19 to 22 May 1994), flows were generally stable (i.e., 100 m^3/s).

In total, 16 species of fish were encountered during sampling in the mainstem Athabasca River (Table 3.1). These included ten sport fish, two non-sport fish, and four minnow species. In this report, the term minnow is used collectively to refer to various species of small fish, including true minnows (Cyprinidae), sculpins (Cottidae), and trout-perch (Percopsidae).

The large-fish inventory (boat electrofishing) accounted for 42% (3174 fish) of the total catch. Of the 15 species represented, mountain whitefish was dominant (2606 individuals).

In total, 4417 individuals, representing 9 species, were captured during the small-fish inventory (beach seining and backpack electrofishing). Beach seining accounted for 98% of the specimens collected; the remaining 2% were captured by backpack electrofishing. Dipnetting also was undertaken as an alternate means of capturing larval mountain whitefish, but it was largely ineffective (i.e., only 18 individuals collected). Mountain whitefish dominated the overall small-fish catch (92%). This species comprised 93% of the beach seine sample and 38% of the backpack electrofishing sample. Other species collected included longnose sucker (3%), white sucker (<1%), longnose dace (2%), lake chub (2%), spoonhead sculpin (<1%), and trout-perch (<1%).

As specified in the Terms of Reference, emphasis was placed on the collection of fish in their larval stages. In total, 3880 larval mountain whitefish were recovered during the small-fish inventory program. No other species was recorded as larvae. Larval mountain whitefish represented 88% of the total fish catch by beach seine and backpack electrofishing.

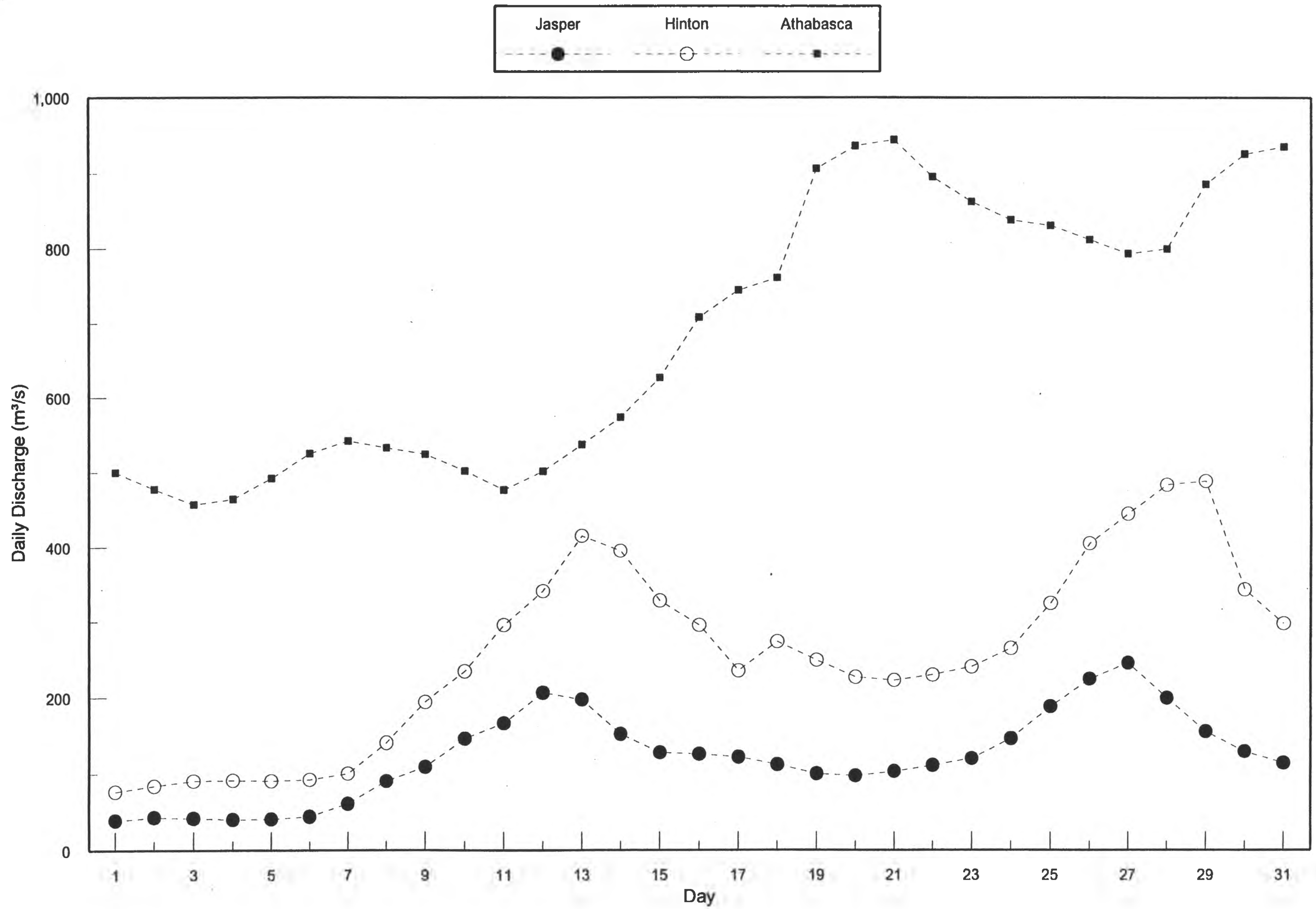


Figure 3.1 Daily discharges for the month of May 1994 on the Athabasca River at three sites, Jasper, Hinton, and Athabasca. (Water Survey of Canada, unpublished data)

Table 3.1 Species and numbers of fish recorded during inventories on the mainstem Athabasca River, 10-22 May 1994.

Species	Code[a]	Scientific Name	Capture Method[b]				Total	
			ES	BS	EF	DN	No.	Percent
SPORT FISH								
Arctic grayling	ARGR	*Thymallus arcticus* (Pallas)	81				81	1.1
Brook trout	BKTR	*Salvelinus fontinalis* (Mitchill)	6				6	0.1
Bull trout	BLTR	*Salvelinus confluentus* (Suckley)	23		1		24	0.3
Rainbow trout	RNTR	*Oncorhynchus mykiss* (Walbaum)	24		1		25	0.3
Mountain whitefish	MNWH	*Prosopium williamsoni* (Girard)	2606	4004	38	17	6665	87.8
Lake whitefish	LKWH	*Coregonus clupeaformis* (Mitchill)	22				22	0.3
Pygmy whitefish	PGWH	*Prosopium coulteri* (Eigenmann and Eigenmann)	1				1	0.0
Walleye	WALL	*Stizostedion vitreum* (Mitchill)	17				17	0.2
Northern pike	NRPK	*Esox lucius* (Linnaeus)	13				13	0.2
Burbot	BURB	*Lota lota* (Linnaeus)	12				12	0.2
NON-SPORT FISH								
Longnose sucker	LNSC	*Catostomus Catostomus* (Forster)	317	116	7	1	441	5.8
White sucker	WHSC	*Catostomus commersoni* (Lacépède)	38	28	4		70	0.9
MINNOWS[c]								
Lake chub	LKCH	*Couesius plumbeus* (Agassiz)	3	67	5		75	0.9
Longnose dace	LNDC	*Rhinichythys cataractae* (Valenciennes)	8	80	23		111	1.5
Trout-perch	TRPR	*Percopsis omiscomaycus* (Walbaum)	3	1			4	0.1
Spoonhead sculpin	SPSC	*Cottus ricei* (Nelson)		2	22		24	0.3
Total			**3174**	**4298**	**101**	**18**	**7591**	**100.0**

[a] Mackay et al. 1990.
[b] ES - boat electrofishing, BS - beach seining, EF - backpack electrofishing, DN - dipnetting.
[c] Minnow refers to various species of small fish including true minnows (Cyprinidae), sculpins (Cottidae), and trout-perch (Percopsidae).

3.1.1 Jasper National Park

3.1.1.1 Large-fish Inventory

Section J1A

Section J1A was located 13 km downstream of Athabasca Falls. This section of river was dominated by large cobble and boulder substrates, and the stream gradient was high (4.2 m/km) (R.L. & L. Environmental Services Ltd. 1994*a*). Shallow rapids predominated the area and, as a result, it contained few sections where water depth was greater than 1.5 m deep. The fish species assemblage in Section J1A reflected the physical habitat contained within this section of river.

Only mountain whitefish and bull trout were encountered during the survey (Table 3.2). Mountain whitefish was the dominant species (99% of catch); the sample was composed of equal numbers of juvenile and adult age-classes. No minnows were encountered during boat electrofishing. The single bull trout captured was an adult.

Average CPUE values (sample size = 10) indicated that fish densities were low in Section J1A (Figure 3.2). The combined catch rate for juvenile and adult mountain whitefish was 10 fish/km.

Section J2

Section J2 was situated immediately upstream of Becker Rapids (Km 1322.0). It exhibited a slightly lower gradient than Section J1A and substrates contained larger amounts of cobble and gravel (R.L. & L. Environmental Services Ltd. 1994*a*). The limited availability of deep water reduced its suitability as fish habitat.

Species diversity was higher in Section J2 than in Section J1 (Table 3.3). Four species were encountered, including mountain whitefish, bull trout, rainbow trout, and brook trout. As was the situation in Section J1A, mountain whitefish dominated the sample (94% of catch). Bull trout was next in abundance accounting for only 4% of the catch. No minnows were captured or observed in this section. The sample of mountain whitefish was distributed evenly between juvenile and adult fish. Three of the four bull trout captured were juveniles, while the rainbow and brook trout were adults.

Abundance indices generated from the boat electrofishing data were low (Figure 3.3). Average CPUE values (sample size = 10) were 10 fish/km for mountain whitefish and <1 fish/km for all other species.

Section J3

Section J3 (Km 1316.0 and Km 1311.0) was located immediately downstream from the Jasper townsite. Stream gradient and substrate type in this section differed from the two upstream situated survey sites (R.L. & L Environmental Services Ltd. 1994*a*). This section exhibited a lower channel gradient, increased channel braiding, and was dominated by small cobble and gravel substrates. This area contained an abundance of riffle-run complexes, thus increasing the amount and diversity of fish habitat available.

More fish were captured in Section J3 than in the previous two sampled areas and this increase was observed for all species encountered (i.e., mountain whitefish, bull trout, rainbow trout, brook trout, and longnose sucker). However, large numbers of mountain whitefish accounted for most of the fish captured (Table 3.4). Mountain whitefish dominated the sample (93% of catch) with rainbow trout being the next most numerous species (3% of catch). Each of, the remaining species accounted for <2% of the sample on an individual basis. No minnow species were encountered in Section J3; but, it was the farthest upstream site during this study that contained longnose suckers. For all species, the sample was evenly distributed between juveniles and adults.

Average CPUE values (sample size = 10) for mountain whitefish increased to 30 fish/km, while values for other species, although higher than in other sections, remained at or below 1 fish/km.

A single male longnose sucker captured from Section J3 was in spawning condition, which suggests that this species may utilize the mainstem Athabasca River for spawning purposes. Alternatively, this species may spawn in Pyramid Creek, which drains into the Athabasca River at Km 1310 near this section, as suggested by Mayhood (1992).

Section J4

Section J4, which was situated immediately downstream of the Highway 16 bridge, represented a transition zone between the Athabasca River and the lacustrine habitat provided by Jasper Lake. Because of the lower gradient, the section was comprised largely of low velocity, deep-water areas. Most of the section featured silt and gravel substrates.

The fish community in Section J4 differed from that recorded in upstream sections (Table 3.5). In addition to mountain whitefish, brook trout, and longnose sucker that were observed in previous sections, three additional species were recorded. Most notable was the pygmy whitefish, which was represented by a single specimen captured at Km 1289.5 on the Athabasca River. Lake whitefish and northern pike were the other two species encountered. Mountain whitefish dominated the sample (81% of catch), although to a lesser degree than in upstream areas. In decreasing order according to their contribution to the sample were lake whitefish (9% of catch), longnose sucker (6% of catch) and northern pike (4% of catch). Adult fish dominated the sample for all species but mountain whitefish. For mountain whitefish, 119 of 195 (61%) individuals were juvenile fish.

Abundance indices generally were low (Figure 3.5). In fact, the average CPUE values were below 3 fish/km for most species. In contrast, mountain whitefish catch rates were 20 fish/km, which is an indication of their dominant status in the area.

Nine of fourteen longnose suckers (64% of sample) were in spawning condition. This suggests that spawning likely occurred in the mainstem Athabasca River. Although widely distributed throughout the section, adults in spawning condition were consistently captured at the base of riffles over gravel substrates, conditions that are characteristic of longnose sucker spawning habitat (Scott and Crossman 1973).

Section J5

Section J5 was situated just upstream of the park's eastern boundary and included the mainstem river between Jasper and Brule lakes. The Athabasca River in this area exhibited a moderate gradient

Table 3.2 Life-stage distribution and total numbers captured for fish species encountered during the large-fish inventory in Section J1A on the Athabasca River, within Jasper National Park, 21 May 1994.

Sport and Non-sport Fish	Life-Stage		Total		Minnows	Total	
	Juvenile	Adult	No.	Percent		No.	Percent
Arctic grayling					Lake chub		
Brook trout					Longnose dace		
Bull trout		1	1	1.0	Trout-perch		
Rainbow trout					Sculpin spp.		
Mountain whitefish	52	51	103	99.0			
Lake whitefish							
Pygmy whitefish							
Walleye							
Northern pike							
Burbot							
Longnose sucker							
White sucker							
Total	**52**	**52**	**104**	**100.0**	**Total**	**0**	**0.0**

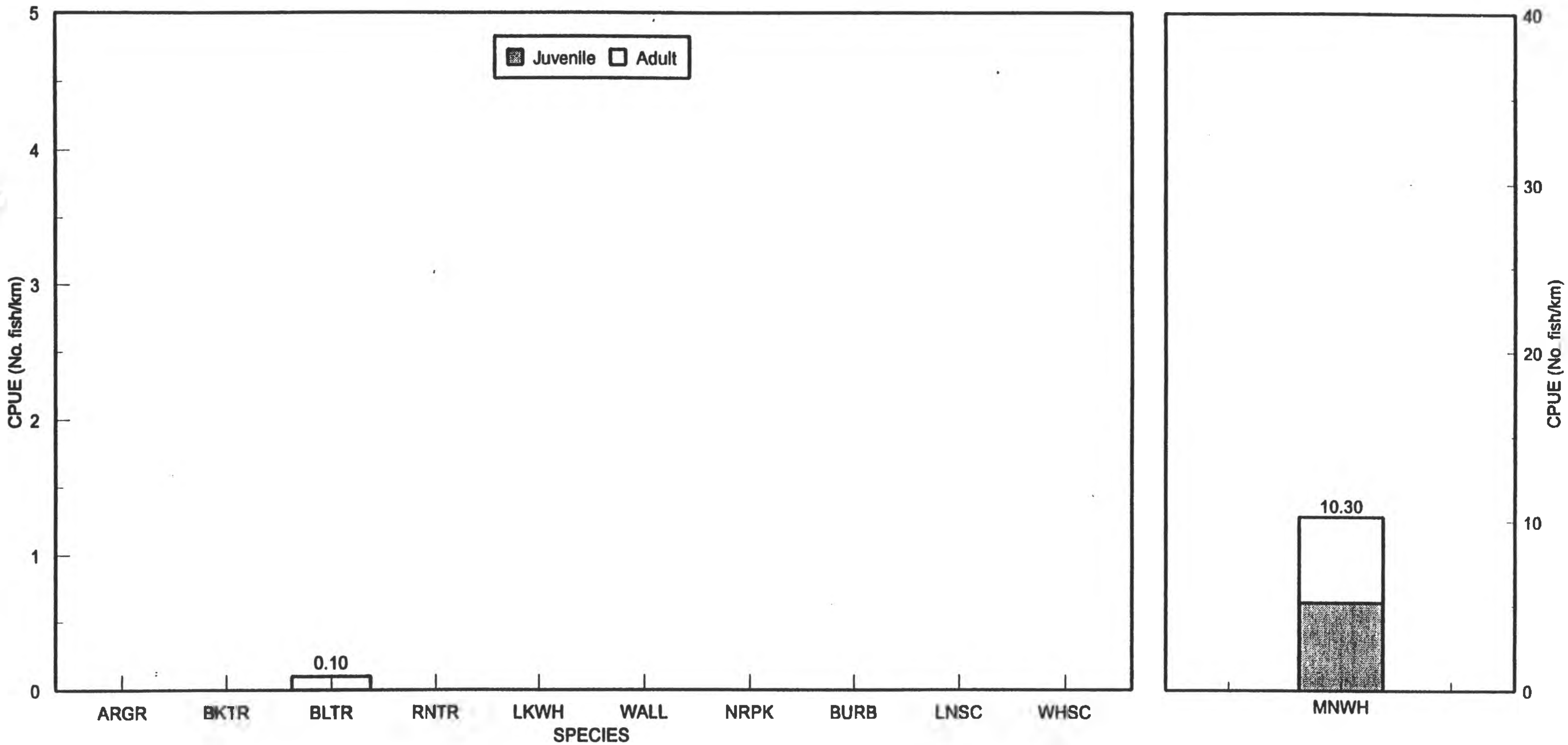


Figure 3.2 Catch-per-unit-effort values for fish species encountered during the large fish inventory in Section J1A of Athabasca River within Jasper National Park, 21 May 1994.

Table 3.3 Life-stage distribution and total numbers captured during boat electrofishing for fish species encountered from Section J2 of the Athabasca River, in Jasper National Park, 21 May 1994.

Sport and Non-sport Fish	Life-Stage		Total		Minnows	Total	
	Juvenile	Adult	No.	Percent		No.	Percent
Arctic grayling					Lake chub		
Brook trout		1	1	0.9	Longnose dace		
Bull trout	3	1	4	3.7	Trout-perch		
Rainbow trout		1	1	0.9	Sculpin spp.		
Mountain whitefish	49	53	102	94.5			
Lake whitefish							
Pygmy whitefish							
Walleye							
Northern pike							
Burbot							
Longnose sucker							
White sucker							
Total	**52**	**56**	**108**	**100.0**	**Total**	**0**	**0.0**

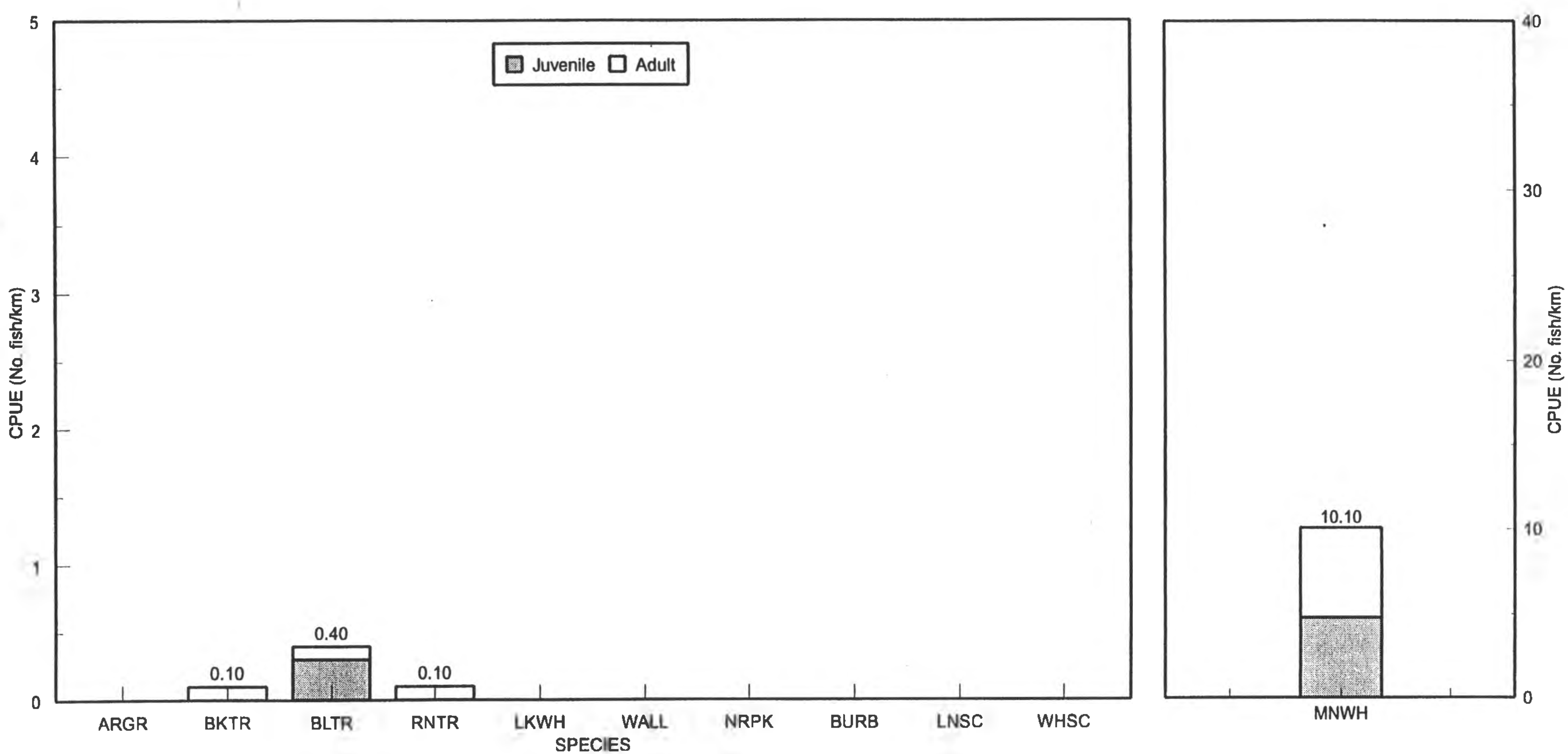


Figure 3.3 Catch-per-unit-effort values for fish species encountered during the large fish inventory in Section J2 of Athabasca River within Jasper National Park, 21 May 1994.

Table 3.4 Life-stage distribution and total numbers captured during boat electrofishing for fish species encountered from Section J3 of the Athabasca River, in Jasper National Park, 20 May 1994.

Sport and Non-sport Fish	Life-Stage		Total		Minnows	Total	
	Juvenile	Adult	No.	Percent		No.	Percent
Arctic grayling					Lake chub		
Brook trout	1	2	3	0.9	Longnose dace		
Bull trout	3	3	6	1.9	Trout-perch		
Rainbow trout	5	5	10	3.1	Sculpin spp.		
Mountain whitefish	155	144	299	93.2			
Lake whitefish							
Pygmy whitefish							
Walleye							
Northern pike							
Burbot							
Longnose sucker		3	3	0.9			
White sucker							
Total	**164**	**157**	**321**	**100.0**	**Total**	**0**	**0.0**

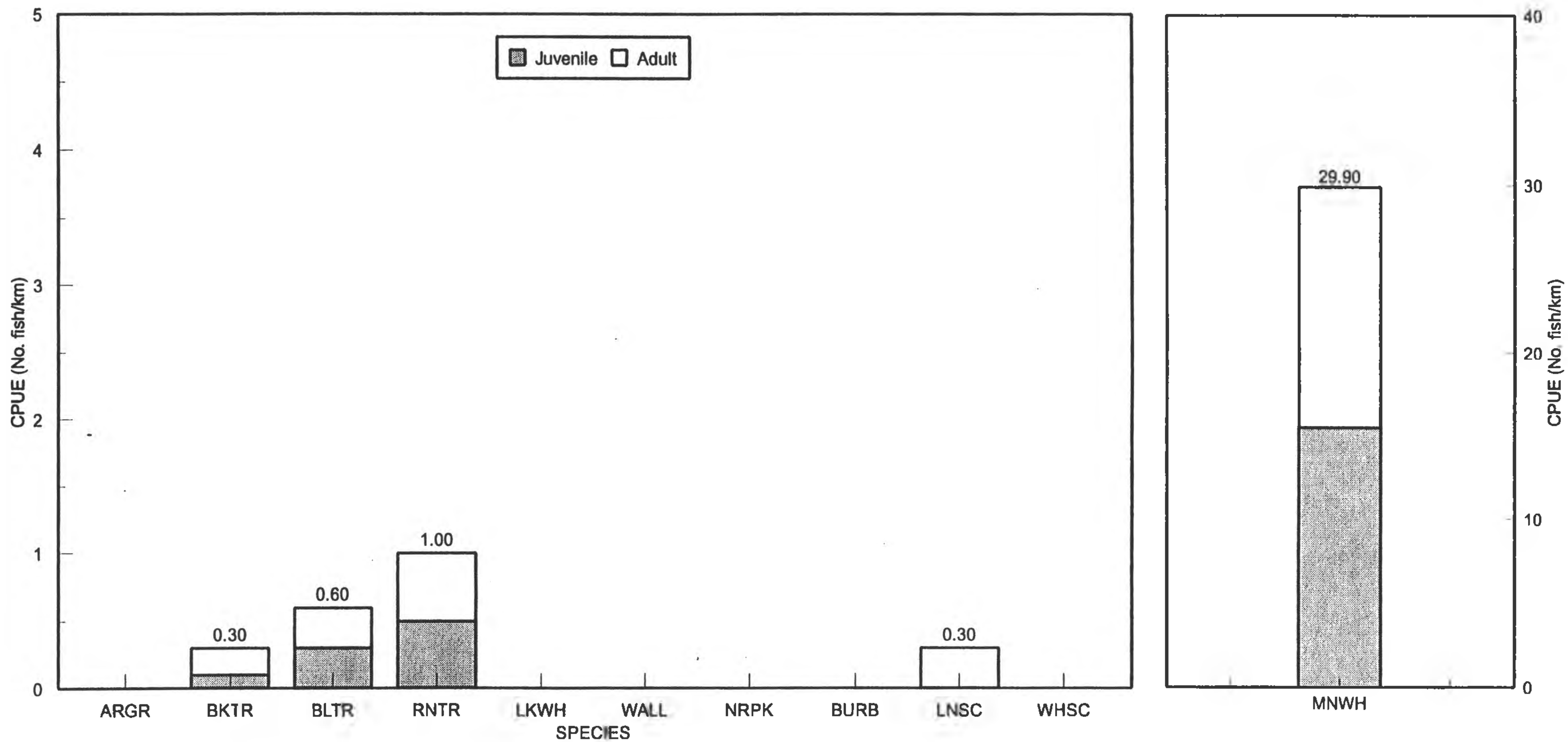


Figure 3.4 Catch-per-unit-effort values for fish species encountered during the large fish inventory in Section J3 of Athabasca River within Jasper National Park, 20 May 1994.

Table 3.5 Life-stage distribution and total numbers captured for fish species encountered during the large-fish inventory in Section J4 of the Athabasca River, in Jasper National Park, 19 May 1994.

Sport and Non-sport Fish	Life-Stage		Total		Minnows	Total	
	Juvenile	Adult	No.	Percent		No.	Percent
Arctic grayling					Lake chub		
Brook trout		1	1	0.4	Longnose dace		
Bull trout					Trout-perch		
Rainbow trout					Sculpin spp.		
Mountain whitefish	119	76	195	80.6			
Lake whitefish		22	22	9.1			
Pygmy whitefish		1	1	0.4			
Walleye							
Northern pike	1	8	9	3.7			
Burbot							
Longnose sucker		14	14	5.8			
White sucker							
Total	**120**	**122**	**242**	**100.0**	**Total**	**0**	**0.0**

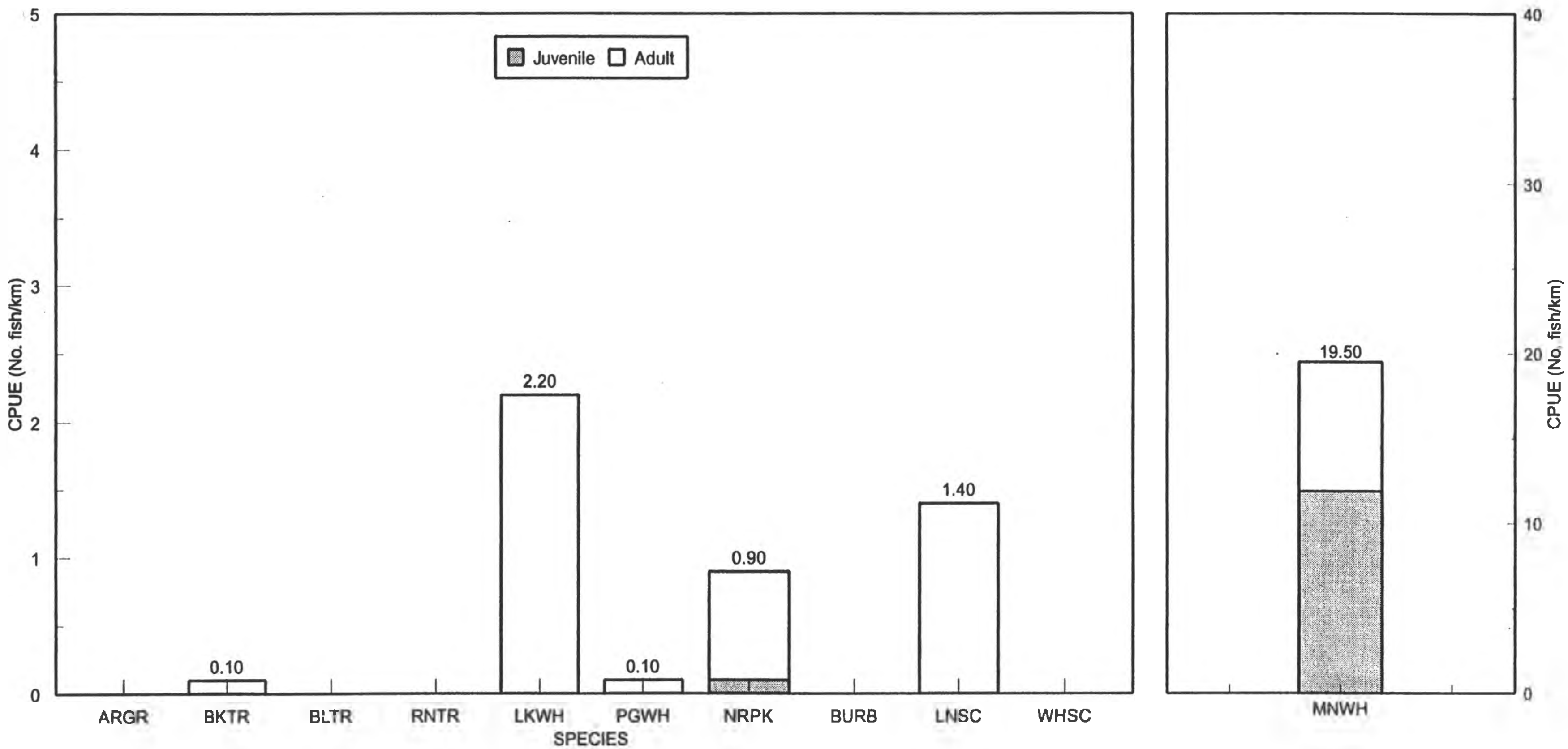


Figure 3.5 Catch-per-unit-effort values for fish species encountered during the large fish inventory in Section J4 of Athabasca River withn Jasper National Park, 19 May 1994.

Table 3.6 Life-stage distribution and total numbers captured during boat electrofishing for fish species encountered from Section J5 of the Athabasca River in Jasper National Park, 22 May 1994.

Sport and Non-sport Fish	Life-Stage		Total		Minnows	Total	
	Juvenile	Adult	No.	Percent		No.	Percent
Arctic grayling					Lake chub		
Brook trout					Longnose dace		
Bull trout	1	2	3	1.2	Trout-perch		
Rainbow trout					Sculpin spp.		
Mountain whitefish	110	107	217	88.6			
Lake whitefish							
Pygmy whitefish							
Walleye							
Northern pike							
Burbot							
Longnose sucker		25	25	10.2			
White sucker							
Total	**111**	**134**	**245**	**100.0**	**Total**	**0**	**0.0**

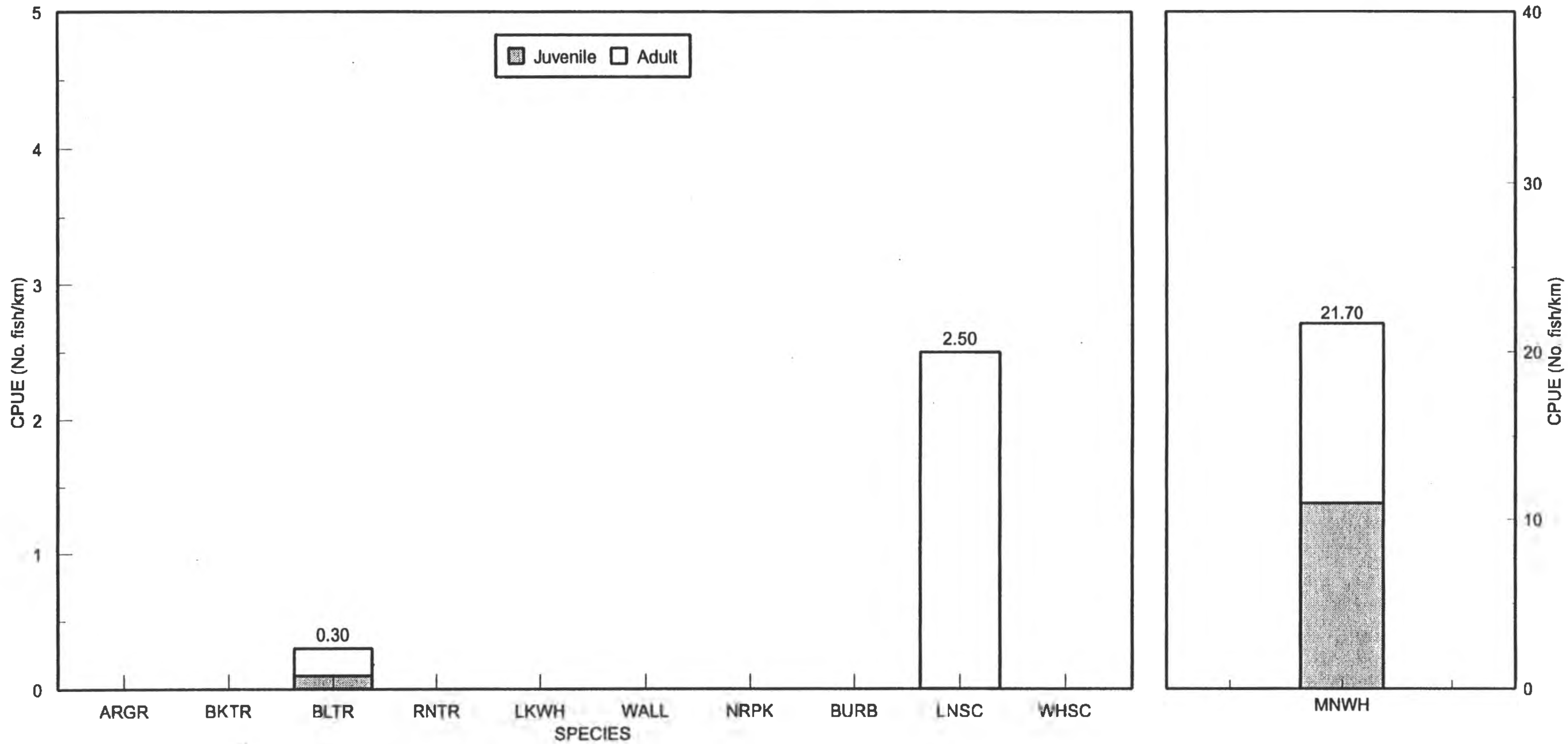


Figure 3.6 Catch-per-unit-effort values for fish species encountered during the large fish inventory in Section J5 of Athabasca River within Jasper National Park, 22 May 1994.

(0.9 m/km) and contained gravel to cobble substrates (R.L. & L. Environmental Services Ltd. 1994*a*). This section of river contained numerous deep runs interspersed with shallow riffles.

Species diversity was low in Section J5. Mountain whitefish (89% of catch), bull trout (1% of catch), and longnose sucker (10% of catch) were the only species recorded (Table 3.6). The mountain whitefish and bull trout samples were evenly split between juveniles and adults; only adult longnose suckers were captured. Five of the longnose suckers (20% of sample) were in spawning condition, indicating that this species may reproduce in this section of the mainstem Athabasca River.

Average CPUE values were 21 fish/km for mountain whitefish, 3 fish/km for longnose sucker, and <1 fish/km for bull trout (Figure 3.6).

3.1.1.2 Small-fish Inventory

Five species were recorded in the mainstem Athabasca River within Jasper National Park during the small-fish inventory (mountain whitefish, rainbow trout, longnose sucker, lake chub, and spoonhead sculpin), but mountain whitefish (yearlings and larvae) dominated the catch. Almost all (>99%) of the larval mountain whitefish and 61% of the yearling mountain whitefish were collected by beach seining, while the remainder were captured by backpack electrofishing and dipnetting.

Site J1

Site J1 (Km 1333.3) was the farthest upstream of the sampling sites in Jasper National Park. The site was situated between the Whirlpool River confluence and the Wabasso campground. Only beach seining was undertaken at Site J1 and mountain whitefish was the only species recorded. The overall CPUE value for larval mountain whitefish was 134.4 fish/100 m^2 (Table 3.7a). The water temperature was 7 °C on 20 May 1994, the day of the sampling event.

Due to limited availability of suitable seining habitat only two seine hauls were conducted. The substrate at Haul 1 was 100% sand/silt, whereas at Haul 2 the substrate was more diverse (80% fines and 20% large cobble). The mean depth at Haul 1 and Haul 2 were 18 cm, and 37 cm, respectively. Velocities were similar in both haul areas (0.25 m/s). CPUE values for larval mountain whitefish were 226.0 fish/100 m^2 and 29.7 fish/100 m^2 for hauls 1 and 2, respectively.

Site J2

Site J2 (Km 1316.2) was located at the Old Fort Bridge near the Jasper townsite. It was located along the left upstream bank, immediately below the bridge. Upstream of the site, the channel was singular in nature, whereas the downstream end was bounded by a midchannel cobble bar. Mountain whitefish yearlings (sample size = 5) and larvae (sample size = 6), spoonhead sculpins (sample size = 4), and longnose sucker (sample size = 1) were encountered at Site J2 (Table 3.7a). Both beach seining and backpack electrofishing were conducted on 18 May 1994; the recorded water temperature on this day was 12 °C.

Four beach seine hauls were conducted at Site J2. Three hauls were situated along the mainstem margin; the fourth haul was located in a backwater area associated with a side channel. The overall CPUE values for species captured at this site were 1.5 fish/100 m^2 for mountain whitefish larvae, 1.0 fish/100 m^2 for mountain whitefish yearlings, and 0.3 fish/100 m^2 for spoonhead sculpin. All mountain whitefish larvae were captured in Haul 1, which produced a haul-specific CPUE value of 4.8 fish/100 m^2. Haul 1 was through a backwater area in FLAT habitat. The mean depth was 43 cm, the maximum depth was 67 cm, and the velocity was 0.10 m/s. The substrate was sand/silt (70%) and small gravel (30%). Hauls 2 and 3 were completed in RUN habitat, which had velocities of 0.53 m/s and 0.44 m/s, respectively; the substrate consisted of large-sized material (i.e., >90% cobble).

There were 4 spoonhead sculpins, 1 yearling mountain whitefish, and 1 longnose sucker collected by backpack electrofishing at Site J2. Average CPUE values were 0.2 fish/min for spoonhead sculpin and 0.1 fish/min for both mountain whitefish and longnose sucker. Spoonhead sculpins were captured in RIFFLE habitat.

Site J3

Site J3 (Km 1311.2) was located downstream of the Maligne Bridge, along the right upstream bank. Due to the lack of suitable beach seining areas, only backpack electrofishing was conducted at this site.

Backpack electrofishing was carried out along the margin of a cobble disposition bar and in the side-channel separating the bar from the river bank. The substrate was dominated by cobble and boulder. One yearling rainbow trout (CPUE = 0.1 fish/min) and one longnose sucker yearling (CPUE = 0.1 fish/min) were captured (Table 3.7a). The recorded water temperature was 7 °C.

Site J4

Site J4 (Km 1308.3) was located immediately upstream of the Maligne River confluence. Beach seining was conducted along a sandy river margin in FLAT habitat. In contrast, backpack electrofishing was conducted over cobble-gravel point bars upstream and downstream of the seined area. The only fish collected at this site were larval mountain whitefish (sample size = 469) (Table 3.7a). Both beach seining and backpack electrofishing were conducted on 19 May 1994; the recorded water temperature on this date was 8 °C.

Because of limited availability of suitable seining areas, only two beach seine hauls were completed at this site. Both the upstream (Haul 1) and downstream hauls were conducted at similar depths (30 cm mean), velocities (0.12 m/s), and substrates (100% sand/silt). The overall CPUE value for larval mountain whitefish at this site was 167.5 fish/100 m^2. However, the CPUE values for larval mountain whitefish for Haul 1 and Haul 2 were 74.3 and 260.7 fish/100 m^2, respectively.

Backpack electrofishing was ineffective in capturing fish at this site.

Site J5

Site J5 (Km 1297.6) was located at the mouth of the Snaring River. Specimens collected at this site included mountain whitefish larvae (sample size = 1663), and longnose suckers (sample size = 2). Both beach seining and backpack electrofishing were undertaken on 19 May 1994 (Table 3.7b).

Of the four seine hauls conducted at Site J5, two (Hauls 1 and 2) were located immediately downstream of the southern most channel of the Snaring River, in Snaring River water and two (Hauls 3 and 4) were located immediately upstream of the Snaring River confluence, in

Athabasca River water. All hauls were in FLAT habitat, and hauls 1, 3, and 4 were over 100% sand/silt substrate. Haul 2 was over 80% gravel and 20% silt/sand (Appendix C3). Velocities were 0.03 and 0.02 m/s for hauls 1 and 2, respectively, and 0.15 and 0.13 m/s for hauls 3 and 4, respectively. The recorded water temperatures were 6.5 °C for the Snaring River and 10 °C for the Athabasca River. Haul 4 captured the highest number of larval mountain whitefish (sample size = 1112), and had the highest CPUE (706.0 fish/100 m^2). CPUE values for hauls 1, 2, 3, were 28.6, 0.0, and 327.6, respectively.

Backpack electrofishing was conducted in the lower Snaring River, near its confluence with the Athabasca River; no fish were captured.

Site J6

Site J6 (Km 1294.3) was located immediately upstream of the Highway 16 bridge crossing. Sampling was conducted along the margins of two midchannel bars. In total, 31 fish representing four species (mountain whitefish, spoonhead sculpin, longnose sucker, and lake chub) were captured (Table 3.7b).

In six beach seine hauls, 13 yearling mountain whitefish and one juvenile longnose sucker were captured. Larval mountain whitefish were not captured at this site, although one was observed while backpack electrofishing. The overall site CPUE value for yearling mountain whitefish was 2.4 fish/100 m^2. Fish were captured in backwater (FLAT) habitat midway along the midchannel bar. The substrate composition in microhabitats occupied by mountain whitefish was 60% sand, 30% large cobble, and 10% large gravel. Current velocities ranged from 0.08 m/s to 0.39 m/s. The mean depths at capture locations ranged from 23 to 35 cm; the maximum depth recorded was 39 cm. A water temperature of 8.0 °C was recorded on the sampling day (11 May 1994).

Eleven yearling mountain whitefish, 4 spoonhead sculpins, and 2 lake chub were captured by backpack electrofishing. Overall CPUE values for mountain whitefish and spoonhead sculpin were 0.4 fish/min and 0.2 fish/min, respectively. The habitat types sampled varied between RIFFLE and RUN. However, mountain whitefish were usually captured in RUN habitats immediately below a RIFFLE. Velocities in these areas were similar to those in the main channel, and depths were between 30 and 50 cm. The water temperature at the time of sampling (18 May 1994) was 12 °C.

Site J7

Site J7 (Km 1287.5) was located along the southwestern shore of Jasper Lake in the immediate vicinity of the Edna Lake outflow. In total, 557 larval mountain whitefish were collected; no other species was captured at this site. Beach seining was undertaken on 18 May 1994; backpack electrofishing was not conducted due to its ineffectiveness in this habitat type (lacustrine with <10 cm mean depth).

Three beach seine hauls were conducted at Site J7. Haul 1 was located upstream of the Edna Lake outflow, Haul 2 was through the outflow (i.e., perpendicular to it), and Haul 3 was downstream of the outflow. The overall CPUE for larval mountain whitefish at Site J7 was 91.7 fish/100 m^2 (Table 3.7b), but there was a substantial difference in CPUE between seine hauls. Hauls 1 and 3 had CPUEs of 17.0 fish/100 m^2 and 16.3 fish/100 m^2, respectively, while Haul 2 had a CPUE of 354.1 fish/100 m^2. The high CPUE value for the Edna Lake outflow suggests that small inflows to the Athabasca River may represent important rearing areas for mountain whitefish larvae. Due to unsuitable spawning habitat conditions for mountain whitefish in the Edna Lake outflow, larvae captured in the outflow were presumed to have hatched in natal areas upstream of Jasper Lake.

The substrate at the haul sites was 100% sand/silt, and mean depths were similar (i.e., 4-8 cm). Velocities were low, averaging 0.01 m/s at hauls 1 and 3 and 0.09 m/s in the Edna Lake outflow. A water temperature of 9 °C was recorded during sampling.

Table 3.7a Numbers and catch-per-unit-effort values for fish species encountered during the small-fish inventory at sites J1 to J4 on the Athabasca River, 18-20 1994.

Species	SITE J1[a]			SITE J2					SITE J3[b]			SITE J4				
	Number		CPUE[c] Values	Number			CPUE Values		Number		CPUE Values	Number			CPUE Values	
	BS[d]	%[e]	BS	BS	EF[f]	%	BS	EF	EF	%	EF	BS	EF	%	BS	EF
Mountain whitefish (larval)	252	100.0	134.4	6		37.5	1.5					469		100.0	167.5	
Mountain whitefish (juvenile)				4	1	31.3	1.0	0.1								
Longnose sucker					1	6.2		0.1	1	100.0	0.1					
White sucker																
Trout-perch																
Longnose dace																
Lake chub																
Spoonhead sculpin				1	3	25.0	0.3	0.2								
TOTAL	**252**			**11**	**5**	**100.0**			**1**			**469**	**0**			

[a] Backpack electrofishing not conducted at this site.
[b] Beach seining not conducted at this site.
[c] CPUE units for beach seining are no. fish/100 m^2; CPUE units for backpack electrofishing are no. fish/min.
[d] BS - Beach seining
[e] Represents percentage for combined BS and EF numbers.
[f] EF - Backpack electrofishing

Table 3.7b Numbers and catch-per-unit-effort values for fish species encountered during the small-fish inventory at sites J5 to J7 on the Athabasca River, in Jasper National Park, 11-19 May 1994.

Species	SITE J5					SITE J6					SITE J7[a]		
	Number			CPUE Values[b]		Number			CPUE Values		Number		CPUE Values
	BS[c]	EF[d]	%[e]	BS	EF	BS	EF	%	BS	EF	BS	%	BS
Mountain whitefish (larval)	1663		99.9	297.0							557	100.0	91.7
Mountain whitefish (juvenile)						13	11	77.4	2.4	0.4			
Longnose sucker	2		0.1	0.4		1		3.2	0.2				
White sucker													
Trout-perch													
Longnose dace													
Lake chub							2	6.5		0.1			
Spoonhead sculpin							4	12.9		0.2			
TOTAL	**1665**	**0**	**100.0**			**14**	**17**	**100.0**			**557**	**100.0**	

[a] Backpack electrofishing not conducted at this site.
[b] CPUE units for beach seining are no. fish/100 m^2; CPUE units for backpack electrofishing are no. fish/min.
[c] BS - Beach seining
[d] EF - Backpack electrofishing
[e] Represents percentage for total number captured (i.e., beach seining and backpack electrofishing combined).

3.1.2 Hinton Area

3.1.2.1 Large-fish Inventory

The Hinton inventory section was 41 km in length (10 km upstream and 31 km downstream of the Hinton-Weldwood outfall). This section included Site A1, which was previously sampled during spring 1992 (R.L. & L. Environmental Services Ltd. 1993*a*) and fall 1993 (R.L. & L. Environmental Services Ltd. 1994*a*). The Athabasca River in this area exhibited a moderate gradient (1.0 m/km) and the substrate was characterized by cobbles and gravels interspersed with silt substrates. The moderate gradient created numerous run/riffle complexes, particularly downstream of the Hinton townsite.

Eight species of fish were recorded in the Hinton section (Table 3.8). Mountain whitefish dominated the sample (86% of catch), followed by longnose suckers (10% of catch). The remaining species made much smaller contributions (<2% of catch on an individual basis). Northern pike (sample size = 2) were observed but not captured in this section. For Arctic grayling and burbot, the Hinton section represented the maximum upstream capture location. For most species, the catch was dominated by adult fish; however, 505 of 611 captured mountain whitefish (83% of sample) consisted of juveniles. The percentage contribution of juvenile mountain whitefish at this site was much higher than at upstream locations. Although 65 adult longnose suckers were captured in the Hinton section, none were in spawning condition. Because water temperatures (10 °C) were above the range that induces spawning in this species, (Scott and Crossman 1973) the absence of fish in spawning condition indicates that either fish were not utilizing the mainstem river for spawning purposes, or that fish had completed spawning prior to sampling. The single Arctic grayling captured at Hinton was a male that had recently completed spawning (i.e., spent).

Abundance indices were similar to those generated for samples collected in upstream sections. Average CPUE values were 15 fish/km for mountain whitefish and <2 fish/km for all other species (Figure 3.7).

3.1.2.2 Small-fish Inventory

Sampling for small fish occurred at three sites in the Hinton area. The catch consisted of mountain whitefish larvae (sample size = 69), and juveniles (sample size = 74), longnose suckers (sample size = 85), white suckers (sample size = 37), spoonhead sculpins (sample size = 15), lake chub (sample size = 3), and longnose dace (sample size = 24). With regard to suckers, older juveniles could be readily identified to species in the field, but differentiating between 40-50 mm yearlings was difficult.

Site H1

Site H1 (Km 1234.9) was located at the confluence of Maskuta Creek and the mainstem Athabasca River. While all sampling was on the left upstream bank, beach seining was conducted upstream of the confluence, and backpack electrofishing was carried out downstream. Contributing to the catch at Site H1 were longnose suckers (sample size = 61), mountain whitefish larvae (sample size = 14), juvenile mountain whitefish (sample size = 19), spoonhead sculpins (sample size = 11), lake chub (sample size = 3), and longnose dace (sample size = 18) (Table 3.9).

Three beach seine hauls were conducted at Site H1; they took place on 12 May 1994, at a water temperature of 14 °C. Most of the yearling mountain whitefish (78%), larval mountain whitefish (71%) and longnose sucker (89%) were captured in Haul 3 (closest to Maskuta Creek). Of the three hauls, Haul 3 exhibited the highest velocity (0.51 m/s), greatest mean depth (55 cm) and maximum depth (67 cm). Haul 1 was in FLAT habitat, whereas hauls 2 and 3 were in RUN habitat. Beach seining CPUE values were 4.4 fish/100 m^2 for mountain whitefish larvae and 5.7 fish/100 m^2 for juvenile mountain whitefish. Haul 3 values for larval and yearling mountain whitefish were 9.5 and 13.3 fish/100 m^2, respectively.

Backpack electrofishing was conducted on 17 May 1994. CPUE values generated were 1.1 fish/min for longnose sucker, 1.0 fish/min for white sucker, 0.6 fish/min for longnose dace, 0.3 fish/min for spoonhead sculpin, 0.1 fish/min for lake chub, and <0.1 fish/min for juvenile mountain whitefish. The habitat type sampled was primarily RUN. Of the three sites electrofished in the Hinton Area, Site H1 had the highest number of species and the greatest number of individuals captured.

Site H2

Site H2 (Km 1226.7) was located immediately downstream of the Weldwood Haul Road Bridge and along the right upstream bank. The area was characterized by numerous exposed gravel bars. Contributing to the catch at Site H2 were larval and juvenile mountain whitefish, longnose suckers, white suckers, spoonhead sculpins, and longnose dace.

Four beach seine hauls were conducted at this location; sampling occurred on 12 May 1994, at a water temperature of 10.5 °C. Hauls 1 to 3 were undertaken in moderate current velocity, (ranged from 0.14 to 0.35 m/s) whereas Haul 4 was conducted in a backwater, which exhibited zero velocity. In terms of habitat types, Haul 1 was in RUN to FLAT habitat, hauls 2 and 3 were in RIFFLE habitat, and Haul 4 was in FLAT habitat. Mean haul depths were 30, 17, 39, and 25 cm for hauls 1, 2, 3 and 4, respectively. There were 29 yearling mountain whitefish seined at Site H2, and 62% of these were captured in Haul 4. The overall CPUE value for larval mountain whitefish at Site H2 was 2.5 fish/100 m^2 (Table 3.9). However, all were captured in Haul 4, providing a haul-specific CPUE of 17.9 fish/100 m^2. The overall site CPUE value for yearling mountain whitefish was 4.9 fish/100 m^2.

Backpack electrofishing was conducted at Site H2 on 17 May 1994. The water temperature recorded during this sampling event was 9 °C. Yearling mountain whitefish comprised 61% of the catch. Overall CPUE values were 0.8 fish/min for yearling mountain whitefish, 0.2 fish/min for spoonhead sculpin, 0.2 fish/min for white sucker, 0.1 fish/min for longnose sucker, and 0.1 fish/min for longnose dace.

Site H3

Site H3 (Km 1218.5) was located at approximately 10 km below the combined Hinton-Weldwood discharge point. The sampling site was on the right upstream bank and was accessed by boat. Contributing to the total catch at Site H3 were yearling mountain whitefish (sample size = 6), larval mountain whitefish (sample size = 39), longnose suckers (sample size = 2), white suckers (sample size = 2), and longnose dace (sample size = 1) (Table 3.9).

Three beach seine hauls were undertaken at Site H3. The water temperature recorded during sampling on 17 May was 8 °C. Haul 2 had the highest CPUE value for larval mountain whitefish (20.6 fish/100 m^2). The substrate at Haul 2 was 100% sand/silt, the habitat type was FLAT, the mean and maximum depths were 25 and 29 cm, respectively, and the velocity was 0.31 m/s. Haul 1 was located in a backwater area (FLAT habitat) over substrate identical to Haul 2; the Haul 1 CPUE for larval mountain whitefish was 2.2 fish/100 m^2. Haul 3 was in RUN habitat over larger-sized substrate and higher velocities than at Haul 2; larval mountain whitefish were not captured in Haul 3.

Backpack electrofishing CPUE values at Site H3 were the lowest of the three sites investigated in the Hinton area. The CPUE values were 0.2 fish/min for juvenile mountain whitefish, and 0.1 fish/min for longnose dace and 0.1 fish/min for longnose sucker; these were the only species captured by electrofishing at Site H3.

Table 3.8 Life-stage distribution and total numbers captured for fish species encountered during the large-fish inventory in the Hinton Section of the Athabasca River, 16 and 17 May 1994.

Sport and Non-sport Fish	Life-Stage		Total		Minnows	Total	
	Juvenile	Adult	No.	Percent		No.	Percent
Arctic grayling		1	1	0.1	Lake chub		
Brook trout	1		1	0.1	Longnose dace		
Bull trout	3	6	9	1.3	Trout-perch		
Rainbow trout	1	11	12	1.7	Sculpin spp.		
Mountain whitefish	505	106	611	86.2			
Lake whitefish							
Pygmy whitefish							
Walleye							
Northern pike		*[a]					
Burbot		4	4	0.6			
Longnose sucker	6	65	71	10.0			
White sucker							
Total	**516**	**193**	**709**	**100.0**	**Total**	**0**	**0.0**

[a] Observed but not captured.

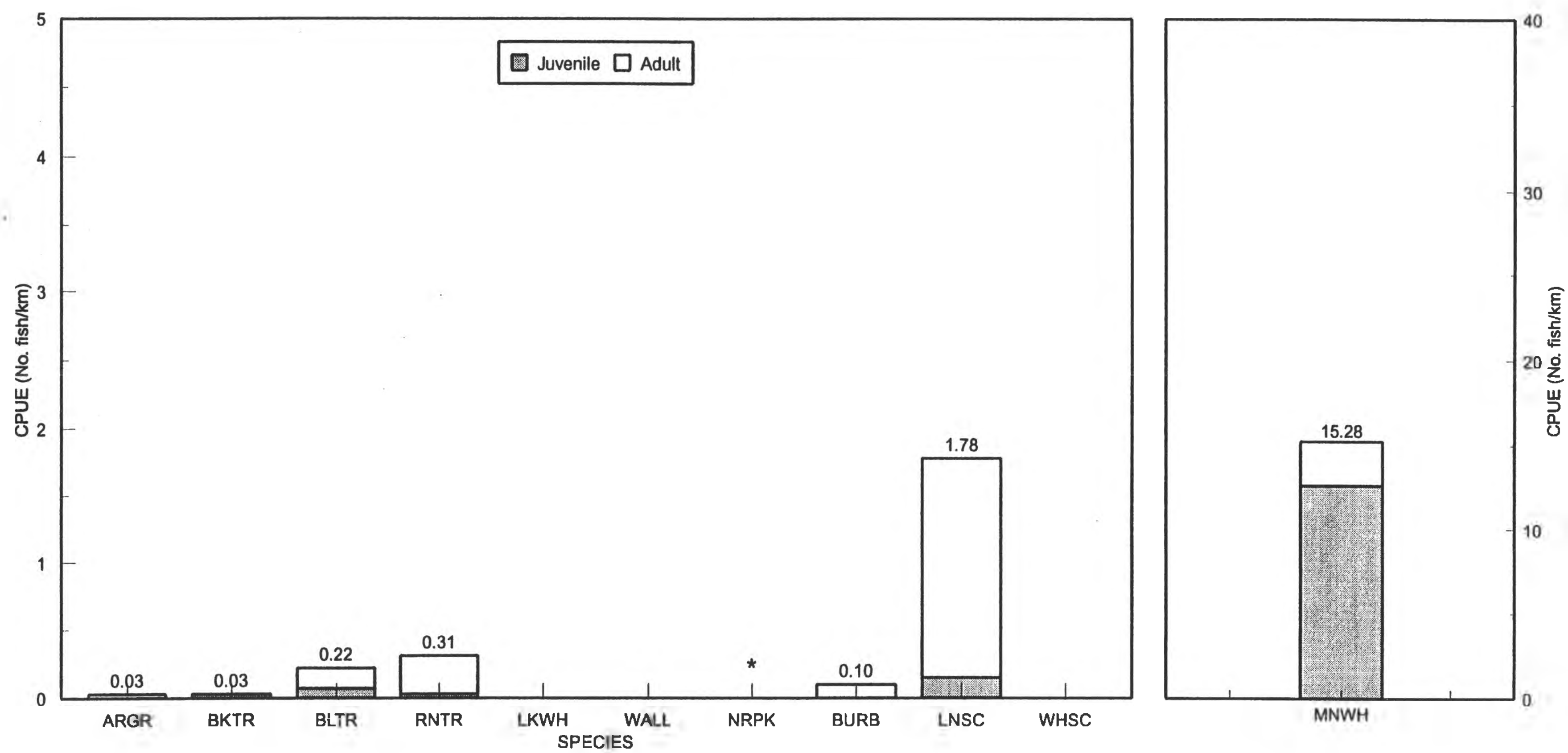


Figure 3.7 Catch-per-unit-effort values for fish species encountered during the large fish inventory in the Hinton Section of Athabasca River, 16 and 17 May 1994. (* observed but not caught)

Table 3.9 Numbers and catch-per-unit-effort values for fish species captured during the small-fish inventory at sites H1 to H3 near Hinton on the Athabasca River, 12-17 May 1994.

Species	SITE H1					SITE H2					SITE H3				
	Number			CPUE Values[a]		Number			CPUE Values		Number			CPUE Values	
	BS[b]	EF[c]	%[d]	BS	EF	BS	EF	%	BS	EF	BS	EF	%	BS	EF
Mountain whitefish (larval)	14		8.9	4.4		15	1	16.0	2.5		39		78.0	8.7	
Mountain whitefish (juvenile)	18	1	12.1	5.7	<0.1	29	20	49.0	4.9	0.8	1	5	12.0	0.2	0.2
Longnose sucker	27	34	38.9	8.6	1.1	19	3	22.0	3.2	0.1	1	1	4.0	0.2	0.1
White sucker		31	19.7		1.0		4	4.0		0.2	2		4.0	0.4	
Trout-perch															
Longnose dace		18	11.5		0.6	3	2	5.0	0.5	0.1		1	2.0		0.1
Lake chub		3	1.9		0.1										
Spoonhead sculpin		11	7.0		0.3		4	4.0		0.2					
TOTAL	**59**	**98**	**100.0**			**66**	**34**	**100.0**			**43**	**7**	**100.0**		

[a] CPUE units for beach seining are no. fish/100 m²; CPUE units for backpack electrofishing are no. fish/min.
[b] BS - Beach seining.
[c] EF - Backpack electrofishing.
[d] Represents percentage for combined BS and EF numbers.

3.1.3 Knight Area

3.1.3.1 Large-fish Inventory

The Knight inventory section, which was situated between Km 1113 and Km 1094, included previously sampled Site A2 (R.L. & L. Environmental Services Ltd. 1993*a*, 1994*a*). Extensive channel braiding occurs at the upper and lower ends of the section and numerous riffle-run complexes were noted. The dominant substrate materials were cobbles and gravels.

Eight species of fish were recorded in the Knight area including 5 sport fish, 2 non-sport fish, and 1 minnow species (i.e., longnose dace) (Table 3.10). Similar to the results obtained in upstream sections, mountain whitefish dominated (70% of catch). However, in this section Arctic grayling also accounted for a large percentage of the sample (24% of catch). Individually, the remaining species accounted for <5% of the catch. Northern pike (sample size = 2) were observed but not captured in the Knight section. Most of the mountain whitefish sampled were juveniles, but the Arctic grayling sample was evenly comprised of juvenile and adult fish.

The average CPUE value for mountain whitefish was 12 fish/km (sample size = 20) (Figure 3.8). This value was not as high as in most other sampled sections. The average catch rate for Arctic grayling exceeded 4 fish/km, which was higher than indices recorded for most other species in this section, as well as for sport fish in other sections of the mainstem Athabasca River during spring 1994.

3.1.3.2 Small-fish Inventory

Small-fish sampling occurred at three sites; access was by boat since road access to the river was very limited throughout this reach. Mountain whitefish dominated the catch in the Knight area; there were 178 larval mountain whitefish and 48 juvenile mountain whitefish collected. Other species captured in the Knight area included longnose suckers (sample size = 58), white suckers (sample size = 21), longnose dace (sample size = 48), lake chub (sample size = 25), and spoonhead sculpin (sample size = 1). Most (99%) of the specimens were collected by beach seining, because backpack electrofishing efficiency was considerably reduced by high turbidity levels.

Site K1

Site K1 was located at Km 1107.5, approximately 5 km above the Knight Bridge. Sampling was conducted along the right upstream bank of a midchannel cobble bar. Of the three Knight sites sampled, Site K1 had the highest number of yearling mountain whitefish and the second highest number of larval mountain whitefish (Table 3.11). The water temperature recorded during sampling (14 May 1994) was 11 °C.

Overall site CPUE values were 17.0 fish/100 m^2 for larval mountain whitefish, 6.4 fish/100 m^2 for yearling mountain whitefish, 7.8 fish/100 m^2 for longnose sucker, 4.6 fish/100 m^2 for longnose dace, 2.8 fish/100 m^2 for lake chub, and 0.2 fish/100 m^2 for spoonhead sculpin (Table 3.11). Most (99%) of the larval mountain whitefish were collected in Haul 3; (CPUE of 32.4 fish/100 m^2). Haul 3 was conducted in a backwater (FLAT habitat) which was situated downstream of a point bar. It was characterized by the shallowest mean depth (26 cm), lowest velocity (0 m/s), and smallest substrate material (100% silt/sand) of the three hauls. Only 1 fish, a longnose dace, was captured by backpack electrofishing at Site K1.

Site K2

Site K2 (Km 1103.1) was located approximately 0.5 km upstream of the Knight Bridge. Backpack electrofishing and beach seining were conducted along the left upstream bank of a midchannel island on 15 May 1994; the recorded water temperature was 9 °C. There were 11 larval mountain whitefish, 11 yearling mountain whitefish, 24 longnose suckers, 18 white suckers, 23 longnose dace, and 12 lake chub captured at this site.

The overall CPUE for the site (based on three hauls) was 1.8 fish/100 m^2 for both larval mountain whitefish and yearling mountain whitefish (Table 3.11). All of the larval mountain whitefish were collected in Haul 3, which had the shallowest mean depth (8 cm) and lowest velocity (0.24 m/s). Haul 3 was through RIFFLE/FLAT habitat, whereas hauls 1 and 2 sampled RUN habitats. Most (91%) of the yearling mountain whitefish were collected in Haul 2, which was intermediate in depth (29 cm) and velocity (0.46 m/s). No mountain whitefish were taken in Haul 1, which featured the highest velocity (0.78 m/s) and greatest depths (mean = 55 cm, max. = 69 cm) of the three hauls.

Backpack electrofishing at Site K2 resulted in the capture of only one fish, a longnose dace; the CPUE was 0.1 fish/min.

Site K3

Site K3 (Km 1102.5) was located along the left upstream bank immediately downstream of the Knight Bridge. Sampling, which included both beach seining and backpack electrofishing, was conducted on 15 May 1994; a surface water temperature of 9.5 °C was recorded. Larval (sample size = 93) and juvenile (sample size = 9) mountain whitefish, white suckers (sample size = 3), longnose dace (sample size = 3), and lake chub (sample size = 1) were encountered in the catch.

The overall CPUE (based on three hauls) for larval mountain whitefish at Site K3 was 24.9 fish/100 m^2, which was the highest of the three Knight sites (Table 3.11). Haul-specific CPUE values were 55.0 fish/100 m^2 (Haul 2), 50.0 fish/100 m^2 (Haul 3) and 0 fish/100 m^2 (Haul 1). Areas sampled by hauls 2 and 3 featured higher percentages of sand/silt substrates, and lower mean velocities, than Haul 1. Yearling mountain whitefish were collected in all 3 hauls, and the overall CPUE for the site was 2.4 fish/100 m^2.

Due to high turbidity levels, which reduced capture efficiency in the Knight area, no fish were collected by backpack electrofishing at Site K3.

Table 3.10 Life-stage distribution and total numbers captured for fish species encountered during the large-fish inventory in the Knight Section of the Athabasca River, 14 and 15 May 1994.

Sport and Non-sport Fish	Life-Stage		Total		Minnows	Total	
	Juvenile	Adult	No.	Percent		No.	Percent
Arctic grayling	46	36	82	23.5	Lake chub		
Brook trout					Longnose dace	1	100.0
Bull trout					Trout-perch		
Rainbow trout		1	1	0.3	Sculpin spp.		
Mountain whitefish	185	59	244	69.9			
Lake whitefish							
Pygmy whitefish							
Walleye							
Northern pike		*[a]					
Burbot		1	1	0.3			
Longnose sucker	5	9	14	4.0			
White sucker	2	5	7	2.0			
Total	**238**	**111**	**349**	**100.0**	**Total**	**1**	**100.0**

[a] Observed but not captured.

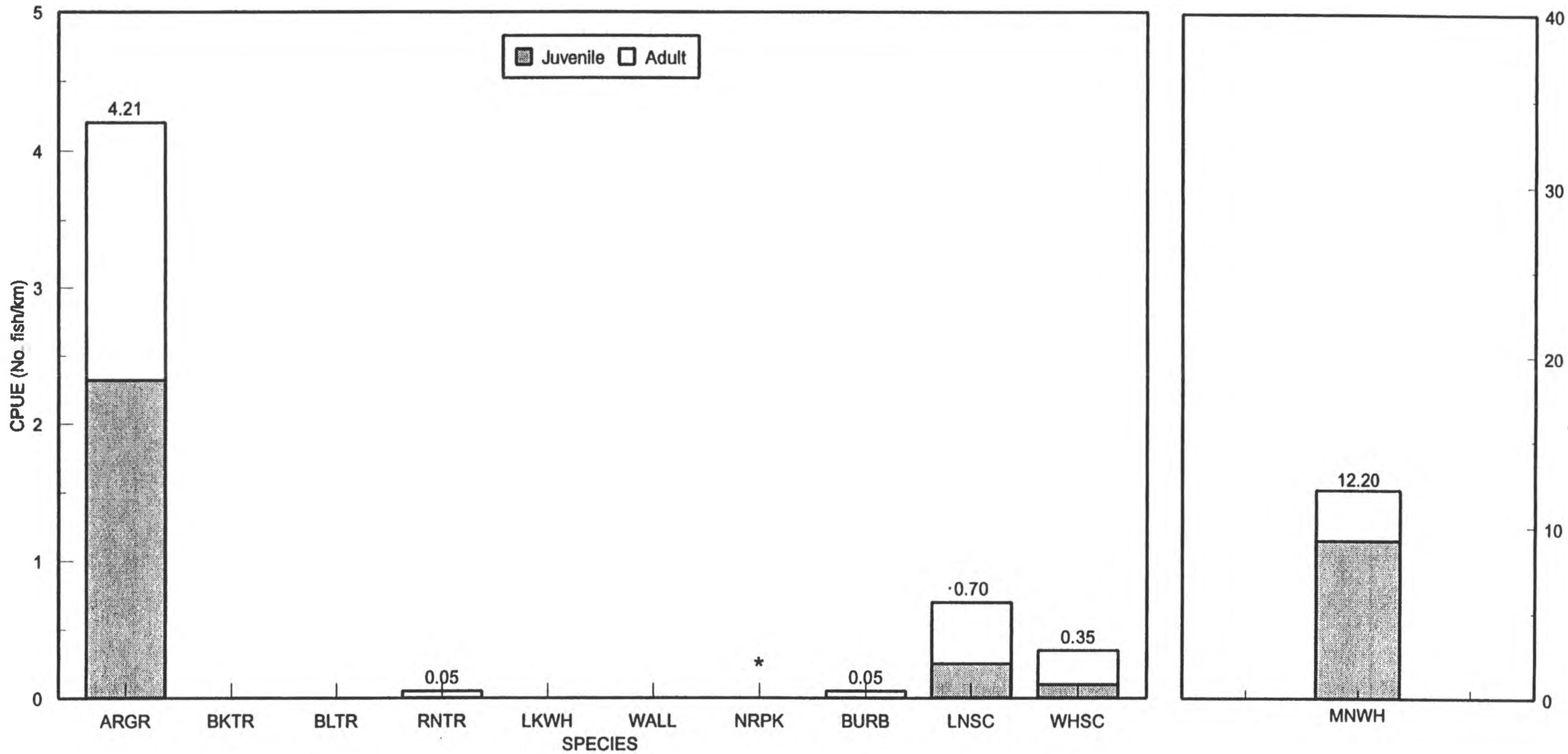


Figure 3.8 Catch-per-unit-effort values for fish species encountered during the large fish inventory in the Knight Section of Athabasca River, 14 and 15 May 1994. (* observed but not caught)

Table 3.11 Numbers and catch-per-unit-effort values for fish species encountered during the small-fish inventory at sites K1 to K3 near Knight on the Athabasca River, 14 and 15 May 1994.

Species	SITE K1					SITE K2					SITE K3				
	Number			CPUE Values[a]		Number			CPUE Values		Number			CPUE Values	
	BS[b]	EF[c]	%[d]	BS	EF	BS	EF	%	BS	EF	BS	EF	%	BS	EF
Mountain whitefish (larval)	74		43.5	17.0		11		11.0	1.8		93		85.3	24.9	
Mountain whitefish (juvenile)	28		16.4	6.4		11		11.0	1.8		9		8.2	2.4	
Longnose sucker	34		20.0	7.8		24		24.0	3.9						
White sucker						18		18.0	2.9		3		2.8	0.8	
Trout-perch															
Longnose dace	20	1	12.4	4.6	0.1	23	1	24.0	3.7	0.1	3		2.8	0.8	
Lake chub	12		7.1	2.8		12		12.0	1.9		1		0.9	0.3	
Spoonhead sculpin	1		0.6	0.2											
TOTAL	**169**	**1**	**100.0**			**99**	**1**	**100.0**			**109**	**0**	**100.0**		

[a] CPUE units for beach seining are no. fish/100 m²; CPUE units for backpack electrofishing are no. fish/min.
[b] BS - Beach seining.
[c] EF - Backpack electrofishing.
[d] Represents percentage for combined BS and EF numbers.

3.1.4 Whitecourt Area

3.1.4.1 Large-fish Inventory

The Whitecourt inventory section was 46 km in length; it encompassed 18 km of river upstream, and 28 km of river downstream, of the Highway 43 bridge. Within this section, was the area sampled during the fall 1993 tagging program (Golder Associates Ltd. 1994). Site A3, which was investigated on two previous occasions (R.L. & L. Environmental Services Ltd. 1993*a*, 1994*a*), was also situated within this section. The Athabasca River near Whitecourt is braided for much of its length; this results in numerous riffle-run complexes. Substrates in the area consist mainly of cobbles and gravels (R.L. & L. Environmental Services Ltd. 1994*a*).

Of the nine species of fish recorded in the Whitecourt section, four were sport fish, two were non-sport fish species and three were minnow species (Table 3.12). This was the only area where walleye, lake chub, and trout-perch were collected during the large-fish inventory. The sample was dominated by mountain whitefish (74% of catch) and longnose suckers (21% of catch). Other fish species did not exceed 4% of the sample on an individual basis. Low numbers of minnows were captured (sample size = 13); longnose dace made up 54% of the total.

Most (81% of sample) of the mountain whitefish captured were juveniles. In contrast, the samples of longnose and white suckers were dominated by adult fish (i.e., 75% and 86% of catch, respectively). Large numbers of adults of both species were in spawning condition at the time of sampling.

Average CPUE values for all species in the Whitecourt area were low (Figure 3.9). In fact, the value for adult mountain whitefish (2 fish/km) was the lowest recorded for this species in any section during the spring 1994 study. Longnose sucker was the only species in the Whitecourt area that exhibited a catch that exceeded 3 fish/km.

3.1.4.2 Small-fish Inventory

Beach seining and backpack electrofishing were undertaken at three sites near Whitecourt. Sites W1 and W2 were located between the Alberta Newsprint Company Ltd. effluent discharge point and the Millar Western Pulp Ltd. discharge point, while Site W3 was downstream of the Millar Western discharge point. Fish collected in the Whitecourt area included larval (sample size = 687) and yearling (sample size = 11) mountain whitefish, longnose suckers (sample size = 28), white suckers (sample size = 4), longnose dace (sample size = 32), lake chub (sample size = 51), and trout-perch (sample size = 1).

Site W1

Site W1 (Km 1027.8) was located on the right upstream bank immediately upstream of the Highway 43 bridge. Beach seining was carried out on 13 May 1994, while backpack electrofishing occurred on 14 May 1994. The catch at Site W1 was composed of larval mountain whitefish (sample size = 518), longnose suckers (sample size = 15), white suckers (sample size = 2), lake chub (sample size = 24), and longnose dace (sample size = 18) (Table 3.13).

Of the four beach seine hauls conducted at Site W1, three (Hauls 1, 2, and 3) were undertaken in RUN habitats along the margin of a lateral deposition bar. The fourth (Haul 4) was located in a moderate-sized backwater (FLAT habitat) at the downstream end of the bar. CPUE values for larval mountain whitefish were: 0.0 fish/100 m^2 (Haul 1), 17.1 fish/100 m^2 (Haul 2), 6.7 fish/100 m^2 (Haul 3), and 1408 fish/100 m^2 (Haul 4). Haul 4 recorded the highest CPUE of any individual haul during the study. River velocities ranged from 0.34 to 0.73 m/s for hauls 1 to 3; haul 4 had a velocity of 0.18 m/s. The substrates at hauls 1 through 3 were dominated by gravels and cobbles, whereas silt predominated at Haul 4. A surface water temperature of 15.5 °C was recorded on the sampling date (13 May 1994). Mountain whitefish yearlings were not collected at Site W1.

No fish were collected by backpack electrofishing at Site W1. High turbidity levels considerably reduced backpack electrofishing efficiency in the Whitecourt area.

Site W2

Site W2 (Km 1027.1) was sampled on 16 May 1994; the water temperature recorded on that date was 9 °C. Sampling was conducted along the left upstream bank, approximately 500 m downstream from the Highway 43 bridge. Fish captured at Site W2 included larval mountain whitefish (sample size = 77), juvenile mountain whitefish (sample size = 10), longnose suckers (sample size = 4), white suckers (sample size =2), longnose dace (sample size = 6), lake chub (sample size = 2), and trout-perch (sample size =1).

The overall CPUE (based on five hauls) for larval mountain whitefish at Site W2 was 9.8 fish/100 m^2 (Table 3.13); however, 78% of the larvae were collected in haul 5 (CPUE of 53.3 fish/100 m^2). Hauls 1 through 3 were undertaken in RUN habitats, with velocities ranging from 0.38 m/s to 1.05 m/s. Hauls 4 and 5 sampled FLAT habitats which were characterized by zero velocity. Mountain whitefish juveniles were collected in two of the five hauls; Haul 1 (4.4 fish/100 m^2) and Haul 2 (1.1 fish/100 m^2).

No fish were captured by backpack electrofishing at Site W2.

Site W3

Site W3 (Km 1024.5) was located on the left upstream bank and was accessed from the golf course road. This site was approximately 1 km below the Millar Western Pulp Ltd. effluent discharge point. Fish captured at this site included larval mountain whitefish (sample size = 92), yearling mountain whitefish (sample size = 1), longnose suckers (sample size = 9), lake chub (sample size = 25), and longnose dace (sample size = 8).

Sampling was conducted at Site W3 on 14 May 1994; the water temperature recorded on this date was 13 °C. The overall CPUE (based on seven hauls) for larval mountain whitefish was 13.5 fish/100 m^2 (Table 3.13). Hauls 1 and 2 were conducted in RIFFLE habitats, while hauls 3 and 4 sampled RUN habitats. Mountain whitefish larvae were not recorded in hauls 1 through 4. Hauls 5 and 7 were conducted in FLAT habitats created by minor bank irregularities; CPUE for larval mountain whitefish in these hauls were 42.9 fish/100 m^2 and 65.3 fish/100 m^2, respectively. Haul 6 was through a large backwater at the downstream end of a side channel, and the CPUE value there for larval mountain whitefish was

3.3 fish/100 m^2. Velocities at hauls 1 through 4 ranged from 0.64 to 1.16 m/s, whereas velocities were 0.05 m/s at Haul 5 and 0.0 m/s at hauls 6 and 7. Only one mountain whitefish yearling was captured at Site W3 (CPUE = 0.1 fish/100 m^2).

No fish were captured while backpack electrofishing at Site W3.

Table 3.12 Life-stage distribution and total numbers captured for fish species encountered during the large-fish inventory in the Whitecourt Section of the Athabasca River, 11 and 12 1994.

Sport and Non-sport Fish	Life-Stage		Total		Minnows	Total	
	Juvenile	Adult	No.	Percent		No.	Percent
Arctic grayling					Lake chub	3	23.1
Brook trout					Longnose dace	7	53.8
Bull trout					Trout-perch	3	23.1
Rainbow trout					Sculpin spp.		
Mountain whitefish	528	121	649	73.8			
Lake whitefish							
Pygmy whitefish							
Walleye	4	6	10	1.1			
Northern pike	1	2	3	0.3			
Burbot		7	7	0.8			
Longnose sucker	45	136	181	20.6			
White sucker	4	26	30	3.4			
Total	**582**	**298**	**880**	**100.0**	**Total**	**13**	**100.0**

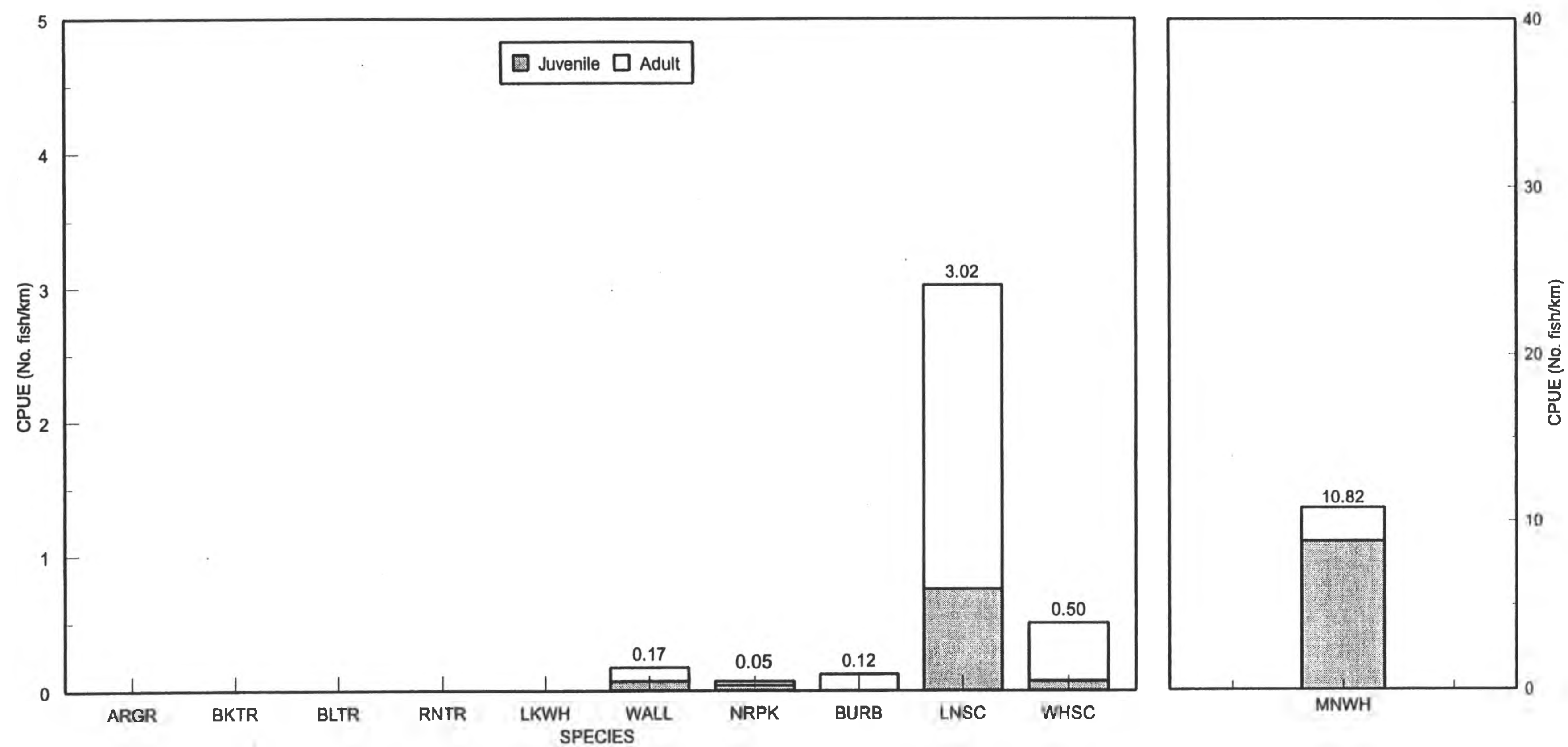


Figure 3.9 Catch-per-unit-effort values for fish species encountered during the large fish inventory in the Whitecourt Section of Athabasca River, 11-14 May 1994.

Table 3.13 Numbers and catch-per-unit-effort values for fish species encountered during the small-fish inventory at sites W1 to W3 near Whitecourt on the Athabasca River, 13-16 May 1994.

Species	SITE W1					SITE W2					SITE W3				
	Number			CPUE Values[a]		Number			CPUE Values		Number			CPUE Values	
	BS[b]	EF[c]	%[d]	BS	EF	BS	EF	%	BS	EF	BS	EF	%	BS	EF
Mountain whitefish (larval)	518		89.8	148.0		77		75.5	9.8		92		68.1	13.5	
Mountain whitefish (juvenile)						10		9.8	1.3		1		0.8	0.1	
Longnose sucker	15		2.6	4.3		4		3.9	0.5		9		6.7	1.3	
White sucker	2		0.3	0.6		2		2.0	0.3						
Trout-perch						1		1.0	0.1						
Longnose dace	18		3.1	5.1		6		5.8	0.8		8		5.9	1.2	
Lake chub	24		4.2	6.9		2		2.0	0.3		25		18.5	3.7	
Spoonhead sculpin															
TOTAL	577	0	100.0			102	0	100.0			135	0	100.0		

[a] CPUE units for beach seining are no. fish/100 m^2; CPUE units for backpack electrofishing are no. fish/min.
[b] BS - Beach seining.
[c] EF - Backpack electrofishing.
[d] Represents percentage for combined BS and EF numbers.

3.2 SNARING RIVER

The Snaring River inventory section extended from the Snaring River-Athabasca River confluence to a point 3.8 km upstream. Three survey methods were employed to sample fish populations: underwater surveillance (Km 3.8-0.0), boat electrofishing (Km 1.7-0.0), and backpack electrofishing (Km 2.0-1.8).

Few fish were captured during the spring program (Table 3.14). Only two species, mountain whitefish and bull trout, were recorded and only mountain whitefish made a significant contribution to the sample (89% of catch). Of the 16 mountain whitefish enumerated, 13 were adults. The single bull trout captured was a juvenile (214 mm fork length).

Although present, mountain whitefish and bull trout were not abundant in the lower Snaring River (Figure 3.10). The CPUE for mountain whitefish generated by underwater surveillance was less than 2 fish/km; only 6 fish/km were recorded during boat electrofishing. One juvenile bull trout was captured by backpack electrofishing in a 300 m section of a sidechannel of the Snaring River.

Table 3.14 Life-stage distribution and total numbers captured (all sampling methods combined[a]) for fish species encountered during the fish inventory of the Lower Section of the Snaring River, 20 May 1994.

Species	Life-Stage		Total	
	Juvenile	Adult	No.	Percent
Mountain whitefish	3	13	16	88.8
Bull trout	1		1	5.6
Trout species	1		1	5.6
Total	**5**	**13**	**18**	**100.0**

[a] Sampling methods included underwater surveillance, boat electrofishing, and backpack electrofishing.

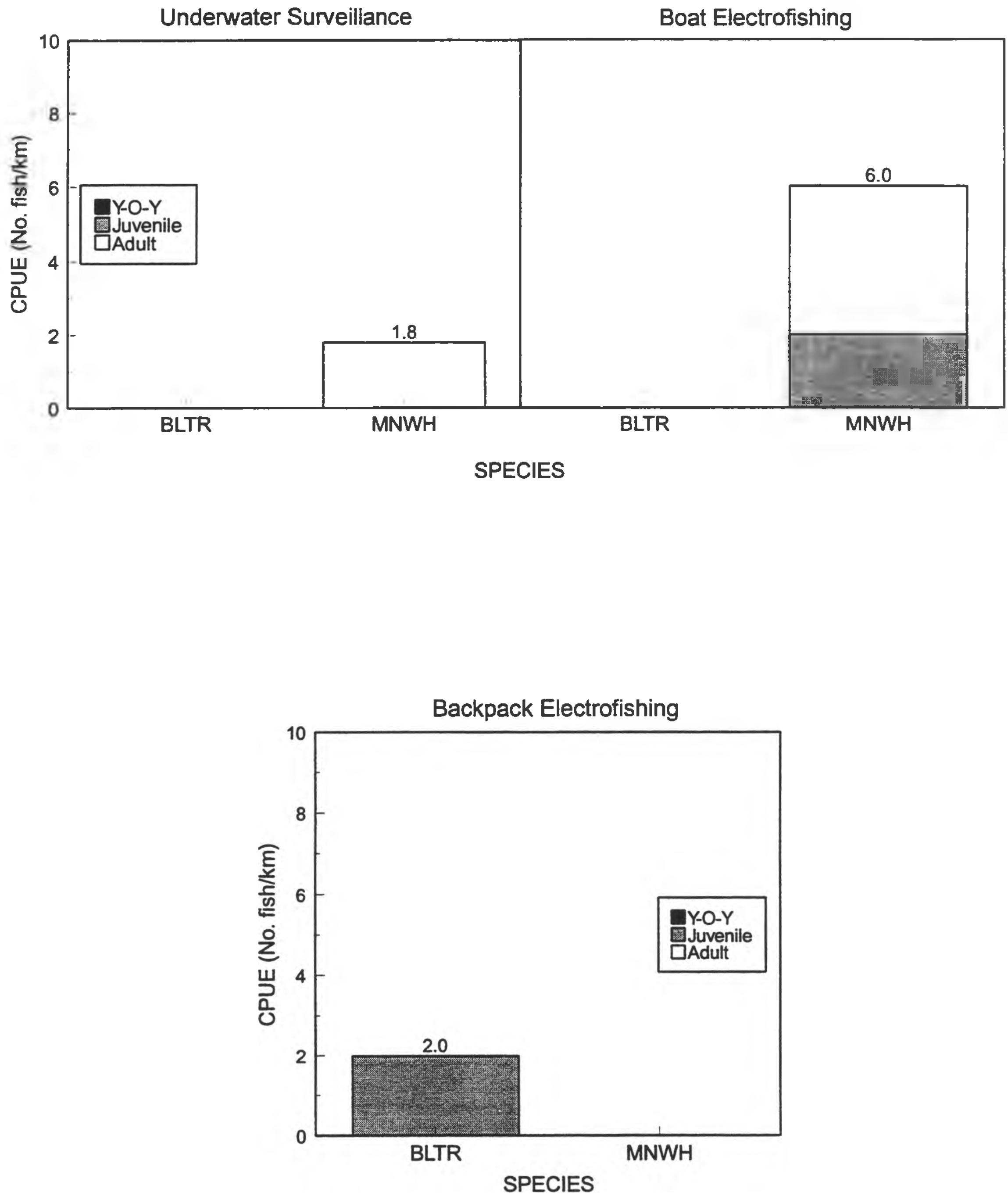


Figure 3.10 Catch-per-unit-effort values for major fish species captured during survey level fish sampling on the Snaring River, 20 May 1994.

3.3 MOUNTAIN WHITEFISH SIZE DISTRIBUTION

A representative sample of mountain whitefish (minimum required sample size of 150 per area) were captured by boat electrofishing from each of three areas of the Athabasca River: Jasper National Park (Sections J1A, J2, and J3), Hinton (Hinton Section), and Smith (Smith Section). Measurements were obtained from these individuals (i.e., fork length (mm) and weight (g)) to develop length and weight frequency distributions. This section provides summary information of length distributions for mountain whitefish in each location. Appendix C4 contains all raw data, while Appendix D1 summarizes length-frequency data discussed in this report.

Length-frequency distributions for mountain whitefish sampled from the three areas during spring 1994 were different (Figure 3.11). Smaller size-classes were more prevalent in the catch from the Hinton and Smith areas. Correspondingly, the mountain whitefish population in the Jasper area was dominated by larger and presumably older fish. These length-frequency data also indicated that, at least for younger age-classes, growth rates may differ between areas. Yearlings attained progressively larger sizes in a downstream direction (i.e., 80 mm at Jasper, 90 mm at Hinton, and 120 mm at Smith). Age data collected from yearling mountain whitefish during fall 1993 indicated that these differences were statistically significant (R.L. & L. Environmental Services Ltd. 1994*a*).

3.4 TAGGING PROGRAM AND FISH MOVEMENTS

An objective of the spring study was to apply NRBS Floy tags to suitably-sized specimens (>250 mm fork length) of the following species: Arctic grayling, bull trout, burbot, goldeye, lake whitefish, mountain whitefish, northern pike, rainbow trout, and walleye. A complete list of tagged fish and their release locations are provided in Appendix D2; a summary is provided in Table 3.15.

In total, 747 fish were tagged during the spring study. The majority (742 fish) were captured in the mainstem Athabasca River, while the remainder (5 fish) were captured in the Snaring River. Mountain whitefish were the most-often tagged species (623 fish).

All captured fish were examined to determine the presence of a tag or previous tagging scar. Of the 3174 fish processed during the large-fish inventory program, 12 individuals were recaptures (Table 3.16). All recaptured fish had been previously tagged with NRBS Floy anchor tags by R.L. & L. Environmental Services Ltd. or Golder Associates Ltd. Nine of these were mountain whitefish and the majority (6 of 9 individuals) were recaptured within 5 km of their original release location. There were three exceptions; one mountain whitefish (Tag 3808) was recaptured in the Whitecourt area after being released 32 km downstream. Two other mountain whitefish (Tags 10695 and 10592) were released in the Whitecourt area and recaptured 10 and 9 km upstream, respectively. Two northern pike also were recaptured during the spring 1994 study. One individual was recorded in Section J4, while the other was captured in the Whitecourt area. Neither fish moved more than 3 km from its release location. A tagged longnose sucker, which was originally released in the Whitecourt area during fall 1993, was subsequently recaptured 4 km downstream during spring 1994.

The small number of recaptures recorded during this study is not surprising given the size of fish populations in the Athabasca River. A substantial number of fish were tagged and released in the Whitecourt area during fall 1993 by Golder Associates Ltd. and as such, one would expect recapture probabilities to be highest in this section of river. Despite the potential presence of 1626 tagged mountain whitefish in a 20 km section of river (635 Floy anchor and 991 Type VI visual implant tags), only 4 individuals were recaptured during spring 1994: this is less than 1% of the tagged sample. These data most likely suggest that either 1) a small fraction of the mountain whitefish population had been tagged during fall 1993, or 2) a significant portion of the marked cohort moved out of the study area prior to spring sampling. Other potential reasons could be, 3) high overwinter mortality rates of tagged fish, or 4) loss of tags. High overwinter mortality rates could explain the poor recovery rate of smaller-sized fish that were marked with Type VI tags (i.e., 0 recaptures).

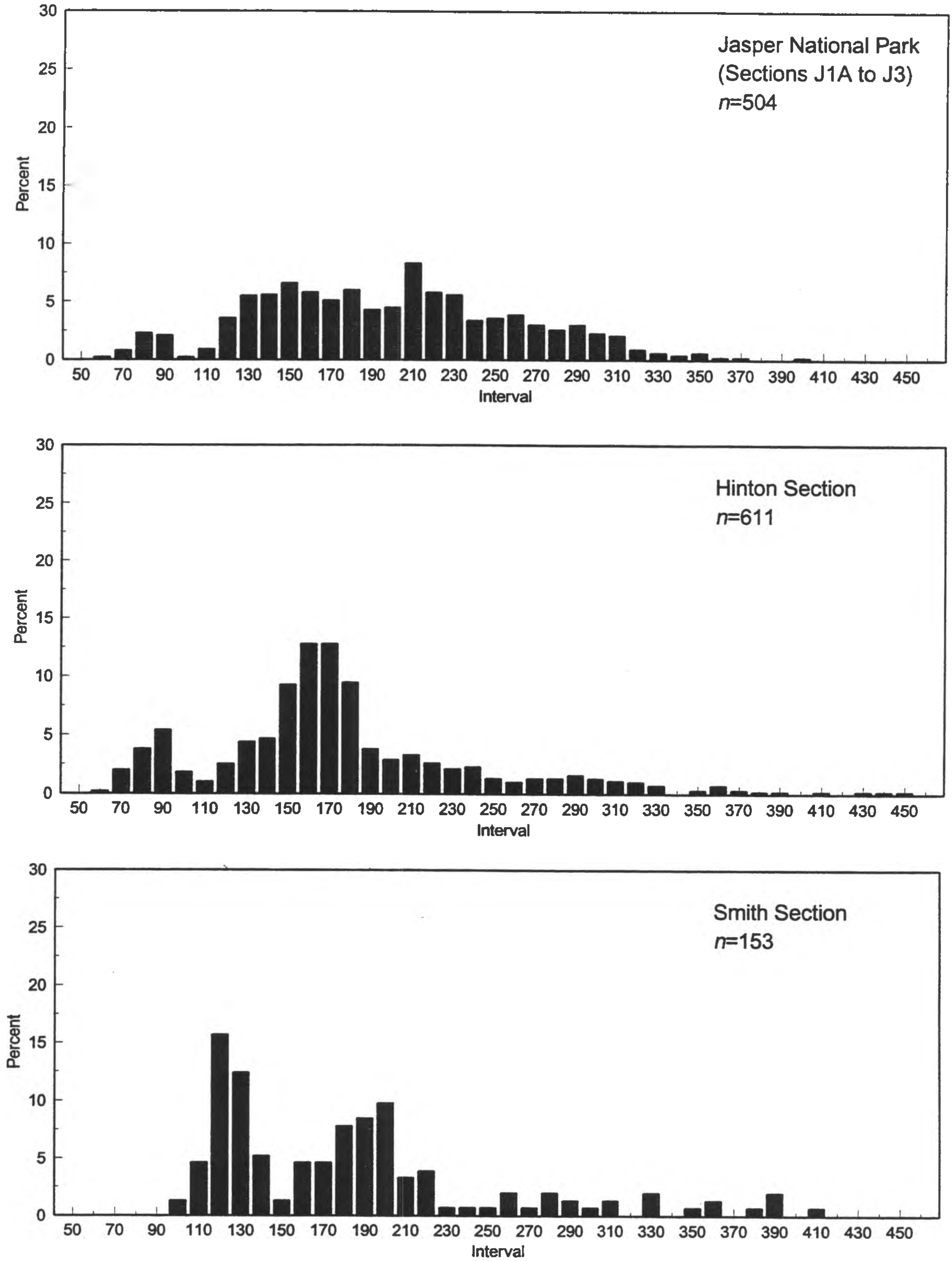


Figure 3.11 Size-distribution of mountain whitefish sampled during the large fish inventory in Jasper National Park, Hinton, and Smith on the Athabasca River.

Table 3.15 Distribution and number of fish tagged during sampling programs on the Athabasca River and the Snaring River, 10-22 May 1994.

Species	Mainstem Athabasca River									Snaring River	Total
	Jasper National Park Sections					Hinton Section	Knight Section	Whitecourt Section	Smith Section		
	J1A	J2	J3	J4	J5						
Bull trout	1	3	4		3	6					17
Burbot						4	1	7			12
Lake whitefish				22							22
Mountain whitefish	19	24	67	52	79	72	36	248	21	5	623
Northern pike				7				3			10
Rainbow trout			1			7	1				9
Walleye								14			14
Brook trout			1								1
Arctic grayling						1	38				39
Total	**20**	**27**	**73**	**81**	**82**	**90**	**76**	**272**	**21**	**5**	**747**

Table 3.16 Summary information for fish recaptured during the large-fish inventory program on the Athabasca River, 10-22 May 1994.

Species	Tag Label	Tag #	Tagged By	Release Location	Release Km	Release Date	Recapture Location	Recapture Km	Recapture Date	Distance Travelled (km)	Days at Large
Mountain whitefish	NRBS	3560	R.L. & L. Env. Serv. Ltd.	J4	1294.0	9 Oct 1993	J4	1293.0	19 May 1994	-1.0	222
		3619	R.L. & L. Env. Serv. Ltd.	J5	1276.0	11 Oct 1993	J5	1274.0	12 May 1994	-2.0	223
		3670	R.L. & L. Env. Serv. Ltd.	J5	1274.0	11 Oct 1993	J5	1274.0	22 May 1994	0	223
		3712	R.L. & L. Env. Serv. Ltd.	J5	1272.0	12 Oct 1993	J5	1272.0	22 May 1994	0	222
		3808	R.L. & L. Env. Serv. Ltd.	A3[b]	1003.0	17 Oct 1993	Whitecourt	1035.0	11 May 1994	+32.0	206
		11361[a]	Golder Associates Ltd.	Whitecourt	1015.5	19 Oct 1993	Whitecourt	1015.0	13 May 1994	-0.5	205
		10909[a]	Golder Associates Ltd.	Whitecourt	1015.5	16 Oct 1993	Whitecourt	1015.0	13 May 1994	-0.5	208
		10695[a]	Golder Associates Ltd.	Whitecourt	1023.5	15 Oct 1993	Whitecourt	1033.5	11 May 1994	+10.0	207
		10592[a]	Golder Associates Ltd.	Whitecourt	1027.5	15 Oct 1993	Whitecourt	1036.0	11 May 1994	+8.5	207
Northern pike	NRBS	10421[a]	Golder Associates Ltd.	Whitecourt	1015.5	12 Oct 1993	Whitecourt	1014.0	13 May 1994	-1.5	212
		3591	R.L. & L. Env. Serv. Ltd.	J4	1292.0	9 Oct 1993	J4	1289.0	19 May 1994	-3.0	222
Longnose sucker	NRBS	10155[a]	Golder Associates Ltd.	Whitecourt	1024.5	11 Oct 1993	Whitecourt	1020.5	13 May 1994	-4.0	213

[a] Information on date and location of release provided by Golder Associates Ltd.
[b] Release location identified in R.L. & L. Environmental Services Ltd. 1994.

3.5 LOCATIONS OF FISH CONCENTRATIONS

An integral part of the spring sampling program was to identify and record the locations of fish concentrations. These sites are important from a management perspective and also could be used to access large numbers of fish during future inventories for tagging purposes.

Few areas on the Athabasca River contained large concentrations of a particular species or life-stage of fish during spring sampling. Typically, high fish numbers were associated with sections of the Athabasca River, rather than a specific area of aggregation. Locations in each sampling area where significant fish numbers were recorded, have been listed in Table 3.17.

3.6 FISH ABNORMALITIES

During the spring 1994 sampling program, any "abnormal" fish observed during processing was described using the gross pathology forms provided by NRBS. The general external condition of these fish was recorded and a properly-labelled colour photographic record of a representative sample of these fish was compiled and presented in Addendum A to this report.

Of the 3174 fish processed during the large-fish inventory program a very small number (sample size = 15) exhibited external abnormalities (Table 3.18). These included 7 mountain whitefish, 4 longnose suckers, 2 white suckers, 1 northern pike, and 1 burbot. All these fish, regardless of species, exhibited lesions of varying degrees of intensity (i.e., haemorrhagic abrasions to large open sores). These lesions were present at various locations on fish; in mountain whitefish they were most often located along the ventral areas of the body, while in both species of suckers they tended to be located in the caudal peduncle area.

Most notable were capture locations of these fish. All were captured in a 15 km section of river immediately downstream of the confluence of the McLeod River (i.e., Km 1026 to Km 1011). Sampling was also conducted upstream of the confluence (i.e., Km 1044 to Km 1026), as well as from Km 1011 to Km 999; however, fish exhibiting abnormalities were not encountered in these sections.

No physical abnormalities were recorded for larval or juvenile fish processed during the small-fish inventory program.

Table 3.17 Locations of fish concentrations identified during small and large-fish inventory programs in four areas of the Athabasca River, 10-22 May 1994.

Program	Area	Species	Life-Stage	CPUE Value[a]	Kilometre Location	UTM Coordinates
Large-Fish Inventory	Jasper[b]	Mountain whitefish	Juvenile	38	1292	11U 427300E 5879000N
			Adult	43	1311	11U 429000E 5862900N
		Longnose sucker	Adult	12	1275	11U 434900E 5890850N
		Pygmy whitefish	Adult	1	1289	11U 429120E 5881150N
		Lake whitefish	Adult	6	1290	11U 428350E 5880700N
	Hinton	Mountain whitefish	Juvenile	34	1221	11U 467500E 5922900N
			Adult	12	1214	11U 471400E 5927450N
		Longnose sucker	Adult	8	1201	11U 481100E 5935100N
	Knight	Mountain whitefish	Juvenile	41	1098	11U 530700E 6002050N
			Adult	10	1098	11U 530700E 6002050N
		Arctic grayling	Juvenile	9	1097	11U 531350E 6002650N
			Adult	8	1109	11U 521550E 5997100N
	Whitecourt	Mountain whitefish	Juvenile	21	1009	11U 600550E 6001800N
			Adult	11	1018	11U 592200E 6002000N
		Longnose sucker	Juvenile	6	1018	11U 592200E 6002000N
			Adult	14	1016	11U 594300E 6001500N
		Walleye	Juvenile	8	1026	11U 584800E 6000425N
Small-Fish Inventory	Jasper	Mountain whitefish	Larval	706	1297.6	11U 462798E 4920239N
	Hinton	Mountain whitefish	Larval	21	1218.5	11U 522728E 5997700N
	Knight	Mountain whitefish	Larval	55	1102.5	11U 526670E 6000735N
	Whitecourt	Mountain whitefish	Larval	1409	1027.8	11U 583475E 6001207N

[a] CPUE value represents No. fish/km for large-fish inventory data and No. fish/100 m^2 for small-fish inventory data.
[b] Jasper refers to sampling locations in Jasper National Park.

Table 3.18 Fish exhibiting external physical abnormalities that were processed during the large-fish inventory on the Athabasca River, 10-22 May 1994.

Species	Sample No.	Fork Length (mm)	Weight (g)	Km	UTM	Description
Longnose sucker	837 (Plate 2)	406		1020.5	11U 589800E 6002000N	Open sore
Longnose sucker	1048	395		1026	11U 584800E 6000425N	Abrasions
Longnose sucker	1047	437		1026	11U 584800E 6000425N	Abrasions
Longnose sucker	909	409		1016	11U 594300E 6001500N	Open sore
Mountain whitefish	832 (Plate 1)	329	428	1021.5	11U 588650E 6002100N	Open sore
Mountain whitefish	902 (Plate 3)	409	876	1016	11U 594300E 6001500N	Open sore
Mountain whitefish	903 (Plate 4)	475	1515	1016	11U 594300E 6001500N	Lesions
Mountain whitefish	1052	343	614	1026	11U 584800E 6000425N	Open sore
Mountain whitefish	967	395	803	1012	11U 598400E 6002100N	Haemorrhagic spots
Mountain whitefish	908	345		1016	11U 594300E 6001500N	Open sore
Mountain whitefish	919	404	957	1015	11U 595150E 6002150N	Open sore
White sucker	918 (Plate 5)	404		1016	11U 594300E 6001500N	Abrasions
White sucker	926	425		1015	11U 595150E 6002150N	Open sore
Burbot	945	554	933	1014	11U 596050E 6002600N	Open sore
Northern pike	983	872	4538	1011	11U 598925E 6001150N	Haemorrhagic spots

3.7 MOUNTAIN WHITEFISH EARLY LIFE HISTORY AND HABITAT USE

3.7.1 Early Life History

Little meristic and morphometric data exists on the early life history of mountain whitefish in large river systems in Alberta and throughout their range. The figures and keys presented in Faber (1970) and Auer (1982) aided in larval identification; Nelson and Paetz (1992) concluded that the figures presented in Auer (1982) were accurate for Alberta larvae. However, since mountain whitefish descriptions were not included in Auer (1982) or Faber (1970), larvae were identified using the process of elimination. In this study we were fortunate to have captured a wide range of larval size classes.

3.7.1.1 Larval Mountain Whitefish Description

Auer (1982) divided pre-juvenile fish into two categories: 1) yolk-sac larvae, which includes hatching to complete absorption of the yolk, and 2) larvae, the phase of development from complete absorption of the yolk through to development of the full complement of fin rays and absorption of the finfolds. Athabasca River specimens 15 mm in total length had completed absorption of the yolk, but had yet to form pelvic fin buds. Furthermore, both median finfolds were present and the only fin-ray elements were in the caudal region. Individuals 32 mm in total length had complete fin-ray elements in all fins (except the adipose). The last remnant of the ventral finfold, however, was still visible under microscopic examination, which by definition means they were still larvae. It is estimated that larvae became juveniles at 33 mm total length.

Substantial variability in dorsal melanophore patterns was observed in larvae collected at the same site; this can be attributed to differences in larvae size. Dorsal melanophore patterns ranged from a single distinct row on each side of the dorsal finfold in smaller larvae to a band of dorsal melanophores on each side extending from behind the head to the caudal peduncle in larger larvae. Melanophores did not appear on the mid-dorsal line even after resorption of the dorsal finfold. While a few melanophores were stellate or square in shape, the majority were ovate or circular and contracted. There was an oval patch of melanophores on the dorsum of the head, and some pigment was present on the snout on individuals larger than 20 mm. A row of melanophores was present on each side of the mid-ventral line posterior to the vent, which continued through to the insertion of the caudal fin. Large stellate melanophores were present on the dorsal peritoneum. The pigmentation patterns of mountain whitefish larvae more closely resemble round whitefish larvae than other larval coregonids, which perhaps is not surprising given that both are members of the genus *Prosopium*. An illustration of a larval mountain whitefish is provided in Appendix E3.

Myomere counts were one method used to identify larval fish captured during this study. Subsamples of 30 larval mountain whitefish from each of the Jasper (Site J7), Knight (Site K3) and Whitecourt (Site W1) areas were used to examine potential differences in the number of preanal and postanal myomeres between areas (Appendix E1). There were no significant differences in either preanal or postanal myomere counts among the three sites ($p>0.05$, One Way ANOVA). The mean preanal and postanal myomere counts for the combined sample were 40 and 17, respectively.

3.7.1.2 Comparison with Other Coregonids

Sympatric coregonids occurring in the Athabasca River include lake whitefish, pygmy whitefish, cisco, and possibly round whitefish. Nelson and Paetz (1992) noted that two specimens of round whitefish were collected in the Peace-Athabasca Delta. Post-larval coregonids can be divided into juveniles with parr marks (i.e., mountain, round, and pygmy whitefish) and juveniles without parr marks (i.e., lake whitefish and cisco). Larval coregonids can be identified using a combination of myomere counts and melanophore patterns.

Auer (1982) described larval lake whitefish as having large stellate melanophores paired across the dorsal median finfold, and 38 to 40 preanal myomeres. Cisco have smaller melanophores (usually one-half the width of a myomere), and 32 to 38 preanal myomeres. Round whitefish have an irregular dorsal pigmentation, and 34 to 35 preanal myomeres. Larval descriptions of pygmy whitefish apparently have not been made.

Using the key and descriptions provided in Auer (1982), it appears that mountain whitefish larvae can be provisionally distinguished from other coregonid larvae by having a greater number of preanal myomeres than round whitefish and cisco, and a different melanophore pattern than lake whitefish. Round whitefish are an allopatric species to mountain whitefish, but given the present distribution of round whitefish in Alberta, discussions on distinguishing round whitefish from mountain whitefish larvae are moot.

3.7.1.3 Growth

A sample of larval mountain whitefish captured at selected sites were measured for total length. Summary results are discussed in this section; raw data are provided in Appendix E2.

Of the four areas sampled, larval mountain whitefish from Jasper National Park had the lowest mean total length (20.1 mm) even though larvae from the Jasper area were collected at the end of the sampling period (18 to 20 May 1994) and presumably had a longer growing period prior to capture (Table 3.19). The highest mean length of larval mountain whitefish occurred in the Knight area (23.9 mm). There was no correlation between mean larvae size and surface water temperature at the time of sampling, however, it is probable that water temperature affects larval growth rates. Data suggesting this were collected at Site J5 in the Jasper area (Snaring River confluence). Larvae collected in Snaring River water (6.5 °C on 19 May 1994) in Haul 1 (mean length = 19.7 mm) were significantly smaller than larvae captured in Athabasca River water (10 °C on 19 May 1994) in Haul 3 (mean length = 23.1 mm) ($p<0.05$, *t*-test). However, residence time in the two groups was unknown.

Total lengths of larval mountain whitefish varied substantially within sites. The greatest range in larval size at any individual site occurred at Jasper Lake (Site J7), where the smallest larval fish was 14.0 mm and the largest larva was 31.0 mm.

3.7.1.4 Feeding

All larvae had commenced exogenous feeding at the time of capture and food items were observed in the digestive tracts, even in the smallest individuals. In some instances, the head cases of chironomids were observed extruding from the vent. The successful transition to exogenous feeding is the most critical period for larvae (Akielaszek et al. 1985).

The larger larvae (max. 32 mm) were at the end of the larval stage and beginning the juvenile stage of their life history. Larval mountain whitefish were able to complete their larval stage prior to hatching of larvae from other species. The reproductive strategy of egg development over winter and hatching in early spring has apparently resulted in larval mountain whitefish occupying a niche without competition from other species larvae throughout the complete larval stage.

Table 3.19 Length data and significant differences for larval mountain whitefish sampled from four areas on the Athabasca River, 11-20 May 1994.

Area	Sample Size	Mean Total Length (mm)	Size Range (mm)		Significant Difference
			Minimum	Maximum	
Jasper National Park	369	20.1	14.0	32.0	
Hinton	68	20.7	14.0	31.0	
Whitecourt	165	21.9	16.0	26.5	
Knight	111	23.9	18.0	28.0	

[a] Significant difference exists between samples that are not connected by a line based in Tukey's Honestly Significant Difference Test with a significance level of 0.05.

3.7.2 Rearing Habitat

To identify habitat variables that characterized important nursery areas for larval mountain whitefish, biophysical data were collected at each of the seine haul sites inventoried during the study, and these were compared with beach seine CPUE values. A multiple regression analysis compared CPUE values with mean water velocity, water temperature, maximum water depth, and substrate type (%). A statistically significant positive relationship existed between CPUE and two variables: percentage of fine substrate and water depth ($r = 0.466$, $p<0.01$). However, the percentage of fines explained most of the variation (74%).

The relationship between habitat type (i.e., FLAT, RUN, RIFFLE) and larval mountain whitefish CPUE values were also investigated using a Kruskal-Wallis One Way ANOVA. The results of this test indicated a statistically significant difference among the three habitat types ($p<0.05$). CPUE values were highest in FLAT habitats (136.3 fish/100 m^2), intermediate in RUN habitats (14.3 fish/100 m^2), and lowest in the RIFFLE habitat (0.4 fish/100 m^2). Of the six seine hauls in which larval densities were above 100 fish per 100 m^2, five occurred in FLAT habitats. Also, 22 of 26 seine hauls through FLAT habitats were successful in capturing larval mountain whitefish. In comparison, larval fish were captured in only one of nine (11%) hauls through RIFFLE habitat, and nine of 21 (43%) hauls through RUN habitats. Higher seine efficiency in FLAT habitats was judged in the field to be responsible for only a small portion of the increased catch. Larvae can only swim in relatively slow current velocities or they are displaced downstream. Given a constant area sampled, FLAT habitats will contain more areas with suitable current velocity than will RIFFLE habitats.

FLAT habitat containing relatively high numbers of larval mountain whitefish included lacustrine habitats (e.g., Jasper Lake), embayments along the mainstem (minor bank irregularities), low velocity areas of the mainstem, backwaters behind point bars, and backwaters at the downstream end of dry side channels. Utilization of creek inflows was demonstrated by the relatively high CPUE value for the haul at the Lake Edna outflow in Jasper National Park (Site J7). It is probable that mountain whitefish also reared in low velocity micro habitats along the river margin. Mountain whitefish larvae were captured at 15 of the 16 small-fish inventory sites, and were observed at the 16th site. Rearing occurs throughout the upper Athabasca River.

Roberts (1988*a*) observed larval mountain whitefish rearing in shallow areas of slow current in the Red Deer River. Petit and Wallace (1975) noted larval whitefish (15-21 mm) were found in protected side pools immediately after peak discharge. Brown (1952) observed yolk-sac larvae along the river margin in very shallow water, and in backwaters connected to the main channels.

While the spring program did not specifically focus on collecting movement data for larval mountain whitefish, some observations were made during the present study that may contribute to a better understanding of this. Within the study area, the only lentic habitats are in Jasper and Brule lakes. The lower three areas (i.e., Hinton, Knight, and Whitecourt) have only lotic habitats. While based on limited data, it is suggested that both Jasper and Brule lakes function as final rearing areas for mountain whitefish larvae. The lakes are unsuitable as mountain whitefish spawning habitat and larvae do not swim upstream far in the mainstem Athabasca, so the relatively high CPUE for the Jasper Lake site indicates that larvae came from natal areas upstream. The magnitude of larval emigration from the lakes is presently unknown, but given very low water velocities throughout the majority of the two lakes, it is speculated that downstream dispersal is minimal.

Mountain whitefish larvae were collected at the most upstream sampling site, 15 km below Athabasca Falls. Since this species is not present above the falls (Mayhood 1992), hatching occurred somewhere in the intervening distance, and the larvae were able to escape the current. Additional data that indicate that some mountain whitefish larvae tend to rear close to their natal areas were collected at Whitecourt. Golder Associates Ltd. (1994) determined that the 1-2 km section of river immediately above the Highway 43 bridge was a significant spawning area for mountain whitefish, and mountain whitefish larvae were recovered immediately upstream of the bridge in substantial numbers (i.e., highest CPUE of all sampled sites).

4.0 SUMMARY DISCUSSION

4.1 LARGE-FISH INVENTORY

The large-fish community in the mainstem Athabasca River was assessed using boat electrofishing data from three sampling programs: spring 1992 (R.L. & L. Environmental Services Ltd. 1993*a*), spring 1994 (present study), and fall 1993 (R.L. & L. Environmental Services Ltd. 1994*a*). Several limitations inherent to the sampling design precluded an in-depth assessment of this complex and dynamic community.

First, sampling programs were short duration surveys undertaken in small sections of this large river, which provided only a limited amount of information. Second, the sampling technique (i.e., boat electrofishing) biased the results. Boat electrofishing was not undertaken in deep-water areas of the river because sampling efficiency was reduced at depths greater than 2 metres. As such, fish inhabiting these habitats were under represented in the sample. Third, differences in sampling conditions during each period influenced capture efficiencies and species availability. On site observations indicated that water turbidity was high during spring 1994, intermediate during spring 1992, and very low in fall 1993. These differences affected the CPUE values generated from boat electrofishing data by influencing sampling efficiency. Water discharge rates differed between periods, which also influenced availability of fish. Variation in sampling conditions between periods was compounded by differences between sections within a particular period. For example, water turbidity levels were extremely high in the Whitecourt area during spring 1994, but were much lower in the Jasper area during the same period. Given these limitations, caution should be used when interpreting the results.

4.1.1 Fish Distribution and Abundance

4.1.1.1 Distribution

Fish distribution in the Athabasca River varied according to species, location, and season (Table 4.1). Of the 18 species encountered, mountain whitefish and longnose suckers were most widespread. In contrast, rainbow trout and bull trout, were more frequently encountered in sampling sections situated within Jasper National Park, while Arctic grayling, and northern pike were most often recorded downstream of Jasper National Park.

Species diversity also differed depending on river location. Diversity was lowest in Jasper National Park (e.g., 2 species in Section J1A during spring 1994). In contrast, as many as 11 species were recorded in downstream areas (e.g., Knight area during spring 1992). The trend towards higher species diversity in downstream areas was due principally to the presence of minnow species in the sample.

Species distribution patterns varied between seasons. Distributions observed in sections located downstream of the park were very similar during spring 1992 and spring 1994; however, species tended to be more widespread during fall 1993. For example, lake whitefish, northern pike, burbot, longnose sucker and white sucker occurred in more sections during fall 1993 than during the spring periods. This may be due to seasonal movement patterns. Another explanation is low water turbidity during fall, which improved capture efficiency and, therefore, increased the chances of encountering a particular species.

Two species, goldeye (*Hiodon alosoides*) and walleye, were infrequently encountered during sampling programs; these are two species that are known to have migratory populations in the lower Athabasca River (Tripp and McCart 1979). Walleye were recorded in the Whitecourt area during spring sampling, but goldeye were absent from all inventoried sections.

During all three programs, Arctic grayling were abundant only in the Knight area and tended to be found in close proximity to Pine and Marsh Head creeks. The presence of juvenile and adult fish in the mainstem river during all three sessions is a strong indication that the area is important to the local Arctic grayling population. The mainstem Athabasca River is probably utilized as overwintering habitat, as well as rearing and feeding areas for older age-classes.

A single pygmy whitefish was captured in Section J4 in Jasper National Park during the spring 1994 program. This rare species was not encountered elsewhere in the study area during 1994, nor was it recorded during previous NRBS investigations.

4.1.1.2 Abundance

Abundance indices varied according to species and location (Figure 4.1). Mountain whitefish was the most abundant species recorded; CPUE values ranged between 10 and 100 fish/km. Longnose sucker tended to be next most abundant species, however, CPUE values did not exceed 6 fish/km in any section. Arctic grayling, although numerous only in the Knight area, exhibited a high abundance index relative to many other species (4 fish/km). Catch rates for all other species rarely exceeded 3 fish/km.

Abundance indices generally reflected differences in species distribution. Bull trout, rainbow trout, and mountain whitefish tended to be most numerous in sections within Jasper National Park, while other species were more numerous at downstream locations.

Seasonal differences in abundance also occurred for several species. Longnose suckers and white suckers tended to be most abundant during spring (1992 and 1994), even though water turbidity levels, which reduced capture efficiency, were highest during these periods. High catch rates may have been related to increased availability of adult fish, which typically spawn in shallow water areas that are more effectively sampled by boat electrofishing. Several species exhibited highest CPUE values during fall, particularly bull trout, rainbow trout, and mountain whitefish. These high CPUE values probably were the result of greater sampling efficiency due to high water clarity. Other factors may also explain the strong seasonal variation in mountain whitefish CPUE values: (1) adult fish in spawning condition were concentrated in shallow water habitats that were more effectively sampled by boat electrofishing during fall; (2) small juvenile fish that were too small to capture effectively during spring were larger and subsequently more efficiently sampled during fall; and, (3) differences in abundance were related to large-scale movements of mountain whitefish within the mainstem Athabasca River.

4.1.2 Fish Movements

An important objective of the spring 1994 study program was to recover fish tagged during previous NRBS projects and to describe the probable movement patterns of fish populations residing in the mainstem Athabasca River in relation to overwintering areas. The low number of tagged fish recovered during the present study (sample size = 12) did not allow a detailed assessment of movement patterns, however, some inferences can be made from these and other data.

Recapture data suggests that most previously tagged individuals (which included mountain whitefish, northern pike, and longnose sucker) did not move long distances over the winter period (Table 3.16). Recoveries for 2 northern pike, 1 longnose sucker, and 6 mountain whitefish were made within 4 km of the release location. Some tagged mountain whitefish did move farther, but these distances were not great. Three mountain whitefish tagged in the Whitecourt area during fall 1993, moved between 8 and 32 km upstream prior to being recaptured in spring 1994.

There is indirect evidence that individuals of at least one species (i.e., mountain whitefish) moved long distances between late fall and spring periods. An intensive marking program was undertaken by Northern River Basins Study in the Whitecourt area between October 10 and 19, 1993 (Golder Associates Ltd. 1994). At that time, a large number of mountain whitefish were marked (sample size = 1626). During the same study, the recovery rate of these marked fish was 2.4 % and the overall abundance index during boat electrofishing was 28.8 fish/km. During subsequent sampling in spring 1994, the recovery rate for marked mountain whitefish fell to 0.6 %, while the catch rate decreased to 10.8 fish/km. The reduced catch rate in spring represented a 2.6 fold decrease from the previous fall. This compared to an 8-fold decrease in the recovery rate of marked fish. If tagged mountain whitefish remained resident in the area the decrease in the recovery rate of tagged fish should have been similar to that of the catch rate (i.e., 2.6). A decrease of 8-fold suggests that marked fish "disappeared" from the Whitecourt inventory section prior to the spring sampling.

Mountain whitefish are known to undertake migrations to spawning areas during the fall period. Davies and Thompson (1976) documented complex movement patterns for mountain whitefish residing in the Sheep River watershed, a tributary to the Bow River. During the fall period, adult fish moved downstream to areas of the river that contained suitable spawning habitat and overwintering sites. R.L. & L. Environmental Services Ltd. (1993*b*) documented movements of mountain whitefish that were radio tagged and released in the Hinton area of the Athabasca River. Several individuals exhibited distinct upstream migrations into Jasper National Park during the fall spawning period. One radio-tagged fish was suspected of spawning at Km 1314 near the Jasper townsite, an important spawning location identified during the fall 1993 program (R.L. & L. Environmental Services Ltd. 1994*a*). Another individual migrated upstream from Hinton into the Rocky River to a suspected spawning area. These individuals then migrated back downstream prior to the winter period. Data from a single Floy-tagged fish captured in the Snake Indian River also suggested that significant upstream migrations may be undertaken by adult mountain whitefish from as far downstream as the Town of Athabasca (R.L. & L. Environmental Services Ltd. 1994*a*).

The marking program undertaken by Northern River Basins Study in the Whitecourt area was conducted during the mountain whitefish spawning period (i.e., 10-19 October). It is possible that a segment of the mountain whitefish population in the Athabasca River migrated to spawning areas near Whitecourt, and a number of these fish were subsequently marked. Once spawning was completed, many individuals, including tagged fish, moved out of the study area to unknown overwintering sites. This scenario (i.e., an out migration of mountain whitefish) could be used to explain the low recapture rate of tagged mountain whitefish.

Alternate explanations for low recovery rates of marked individuals during spring 1994 include movement of unmarked individuals into inventory sections, loss of tags from marked fish, and the inability to identify marked fish. Tagged fish may also experience higher mortality rates, either caused by the tag utilized or the technique used to capture fish. Studies have documented problems associated with tag loss, inability to identify marked individuals, and differential mortality rates relative to tag type (Mourning et al. 1994). Others have shown that capture technique (i.e., electrofishing) can cause injuries that leads to high mortality rates of released fish (Hollender and Carline 1994).

Until a comprehensive study of seasonal movement patterns of fish residing in the Athabasca River is completed, further discussion is speculative at best.

4.1.3 Mountain Whitefish Size Distribution

An objective of the spring 1994 (present study) and fall 1993 (R.L. & L. Environmental services Ltd. 1994*a*) inventory programs was to assess the size distribution of a representative sample of mountain whitefish collected from three sampling areas on the Athabasca River, which included Jasper National Park (Sections J1A, J2, and J3), Hinton, and Smith.

Data collected during the fall 1993 study indicated that mountain whitefish growth rates increased was dependent on collection location (i.e., increased in a downstream direction). Fish in Jasper National Park were smaller at a given age than fish collected from Hinton. Similarly, Hinton fish were smaller at a given age than individuals sampled at Smith. Growth information for larval mountain whitefish collected during the present study also tend to follow this pattern (see Section 3.7.1.3). From these data one could conclude that reach specific populations of mountain whitefish were present in the Athabasca River. However length-frequency data from fish captured by boat electrofishing suggested that the size distribution of mountain whitefish within each area was not stable between fall 1993 and spring 1994 (Figure 4.2 and Table 4.2). In Jasper National Park, the size distribution of mountain whitefish was skewed toward larger fish during fall 1993 compared with spring 1994. The difference in the size distribution was statistically significant (Kolmogorov-Smirnov 2-Sample Test). This difference was illustrated by changes in the median length for the 75% quartile: 301 mm in 1993 compared with 249 mm during 1994. Large numbers of mountain whitefish in spawning condition were captured in the Jasper area during fall 1993 (R.L. & L. Environmental Services Ltd.1994*a*). Movement of these fish out of the area after completion of spawning would explain the difference in the size distribution.

Size distributions of mountain whitefish in the Hinton area during 1993 and 1994 were also statistically different, but reasons for the observed patterns were unclear. In the 25% quartile the 1993 sample was skewed toward smaller fish compared to the 1994 (138 mm versus 149 mm, respectively), but the opposite distribution occurred in the 50% quartile (i.e., 171 mm versus 122 mm). Reasons for these differences are unclear, but may be explained in part by seasonal growth (i.e., fish captured during spring grew larger prior to fall sampling).

The size of mountain whitefish in the Smith area was heavily skewed toward smaller fish during spring 1994, as was evidenced by median values in all three quartiles. This was due to the preponderance of small fish (individuals <150 mm length). There are two potential reasons for this distribution. First, mountain whitefish may have migrated to the Smith area to spawn. Concentrations of fish in spawning condition were identified in this area during fall 1993 (R.L. & L. Environmental Services Ltd. 1994*a*). Movement of these fish out of the area after completion of spawning would explain the difference in the size distribution. Second, the preponderance of small mountain whitefish in the spring 1994 sample may be explained by downstream drift prior to and during the winter period. The smaller size-classes may have moved from rearing areas situated in upstream reaches of the mainstem river or from rearing areas in major tributaries such as the Lesser Slave River (i.e., located just upstream of Smith Section).

Although the reasons for differences in mountain whitefish size distributions are unclear, the results showed that seasonal differences did exist within each of the three collection areas: Jasper National Park, Hinton, and Smith. These data suggest that mountain whitefish populations within each of these areas are not stable. This indicates that this species may undertake large scale movements, which are dependant on season and location.

4.1.4 Native Fish Species

Of 51 native fish species in Alberta, 31 are known to occur in the Athabasca River drainage (Nelson and Paetz 1992). During the three large-fish inventory programs in the upper Athabasca River system, 18 fish species were recorded (Table 4.1). Of these, only brook trout was not indigenous to the Province of Alberta. It is also likely that both native Athabasca strain and hatchery stock rainbow trout represented in the catch.

Of the native fish species encountered, just one (i.e., the pygmy whitefish), occurred only in Jasper National Park. While only one individual was captured during the present study (at Km 1289.5 on the mainstem river), this species has been previously recorded from two other locations within the drainage: the Snake Indian River, which is within the park, and Solomon Creek, which is located just east of the park boundary (Nelson and Paetz 1992). In a preliminary assessment of native fish stocks of Jasper National Park, Mayhood (1992) identified the pygmy whitefish as a significant species, due to its potential as a zoogeographic marker.

While it is commonly accepted that native fish species found in Alberta invaded or reinvaded the province after the last ice age; some may have undergone rapid evolution as they adapted to their new environment (Nelson and Paetz 1992). Other investigators have suggested that refugia within western Alberta may have allowed survival of fish during glaciation (McPhail and Lindsey 1970). This is particularly relevant to Jasper National Park fish populations. A detailed review of this later hypothesis, as it relates to the local refugia hypothesis in the Jasper National Park area, has been provided by Mayhood (1992). If a refugia existed, indigenous fish species would have had an extended period of time to evolve into divergent populations uniquely adapted to local habitats. In Mayhood's document, the author provides supporting biological evidence from Bajkov (1927) and others.

Bajkov (1927) identified distinctive longnose sucker, rainbow trout, and pearl dace, from the Banff-Jasper region and considered them to be endemic. The Athabasca strain rainbow trout is the only subspecies that likely occurs in riverine environments such as the Athabasca River system within and outside of Jasper National Park. A population of this subspecies hasbeen identified in Wampus Creek, which is located east of the park boundary (Carl et al. 1994).

Genetic evidence also suggests the presence of a distinctive lake whitefish population in Talbot Lake (Foote et al. 1992). Given the proximity of Talbot Lake to the Athabasca River, it is probable that this waterbody was periodically inundated (prior to highway construction) by the river during high water events. This would make Talbot Lake accessible to the Athabasca

Table 4.1 Fish distribution in areas of the Athabasca River, 21 April-21 May 1992 (✓), 10-22 May 1994 (^), and 2-22 October 1993 (*).

Species	Jasper National Park					Downstream Areas		
	J1	J2	J3	J4	J5	Hinton	Knight	Whitecourt
Sport Fish								
Arctic grayling						^	✓ ^ *	
Brook trout		^	^ *	^		^ *		
Bull trout	^ *	^ *	^ *	*	^ *	✓ ^ *	✓	
Rainbow trout	*	^ *	^ *	*		✓ ^ *	✓ ^ *	
Mountain whitefish	^ *	^ *	^ *	^ *	^ *	✓ ^ *	✓ ^ *	✓ ^ *
Lake whitefish			*	^ *	*	*		
Pygmy whitefish				^				
Walleye								✓ ^
Northern pike				^ *	*	^	✓ ^ *	✓ ^ *
Burbot	*		*			✓ ^	✓ ^	✓ ^ *
Non-sport Fish								
Longnose sucker		*	^ *	^ *	^ *	✓ ^ *	✓ ^ *	✓ ^ *
White sucker	*					^[a]	✓ ^ *	✓ ^ *
Forage Fish								
Emerald shiner								
Lake chub				^[a]		✓ ^[a]	✓ ^[a] *	✓ ^ *
Longnose dace						^[a]	^	✓ ^ *
Spottail shiner							✓ *	
Trout-perch							✓ *	✓ ^ *
Spoonhead sculpin			^[a]	^[a]		✓ ^[a]	^[a]	✓

[a] Species recorded during small-fish inventory program at sites located in same area as sampling sections.

Note: Section J1A and J1 considered as one site; Hinton Area includes Site A1; Knight Area contains Site A2; Whitecourt Area includes Site A3. Sections J1 to J5 not sampled during spring, 1992.

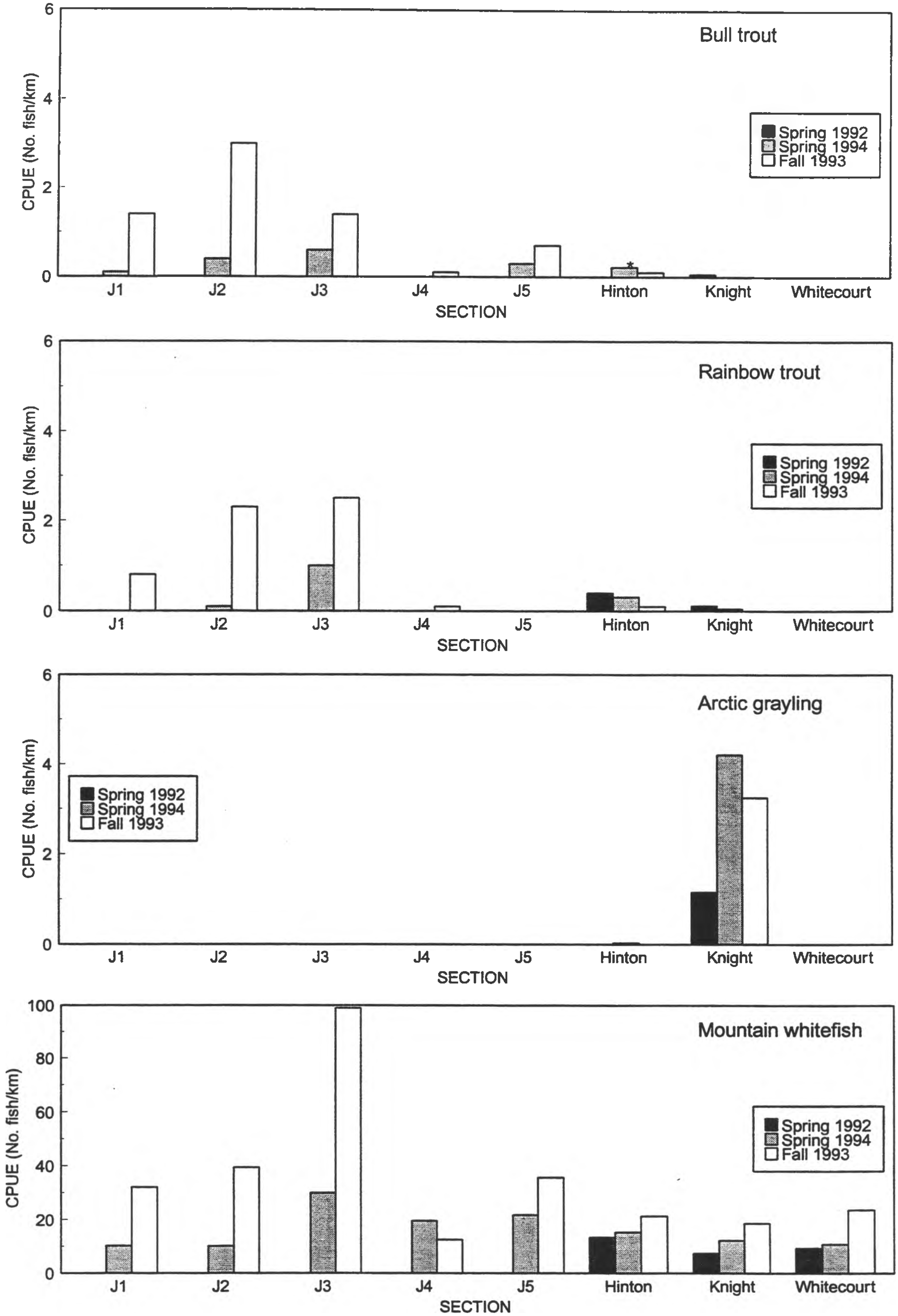


Figure 4.1 Catch-per-unit-effort values for selected fish species captured during boat electrofishing in sections of the Athabasca River during 22 April-03 May 1992, 10-22 May 1994, and 2-22 October 1993; (* indicates fish observed but not captured; Sections J1 to J5 not sampled in spring 1992).

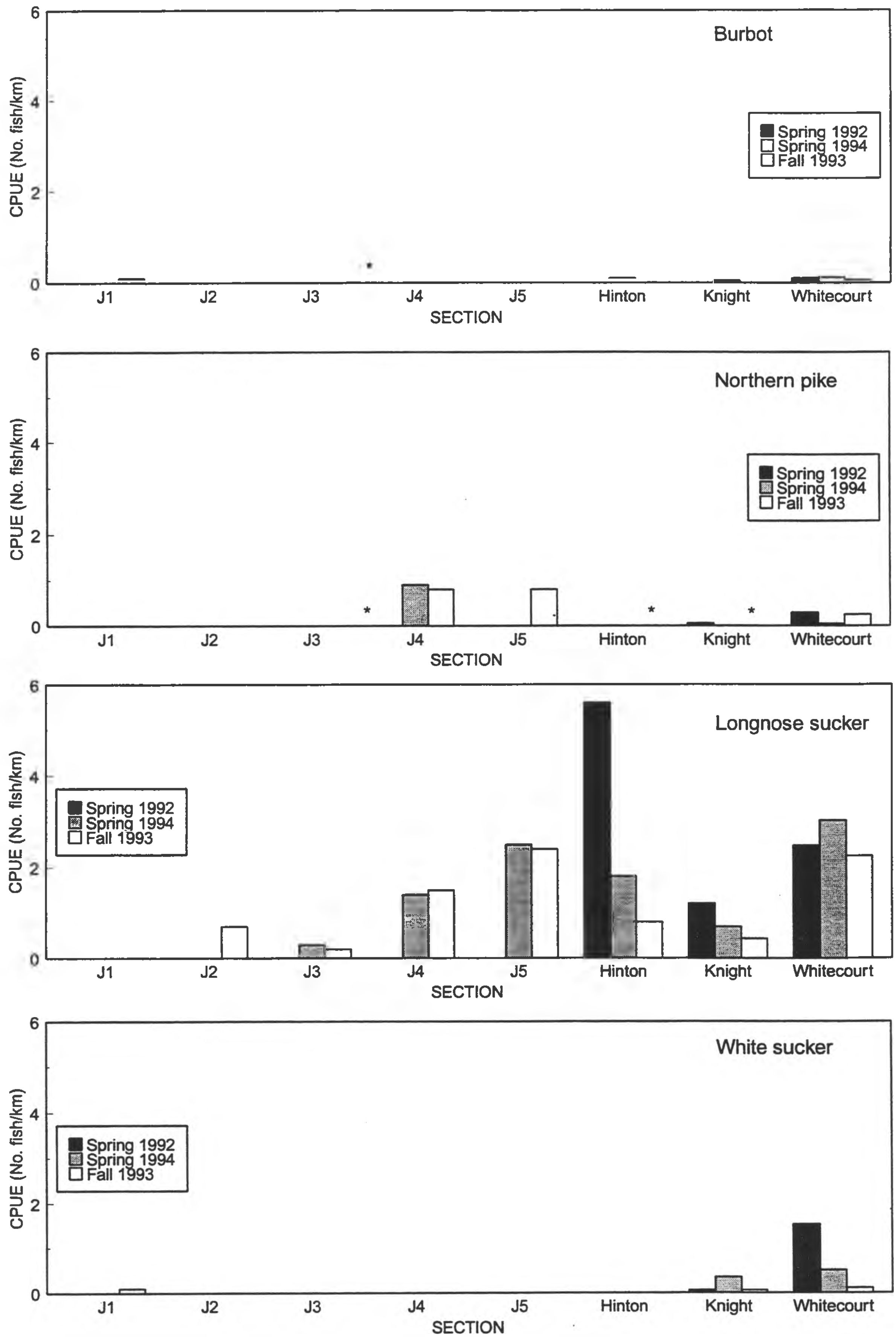


Figure 4.1 Concluded.

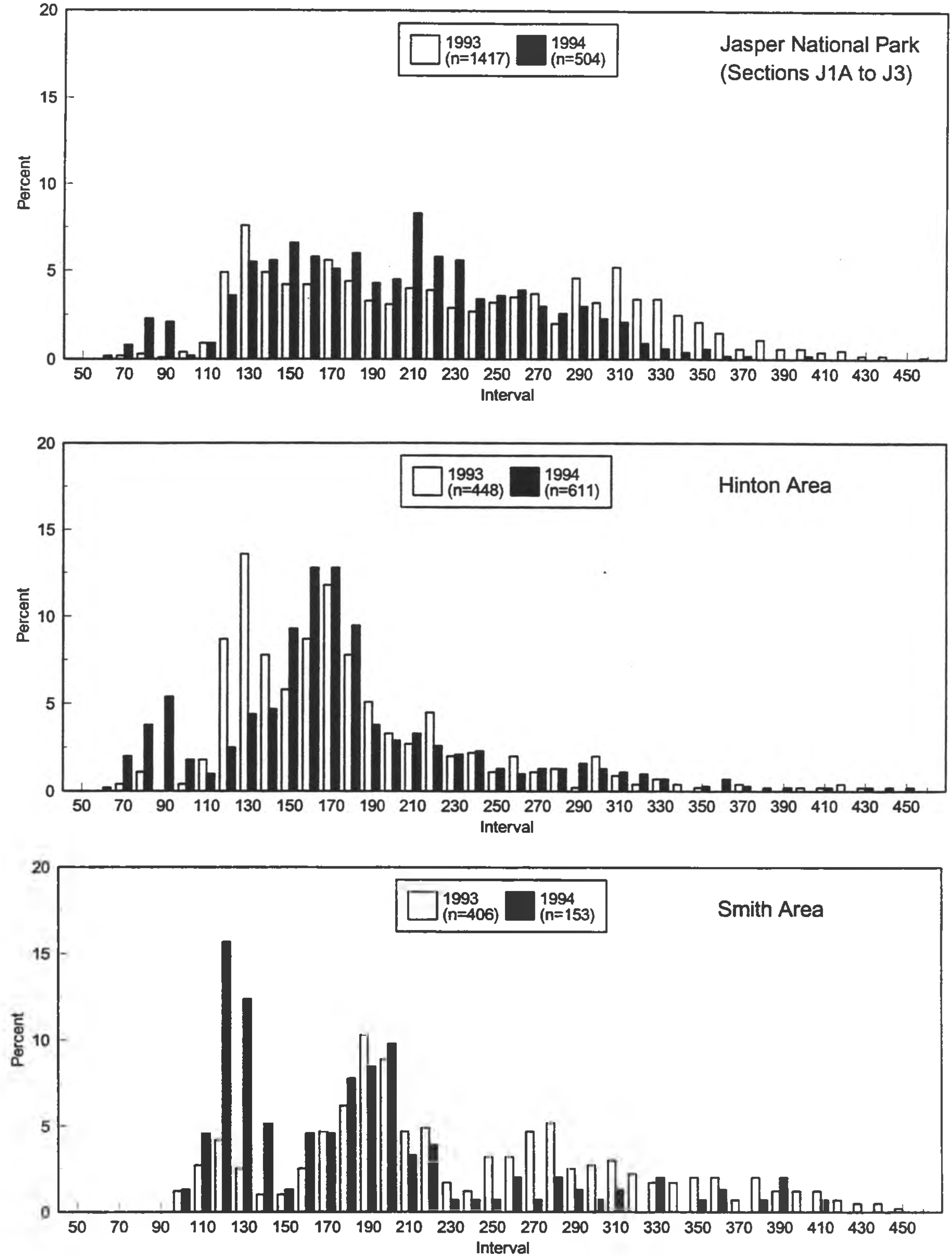


Figure 4.2 Size-distribution of mountain whitefish sampled during the large fish inventory in Jasper National Park, Hinton, and Smith areas of the Athabasca River, 2-22 October 1993 and 10-22 May 1994.

River lake whitefish, which have been captured just upstream of Jasper Lake (R.L. & L. Environmental Services Ltd. 1994*a*, present study). As such, these two populations may share distinctive genetic characteristics thought to be unique to Talbot Lake fish.

4.2 SMALL-FISH INVENTORY

All of the larval fish collected during the 9-23 May 1994 survey of the upper Athabasca River were identified as mountain whitefish. The absence of larvae of other species present in the upper Athabasca River can be attributed to differences in spawning chronology, behaviour (dispersion patterns), distribution and abundance of adult fish in the upper Athabasca, and rearing areas sampled (i.e., mainstem versus tributaries).

4.2.1 Spawning Chronology

Mountain Whitefish

Mountain whitefish in the upper Athabasca River spawn in the middle to latter half of October and the larvae emerge from the natal substrates the following spring. The length of the incubation period and the thermal units required for successful whitefish hatching were not determined in the present study. There are, however, some data in the literature on the developmental and hatching periods for mountain whitefish.

Davies and Thompson (1976) investigated mountain whitefish life history in the Sheep River, Alberta. They estimated that the egg incubation period in the Sheep River was 180 to 210 days at O °C, and speculated that hatching began in the upper Sheep River in the first two weeks of April. Some mountain whitefish eggs were incubated at the Sam Livingston Hatchery (Calgary) at a water temperature of 7.5 °C. Hatching of these eggs initially began 48 days after fertilization, and all eggs had hatched by 71 days; the authors noted that 95% of the eggs hatched within 61 days. Given these data, mountain whitefish eggs in a hatchery require from 360 to 532 thermal units (day-degrees) to hatch.

The early life history of mountain whitefish in Logan River, Utah, was studied by Stalnaker and Gresswell (1974). They incubated eggs in hatcheries at various water temperatures and reported incubation periods ranged from 45 to 75 days at 8.9 °C, 77 to 98 days at 5.6 °C, and 80 to 120 days at water temperatures ranging from 1.7 to 6.1 °C.

Brown (1952) reported that whitefish embryos in the West Gallatin River in Montana hatched after 129 days in water temperatures ranging from 0 to 8.3 °C. When collecting eggs from the river over the winter, he noted that all eggs at each site were not at the same stage of development, which he attributed to spawning occurring over a two week period. He also incubated eggs in a hatchery and determined that 36 days were required before hatching at 11.1 °C. Based on these data, mountain whitefish eggs in a hatchery setting required 400 thermal units to hatch.

Information on the egg development times of other coregonids is also relevant. Lake whitefish reared in 0.5 °C water, had a mean incubation period of 141 days; this temperature was regarded as being very close to the optimum temperature for lake whitefish egg development (Price 1940). Normandeau (1969) determined that 140 days were required for development and hatching of round whitefish embryos at 2 °C.

A rough approximation of the mountain whitefish hatching period can be obtained by applying the approximate spawning period reported for this species in the upper Athabasca River (R.L. & L. Environmental Services 1994*a*) and by estimating larval development times. Mountain whitefish spawning in the upper Athabasca River occurred in mid- to late October 1993, as water temperatures declined (R.L. & L. Environmental Services 1994*a*). Spawning generally takes place over a week to two week period. In 1993 most of adult mountain whitefish in the upper Athabasca River had spawned by the 20 October. There are 172 days between 21 October and 31 March (approximate breakup date). Since according to the literature, 180 and 210 days are required for development, hatching could have occurred from 8 April to 8 May.

Water temperatures from November to March in the upper Athabasca approach 0 °C (Leigh Noton, Alberta Environmental Protection, Edmonton, pers. comm.), and ice conditions at the Water Survey of Canada Station 07AD002 (Athabasca River at Hinton) generally occur from the first or second week of November through until the final week of March. Both Roberts (1988*a*) and Davies and Thompson (1976) suggested larval hatching and emergence was synchronous with break-up. Break-up occurs at different times in different sections of the river. Protracted spawning apparently results in extended hatching and emergence periods, suggesting that not all larvae hatch and emerge at break-up.

Thompson and Davies (1976) reported that the mean total length of larvae from eggs incubated in a hatchery was 12.3 mm, whereas Liebelt (1970) reported hatching at 13.5 to 14.0 mm (mean 13.8 mm) total length in a hatchery.

Moreover, the size range of captured larvae suggests a protracted period of hatching and emergence. The first small-fish collections in the Hinton area (two sites) were conducted on 12 May 1994. At the Weldwood Haul Road Bridge site, mountain whitefish larvae had a mean total length of 17.3 mm (max. 26.0 mm, min 14.0 mm); the surface water temperature at that time was 10.5 °C. Mountain whitefish larvae at the Maskuta Creek site had a mean total length of 22.9 mm, and the surface water temperature was 14.5 °C. The maximum and minimum total lengths for Maskuta site larvae were 27.0 and 14.5 mm, respectively. Given a total length at hatching of about 13.5 mm and assuming uniform larval growth, and in consideration of the size differences in larvae caught at the same site, it appears that larvae may have a protracted hatching period. However, since the residence time of individual larvae at each capture site is unknown, some portion of the larval catch may have reared in other upstream habitats under different conditions (i.e., size differences are due to larval recruitment from upstream areas).

Arctic grayling

Arctic grayling generally spawn in early to mid-May in upper Athabasca River tributaries (Ward 1951). During the survey Arctic grayling eggs or larvae were probably in tributaries to the mainstem Athabasca River. Ward (1951) found that hatching occurred after 143 thermal units were reached in a hatchery. Kratt (1977) determined that Arctic grayling eggs required 177 to 186 thermal units to hatch in the Fond du Lac River (northern Saskatchewan). Stuart and Chislett (1979) indicated that Arctic grayling eggs in the Sukunka drainage of northern B.C. needed 267 thermal units to hatch, while Bishop (1971) reported that hatching of eggs in Providence Creek (NWT) began after 217 thermal units were attained.

Kratt and Smith (1977) observed that Arctic grayling larvae have a sub-gravel stage that lasts from hatching to about 3-4 days post-hatching. Kratt (1977) reported that Arctic grayling larvae were collected in emergence traps 4 to 6 days after the first larvae were detected in the substrate (i.e., gravel phase). In incubation boxes, newly-hatched larvae were sedentary and only moved short distances horizontally for the first three days, after which they were observed swimming at the surface. Nelson (1954), however, suggested that Arctic grayling larvae are helpless in water for about two weeks and may be carried downstream in large numbers at this time.

Trout and Char

Trout or char larvae were not encountered in the mainstem Athabasca; spawning and early rearing by these species probably occurs in tributaries. Exogenous feeding and movement up in the water column (dispersal) occur after yolk-sac absorption. The yolk-sac is absorbed when rainbow trout larvae attain a total length of approximately 23 mm (Auer 1982). The incubation period for rainbow trout eggs was reported to be 75 days at 4.8 °C, although only 44 days to hatch were needed at 7.5 °C (Carlander 1969).

McPhail and Murray (1979) determined the effects of temperature on hatching time for bull trout and found that 126 days were need to complete hatching at 2 °C, 95 days were needed at 4 °C, and that only 78 days were required at 6 °C. They observed that for bull trout: (1) an increase in temperature increased the development rate (i.e., decreased incubation time), (2) larger alevins and shorter hatch durations (time from first to last egg hatching) were associated with lower temperatures, and (3) high temperatures (e.g., 8 °C) increased the rate of yolk-sac absorption but decreased fry (stage beginning at complete yolk-sac absorption) size.

Suckers

The absence of catostomid larvae in the catch probably was due to spawning chronology, in that catostomid eggs or larvae likely were developing in the gravel at the time of the survey. Many adult catostomids captured by boat electrofishing during the study were classified as ripe or spent, indicating that spawning was in progress or had occurred in early May. Scott and Crossman (1973) suggest that longnose and white sucker hatching takes approximately two weeks, and there is an additional one to two week period in which larvae remain in the gravel absorbing the yolk.

Northern pike

Larval northern pike were not encountered during sampling in 1994. Northern pike larvae require vegetation or woody debris to adhere to after hatching (McCarraher and Thomas 1972). Vegetation and woody debris are generally more abundant in lentic habitats. Lacustrine habitats in the upper Athabasca River (i.e., Jasper and Brule lakes) represent a small percentage (7%) of the length of the mainstem above Whitecourt and sampling did not target northern pike larvae; therefore, it is not surprising that larval northern pike were not captured.

Sculpins

Spoonhead sculpin spawning occurs in late April and May after water temperatures have reached or exceeded 6 °C (Roberts 1988*b*). Hatching takes approximately three weeks, and the newly-hatched larvae are 6.7-7.0 mm long. The larvae are photopositive, and resemble adult spoonhead sculpin when they reach about 10 mm (Roberts 1988*b*). Considering the spawning and developmental times reported above, it is possible that the lack of young-of-the-year sculpin captures was a function of study timing; larval sculpin may not have hatched at the time of this study. Furthermore, sculpins often inhabit boulder interstices and hold beneath rocks during the day, which reduces capture vulnerability; larval sculpins, if hatched, may have avoided collection in this manner.

Cyprinids and Trout-Perch

Field sampling likely was conducted before cyprinid spawning began in 1994. Brown et al. (1970) noted that in the Montreal River near Lac la Ronge (Saskatchewan), lake chub were observed spawning in middle or late May. Longnose dace spawn from May to early July (Scott and Crossman 1973). Lawler (1954) investigated trout-perch spawning in creeks tributary to Hemming Lake (Manitoba), and suggested that spawning began in mid-May.

4.2.2 Larval Dispersal

It was not possible to assess the extent of downstream dispersal by larval mountain whitefish from their spawning grounds during the 1994 spring program. This would involve bio-marking a substantial number of eggs during fall and recovering marked larvae the following spring.

The literature indicates that larvae of most species exhibit diel periodicity in movements. Corbett (1966 *in* Muth and Schmulbach 1984) noted that diel periodicity was related to light intensity and the rate of change of light intensity. Larval drift is usually associated with the loss of visual positioning cues caused by darkness. Geen et al. (1966) observed that longnose and white suckers moved downstream almost exclusively at night, while Northcote (1962) determined that rainbow trout fry lost their visual orientation at night and drifted downstream. Kratt (1977) indicated that Arctic grayling larvae in northern Saskatchewan lost positional cues and drifted downstream at night. Clayton observed, in a small Arctic stream under 24 h daylight conditions, that Arctic grayling larvae did not undergo downstream movement (R.L. & L. Environmental Services Ltd. 1994*b*).

Clifford (1972) studied the downstream movements of white sucker larvae in the Bigoray River, Alberta (tributary of the Athabasca River). Larvae moved almost exclusively at night, with peak movements occurring at midnight. He also indicated that white sucker larvae and post larvae moved downstream throughout June and July, and that more larvae were captured in surface-set drift nets than in bottom-set drift nets. Clifford (1972) concluded that while it was probable that some smaller larvae drifted downstream passively, larger larvae were capable of movement both horizontally and vertically in the water column and thus were actively moving downstream.

Woodhead (1957) indicated that the larvae of many freshwater species were photonegative and that the larvae hid in interstitial spaces during the day and emerged at night. Lake whitefish larvae, however, are positively phototactic (Hart 1930; Shkorbatov 1966 *in* Faber 1970). Larval mountain whitefish may also be photopositive, since substantial numbers of larvae were captured during daylight hours. Darkness is a form of cover from predators, although in the Athabasca River in May, high turbidity levels likely serve the same purpose. Turbidity reduces the reactive distances of predators to prey (i.e., larvae), thus providing cover (Vinyard and O'Brien 1976).

4.2.3 Larval Dispersal in the Upper Athabasca River

Mountain Whitefish

Based on the large number of mountain whitefish larvae collected from the upper Jasper National Park site (i.e., J1) it is apparent that at least a portion of the larvae are able to escape mainstem current relatively quickly. The maximum extent of downstream movement (active or passive) for a portion or all of the larvae with natal areas upstream of Jasper Lake is the lake itself. Similarly, a portion of the larvae hatched between Jasper Lake and Brule Lake (e.g., in the Rocky River) likely complete their larval phase in Brule Lake. Nonetheless, mountain whitefish larvae were collected throughout the study area. It is speculated that mountain whitefish larvae move to near shore habitats (river margins) at the first available opportunity.

Mountain whitefish larvae have small yolk-sacs relative to trout (e.g., rainbow trout and the larval (alevin) phase at 23 mm and are considerably more robust than whitefish larvae). Perhaps larvae do not emerge from the gravel until approximately 14.0 mm, when the yolk-sac is almost absorbed. However, additional sampling earlier than the second week of May could recover larvae smaller than 14.0 mm (smallest captured in the present study).

It also may be speculated that larval mountain whitefish attempt to access near shore habitat soon after emerging from the substrate to avoid downstream displacement caused by increasing stream flows. Larval dispersal then takes the form of downstream drift due to loss of positional cues (along the river margin), rather than drift aided by the main channel (in regular water velocities).

Lake Whitefish

The absence of lake whitefish larvae in the sample may be related to larval drift and/or the low relative abundance of lake whitefish in the upper Athabasca River. Little published information is available on drift of larval coregonids in large rivers and it may be that larval lake whitefish drift substantial distances downstream before reaching rearing habitats. Evidence to support this hypothesis comes from physiological characteristics of the larvae and recoveries of larvae and juveniles in other studies.

One of the diagnostic characters of lake whitefish yolk-sac larvae is the presence of a large oil globule, which is advantageous in maintaining a position up in the water column. Goldeye eggs and early larvae also have a large oil globule, and the eggs are described as semi-buoyant (Battle and Sprules 1960). Downstream transport of eggs or yolk-sac larvae has been suggested as an explanation for the lack of young-of-the-year goldeye captures in the vicinity of goldeye spawning areas throughout most of Alberta (Munson 1979).

In the Liard River (northeastern B.C. - tributary to the Mackenzie River) lake whitefish larvae were captured in tow nets positioned in the main channel (i.e., not along the river margin; O'Neil et al. 1982). The Liard River in the vicinity of the Beaver River confluence is similar to the upper Athabasca River.

The beach seine and backpack electrofishing data support transport of larval lake whitefish out of the study area; no yearling or older juvenile lake whitefish were captured during this study, during spring 1992 (R.L. & L. Environmental Services Ltd. 1993*a*) or in fall 1993 (R.L & L. Environmental Services Ltd. 1994*a*). Rearing young-of-the-year lake whitefish were not collected in the Liard River (near the Beaver River) over a three-year period (O'Neil et al. 1982).

Larvae that undertake a wide dispersal survival strategy might coincide with completion of the gravel stage with break-up or increasing discharges. Increasing discharges result in significant increases of woody debris in the river, and larvae may have increased survival due of their resemblance to other pieces of flotsam. Gale and Mohr (1978) speculated that disoriented drift of larvae may confuse sight-feeding predators.

4.2.4 Larval Mountain Whitefish Distribution and Abundance

Interpretation of rearing habitat differences between areas using the relative abundance data (CPUE) for larval mountain whitefish was hampered by small sample sizes and limited supporting information. There are approximately 225 river kilometres with rearing potential between Brule Lake and Whitecourt, but study constraints permitted establishment of only nine sampling sites. As such, comparisons between areas should be viewed as preliminary.

Larval mountain whitefish rearing occurred throughout the study area. Of the four areas surveyed, mountain whitefish larvae were most abundant within Jasper National Park (Table 4.2). Four of the six beach seine sites had CPUE values exceeding 90 fish/100 m^2, indicating that nursery areas were widely distributed in the Jasper area. Capture of larval mountain whitefish at Site J1 (Km 1333.3) indicated that successful mountain whitefish spawning occurred in the 15 km section of river upstream to Athabasca Falls.

Larval mountain whitefish were collected at all beach seine sites in the Hinton area and the relative abundance indices were similar at each site (i.e., 10 to 31 fish/100 m^2). Although suitable nursery areas were widely available, larvae were present in low numbers in comparison to Jasper. This probably related to much lower spawning activity between the lowermost site (Site H3) and Brule Lake. The 1993 fall survey did not encounter any concentrations of adult mountain whitefish near Hinton (R.L. & L. Environmental Services Ltd. 1994*a*), but some successful spawning must have occurred.

The overall CPUE value for larval mountain whitefish in the Knight area was similar to that for Hinton, but lower than CPUEs for Jasper and Whitecourt. The CPUE values for adult mountain whitefish at Knight during fall 1993 were similar to values obtained at Hinton. As with the Hinton area, there were no concentrations of spawning mountain whitefish found in the Knight area during fall. Although larval mountain whitefish were widely distributed in the Knight area, low CPUE values probably indicate the area was not as important in terms of total larvae reared as other areas for this species during spring 1994.

The Whitecourt area had the second highest overall CPUE value for larval mountain whitefish of the four areas. However, unlike the Jasper area where four of six haul sites contained high densities of larvae, there was only one site in the Whitecourt area that had a high density of larvae. The catch at Site W1 was responsible for the high CPUE value at Whitecourt. A single haul, located in a backwater at Site W1 (immediately above the Highway 43 bridge), had a CPUE value of (1408 fish/100 m^2) which was twice that of the next highest haul (i.e., Site J5 within Jasper National Park (706 fish/100 m^2)). Boat electrofishing collections by Golder Associates Ltd. (1994) in fall 1993 indicated that the highest mountain whitefish CPUE value in the Whitecourt area occurred in the vicinity of the Highway 43 bridge and extended upstream for two kilometres. This suggests that this section of river is an important spawning and rearing area for this species. If the results of the Site W1 seine haul are removed from the Whitecourt total, the overall CPUE would decrease to a value comparable with that recorded in the Hinton or Knight areas (i.e., approximately 10 fish/100 m^2).

4.2.5 Relationship of Larval Captures to Point-Source Effluents

The early life history stages of fish are considered to be sensitive indicators of industrial and urban pollution sources (McKim 1977; Alderdice 1985). While the present study was not designed to specifically investigate the relationship between the early life history phase of upper Athabasca River mountain whitefish and point source effluents, some general observations can be made. None of the mountain whitefish larvae examined (sample size = 3880) exhibited gross deformities, although it is possible that deformed larvae have a lower survival rate and thus would not be available for capture. Larval mountain whitefish abundance indices were similar above and below the Weldwood Mill in Hinton (i.e., Site H1 above and Site H3 below), and above and below the Millar Western Mill at Whitecourt (i.e., Site W2 above and Site W3 below). Sampling was not conducted above the Alberta Newsprint Company mill near Whitecourt.

4.2.6 Comparison Between 1992 and 1994 Larval Fish Captures

There was a substantial difference in the catch of larval mountain whitefish between the present study (sample size = 3880) and that of 1992 (sample size = 0) (R.L. & L. Environmental Services Ltd. 1993*a*). Since the mesh size of the beach seines used in both programs were identical, differences in catch between years cannot be attributed to capture gear bias, although small differences in sampling efficiency cannot be discounted. Discharges of the Athabasca River were similar between years, and were unlikely to have influenced the results. The peak discharge at Hinton in 1992 was 409 m^3/s on 9 May, whereas the peak discharge in 1994 was 415 m^3/s on 13 May.

It appears that the low catch of larval mountain whitefish in 1992 was due to timing. In 1992, sampling in the Hinton area occurred on 26-27 April, whereas in 1994 it occurred on 12 and 17 May. Sampling of the Knight area occurred on 22-23 April in 1992, and on 14-15 May in 1994. Likewise, the Whitecourt area was sampled on 25-26 April in 1992 and on 13, 14, and 16 May 1994. Sampling three weeks later in 1994 than in 1992 may have allowed sufficient time for mountain whitefish larvae to hatch, complete the intragravel phase and emerge, thereby making them available for capture.

Table 4.2 Summary of size distribution (median length in quartile) and statistical significance of differences between inventory periods for mountain whitefish sampled from areas on the Athabasca River, 2-22 October 1993 and 10-22 May 1994.

Area	Inventory Period	Median Length (mm) in Quartile			Statistical Significance[a]
		25%	50%	75%	
Jasper National Park	Fall 1933	163	225	301	P=0.000
	Spring 1994	162	205	249	
Hinton	Fall 1933	138	171	205	P=0.002
	Spring 1994	149	122	204	
Smith	Fall 1933	189	220	294	P=0.000
	Spring 1994	131	180	209	

[a] Statistical significance based on Kolmogorov-Smirnov 2-Sample Test, which tested differences between inventory periods. Test based on entire size distribution data set for each period.

Table 4.3 Catch-per-unit-effort values (No. of fish/100 m^2) for fish captured at beach seine sites in four areas of the Athabasca River, 11-20 May 1994.

Area	Site	Larval mountain whitefish	Juvenile mountain whitefish	Longnose sucker	White sucker	Trout-perch	Longnose dace	Lake chub	Spoonhead sculpin
Jasper National Park	J1	134.4							
	J2	1.5	1.0						0.3
	J4	167.5							
	J5	297.0		0.4					
	J6		2.4	0.2					
	J7	91.7							
Mean CPUE Value		115.4	0.6	0.1	0.0	0.0	0.0	0.0	0.05
Hinton	H1	10.4	13.3	20.0					
	H2	15.3	29.6	19.4			3.1		
	H3	31.0	0.8	0.8	1.6				
Mean CPUE Value		18.9	14.6	13.4	0.5	0.0	1.0	0.0	0.0
Knight	K1	17.0	6.4	7.8			4.6	2.8	0.2
	K2	1.8	1.8	3.9	2.9		3.7	1.9	
	K3	24.9	2.4		0.8		0.8	0.3	
Mean CPUE Value		14.6	3.5	3.9	1.2	0.0	3.0	1.7	0.1
Whitecourt	W1	148.0		4.3	0.6		5.1	6.9	
	W2	9.8	1.3	0.5	0.3	0.1	0.8	0.3	
	W3	13.5	0.1	1.3			1.2	3.7	
Mean CPUE Value		57.1	0.5	2.0	0.3	0.03	2.4	3.6	0.0

5.0 RECOMMENDATIONS

One objective of the 1994 spring program was to recover tagged fish and thereby allow an assessment of seasonal movement patterns. Substantial information on movements was not obtained due to the low numbers of recaptured fish. Given the difficulty in obtaining movement data for species such as mountain whitefish and burbot using the conventional tag recovery approach in a large, complex river system, we recommend use of radio telemetry. Radio telemetry is a viable method to assess the timing and extent of fish movement patterns in large river systems (R.L. & L. Environmental Services Ltd. 1993*b*). A fall survey for mountain whitefish in areas where concentrations were found in fall 1993 would provide data on the relative abundance of 1994 spawners, and on numbers of fish returning to spawn in the same area.

A second objective was to assess the distribution and abundance of fish in the mainstem Athabasca River. An integral component of this study was the small-fish inventory. Because the small-fish inventory was successful in expanding the inventory database for the spring period, it may be advantageous to augment the current data with a follow-up sampling program undertaken during the fall period. The objective would be to obtain additional information on seasonal distribution, growth, and habitats used by small fish (e.g., young-of-the-year mountain whitefish).

The results of this study suggest that lacustrine habitats such as Jasper Lake, provide important rearing habitats for larval mountain whitefish; however, this was based on only one sampling site. Follow-up studies are recommended to quantify larval mountain whitefish use of areas such as Jasper and Brule lakes areas. Rearing habitats used by early juvenile (post larval) mountain whitefish in the upper mainstem Athabasca remains to be documented, as does use of tributaries for rearing. The early life histories of other upper Athabasca River fishes should also be described, particularly for Jasper National Park fishes.

As reported, a number of fish exhibiting abnormalities were captured in the Whitecourt area during the spring 1994 sampling program. These individuals were collected from the mainstem Athabasca River immediately downstream of the McLeod River confluence. We recommend that an investigation be initiated to determine the frequency, cause and dynamics (e.g., seasonal distribution) of these abnormalities.

Recommendations for future studies included: (1) investigation of seasonal movement patterns of mountain whitefish using radio telemetry, (2) further study of the distribution and abundance of smaller fish during the fall period, and (3) a program to ascertain the frequency and cause of abnormalities of fish encountered in the Athabasca River immediately downstream of the confluence with the McLeod River.

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APPENDIX A1

TERMS OF REFERENCE

SCHEDULE A - TERMS OF REFERENCE

PROJECT 3141-D1: ASSESSMENT OF FISH DISTRIBUTION AND ABUNDANCE IN THE UPPER ATHABASCA RIVER

I. OBJECTIVES

To identify and record the occurrence and relative abudance of fish species occurring within four reaches of the Athabasca River between Athabasca Falls and Whitecourt.

To recover fish tagged by previous **Northern Rivers Basins Study** projects and to describe the probable movement, distribution, habitat association and assemblage of fish species on the mainstem Athabasca.

To identify and record the occurrence and relative abundance of "forage" fish (emphasis on non-sport and early life stages of the principal sport / commercial / domestic fish species) occuring in shallow water habitats of the four reaches being investigated on the Athabasca River.

To georeference the location and composition of major fish aggregations.

To provide an interpretive report on fish distribution and abundance within the study reach based on this investigation and previous inventory efforts inclusive of identifying critical areas for fish rearing, specifically for mountain whitefish.

II. BACKGROUND

General surveys of fish distribution and habitat have been carried out in the upper Athabasca River. Studies of fish movement have been carried out by radio tagging. These studies have indicated considerable movements of some important species in large numbers at certain times of the year. Stable isotope studies in the Hinton-Whitecourt reach have shown fish caught in the mainstem to be feeding in the tributaries. The potential impact of point sources and more general impacts require interpretation in the context of these time dependant fish distributions ie. fish feeding in a tributary are not exposed to food contaminated in the mainstem, fish which have moved upstream of a source are not exposed to the water borne effluents. As a result of this information the fish studies have become focussed on better describing the temporal aspects of the fish distributions, especially with respect to movement to and occupation of critical habitats such as spawning sites and with respect to the probability of exposure of fish to various types of impacts (contaminants) through food or water. It is only through some definition of these temporal distributions that any kind of exposure impacts models can be developed and any useful monitoring programs defined.

SCHEDULE A - TERMS OF REFERENCE

Two field studies (3125-C1, 3126-C1) were carried out in the Fall of 1993 to improve our information on these distributions. One study concentrated on defining the distributions of fish in the upper Athabasca River into Jasper Park and especially to locating spawning sites for fall spawners i.e., whitefish. The other was an intensive conventional tagging effort in two reaches near Whitecourt, an area of known fall fish accumulations. Approximately 2400 fish were tagged in the latter study. As well, over 300 fish were tagged in the Jasper Park study. One purpose of the mark/recapture efforts was to get some estimate of the fish populations in the short term. This was successful. The other purpose of the tagging was to allow investigators the opportunity to follow the redistribution of the fish in the spring. This is to be accomplished as soon in the spring as the river allows. Information from this study will give insight into winter movement of the fish and help establish an understanding of the potential exposure of fish to contaminants. The recapture of tags will also provide an estimate of the populations in the spring which will reflect dilution of the population with fish not in the reaches in the fall.

III. REQUIREMENTS

1. Major Inventory sampling reaches include:

    a) **Jasper Park** - Athabasca River mainstem in Jasper National Park from Athabasca Falls to the eastern boundary of Jasper National Park, including the lower 3 kilometres of the Snaring river. (10 - 1 kilometre sections for each of 5 sites plus 3 kilometres of the Snaring River for a total of 53 kilometres)

    b) **Hinton** - Athabasca River, from a point 10 kilometers upstream of the combined Hinton/Weldwood outfall to a point 30 kilometers downstream, (10 - 1 kilometer sections in the upstream section, 30 - 1 kilometre sections in the downstream section for a total of 40 kilometres)

    c) **Knight** - 10 kilometers upstream and downstream of the Knight bridge crossing, (10 - 1 kilometre sections in the upstream and downstream sections, respectively, for a total of 20 kilometres)

    d) **Whitecourt** - 15 kilometers upstream and 30 kilometers downstream of the Highway 2 crossing at Whitecourt, (20 - 1 kilometer sections for the upstream and 40 - 1 kilometre sections for the downstream section for a total of 60 kilometres)

Sampling for each reach of the mainstem Athabasca River is to include the same sites as sampled in the fall of 1993 (R.L & L. 1994b, Golder & Assoc. 1994). Work is to be done travelling in a downstream direction or for the best catch for unit of effort, duplicating the techniques and reporting practices of the fall 1993 efforts.

2. Focus particular attention to the identification of minnow species and provide an estimate of the relative abundance of mountain whitefish, lake whitefish and pygmy whitefish.

3. Produce maps of all sampling sites using the same format and mapping conventions as the 1993 fall report (R.L & L 1994b).

4. Sample fish populations by electrofishing methods while adhering to the sampling techniques described in the fall 1993 NRBS project reports (R.L & L 1994b, Golder & Associates 1994).

5. Identify to species and enumerate all fish captured. Record the general external conditions of "abnormal" fish using the Gross Pathology Form (Appendix 1). Compile a properly labelled color photographic record of caught fish exhibiting "abnormalities". Labelling should permit cross referencing with fish data collection records.

6. Determine the length-weight frequency distribution for mountain whitefish within the Jasper National Park, R2 (Hinton-Oldman Creek), and R5 (Lesser Slave River-Town of Athabasca) as described by R.L & L 1994b. These will be based on a minimum of 150 individuals per reach. Fish are to be live sampled and released (McKay et al., 1990).

7. Apply Northern River Basins Study floy tags on fish specimens (rainbow trout, arctic grayling, northern pike, walleye, whitefish, bull trout, goldeye and burbot) greater than 250 mm. in length, unless the condition of fish and sampling circumstances permit the tagging of speciemens less than 250mm.

8. For each of the 4 major inventory sampling reaches, at 3 randomly selected sites within each reach in likely or preferred "forage" fish habitat, and using standard beach seine and back-pack electrofishing sampling technigues at each site, identify the occurrence and numbers of each fish species. This requires a minimum effort of 3 seine hauls and 2 backpack electrofishing runs per sample site covering a minimum of 100 linear meters.

   Collect and preserve a maximum of 20 sculpins per sample site to verify species identification. Retain the fish samples until advised by NRBS as to manner of disposal.
   If Pygmy Whitefish are encountered, collect a maximun of 10 speciemens to verify species identification. Retain the fish samples until advised by NRBS as to the manner of disposal. Speciemens should be preserved with the view that they may be turned over for museum purposes.

9. Cross reference all fish sample data to:

   a) sample number,
   b) species,
   c) reach,
   d) date of capture,
   e) kilometers from river mouth,
   f) Universal Transverse Mercator coordinates for Zone 11,
   g) capture method
   h) abnormality

In addition to the above, fish identified in Section II.7., are to have the following data obtained:

i) total and fork length (mm.), weight (gms.),
j) life stage
k) tag number.

10. The draft and final reports are to follow the same reporting format as the 1994 R. L & L NRBS Athabasca River report (R.L & L 1994b) in addition to including recommendations on project design and areas requiring follow-up investigation.

11. The contractor will be responsible for supplying equipment suitable to the task for sampling the mainstem and tributary rivers.

IV. DELIVERABLES

1. All figures and maps are to be delivered in both hardcopy (paper) and digital formats. Acceptable formats include: DXF, uncompressed E00, VEC/VEH, Atlas and ISIF. All digital maps must be properly georeferenced.

2. All sampling locations presented in report and electronic format should be geo-referenced. This is to include decimal latitudes and longitudes (to six decimal places) and UTM coordinates. The first field for decimal latitudes / longitudes should be latitudes (10 spaces wide) . The second field should be longitude (11 spaces wide).

V. REFERENCES

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Golder & Associates Ltd. 1994. Fish Tagging Along the Athabasca River Near Whitecourt, Fall 1993. **Draft Report** Northern River Basins Study. Edmonton, Alberta, 10 pp. +

VI. REPORTING REQUIREMENTS

1) The Contractor is to provide draft and final reports in the style and format outlined in the NRBS Style Manual. A copy of the Style Manual entitled "A Guide for the Preparation of Reports" will be supplied to the contractor by the NRBS.

2) Ten copies of the Draft Report along with an electronic disk copy are to be submitted to the Project Liaison Officer by July 29, 1994. Three weeks after the receipt of review comments on the draft report, the Contractor is to provide the Project Liaison Officer with two unbound, camera ready copies and ten cerlox bound copies of the final report.

   Electronic formats of the text and data are also to be supplied.

3) The final report is to include the following: an acknowledgement section that indicates any local or native involvement in the project, table of contents, list of tables, list of figures and an appendix with the Terms of Reference for this project. Text for the report should be in Times Roman 12 point font. If photographs are to be included in the report text they should be high contrast black and white. All tables and figures in the report should be clearly reproducible by a black and white photocopier. Along with copies of the final report, the Contractor is to supply an electronic version of the report in Word Perfect 5.1 or Word Perfect for Windows Version 6.0 format. Electronic copies of tables, figures and data appendices in the report are also to be submitted to the Project Liasion Officer along with the final report. These should be submitted in a spreadsheet (Quattro Pro preferred, but also Excel or Lotus) or database (dBase IV) format. Where appropriate, data in tables, figures and appendices should be geo-referenced.

VII. CONTACTS

The Project Liaison Officer (Component Coordinator) for this project is:

Firstly:

Dave Donald
Head, Surveys and Objectives
Room 300, Park Plaza Bus. Phone: (306) 780-6723
2365 Albert Street Fax: (306) 780-5311
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Edmonton, Alberta Bus. Phone: (403) 427-1742
T5J 3N4 Fax: (403) 422-3055

SCHEDULE A - TERMS OF REFERENCE

This project has been proposed by the Food Chain Component of the NRBS. The Food Chain Component Leader is:

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Fresh Water Institute
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R3T 2N6

Phone: (204) 983-5251
Fax: (204) 984-2404

APPENDIX A2

GROSS PATHOLOGY FORM

NORTHERN RIVER BASINS STUDY
Appendix 1

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: ____________

SAMPLE NO.: ____________ U.T.M LOCATION: ____________

SPECIES: ____________ CAPTURE METHOD: ____________

CAPTURE TIME: ____________ EXAMINATION TIME: ____________

GROSS EXTERNAL EXAMINATION

Skin: ( ) Normal ( ) Excessive mucus ( ) Abnormal Colour ________

( ) Lesions ( ) Single ( ) Multiple ( ) Closed

( ) Open ( ) Haemorrhagic ( ) Necrotic ( ) Ulcer

( ) Blister ( ) Tumour (´) Lost Scales ( ) Abrasions

Body Location: ____________________

Eyes: ( ) Normal ( ) Exophthalmia ( ) Cataract ( ) Haemorrhagic

( ) Opaque cornea ( ) Lens lost ( ) Parasites ( ) Bilateral

Fins: ( ) Normal ( ) Frayed ______ ( ) Haemorrhagic

( ) Eroded ________ ( ) Deformed ________

Gills: ( ) Normal ( ) Pale ( ) Mottled ( ) Haemorrhagic

( ) Necrotic ( ) Excessive mucus ( ) Hyperplasia

( ) Telangiectasia ( ) Gas emboli ( ) Cysts

( ) *Large Parasites* __________ ( ) *Fungus Visible*

OTHER: ____________________

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

APPENDIX B1

R.L. & L. STREAM HABITAT CLASSIFICATION SYSTEM

HABITAT CLASSIFICATION AND RATING SYSTEM

A) Riffle - Portion of channel with increased velocity relative to Run and Pool habitat types; broken water surface due to effects of submerged or exposed bed materials; relatively shallow (less than 25 cm) during moderate to low flow periods.

> Riffle (RF) - Typical riffle habitat type; limited submerged or overhead cover for juveniles and adult life stages; coarse substrate.
>
> Riffle-Boulder Garden (RF/BG) - Riffle habitat type with significant occurrence of large boulders; availability of significant instream cover for juveniles (to lesser extent adults) at moderate to high flow events.

B) Rapids (RA) - Portion of channel with highest velocity relative to other habitat types. Deeper than Riffle (ranging from 25-50 cm); often formed by channel constriction. Substrate extremely coarse; dominated by large cobble and boulder material. Instream cover provided in pocket eddies (P3) and associated with cobble/boulder substrate.

C) Run - Portion of channel characterized by moderate to high current velocity relative to Pool and Flat habitat; water surface largely unbroken. Deeper than Riffle habitat type. Can be differentiated into four types; deep-slow, deep-fast, shallow-slow, and shallow-fast.

> Run (Class 1) (R1) - Highest quality Run habitat type. Maximum depth exceeding 1.5 m; average depth 1.0 m. High instream cover at all flow conditions (submerged boulder/bedrock fractures, depth). Generally of deep-slow type (to lesser extent deep-fast) and situated proximal to upstream food production area (i.e., RF, R3).
>
> Run (Class 2) (R2) - Moderate quality Run habitat type. Maximum depth reaching or exceeding 1.0 m, generally exceeding 0.75 m. High instream cover during all but low flow events (baseflow). Generally of either deep-fast type or moderately deep-slow type.
>
> Run (Class 2)/Boulder garden (R2/BG) - Moderate quality Run habitat type; presence of large boulders in channel; high instream cover (boulder, bedrock fractures, turbulence) at all but low-flow events (baseflow). Depth characteristics similar to R2; however, required maximum depth lower due to cover afforded by boulders.
>
> Run (Class 3) (R3) - Lowest quality Run habitat type. Maximum depth of 0.75 m, but averaging <0.75 m, but averaging <0.50 m. Low instream cover at all but high flow events. Generally of shallow-fast or shallow-slow types.
>
> Run (Class 3)/Boulder garden (R3/BG) - Similar to R3 in depth and velocity characteristics; presence of large boulders in channel offers improved instream cover during moderate and high flow events.

D) Flat (FL) - Area of channel characterized by low current velocities (relative to RF and Run cover types); near-laminar (i.e., non-turbulent) flow character. Depositional area featuring predominantly sand/silt substrate. Differentiated from Pool habitat type on basis of high channel uniformity and lack of direct riffle/run association. More depositional in nature than R3 habitat (sand/silt substrate, lower food production, low cover, etc.).

Flat (Class 1) (F1) - High quality Flat habitat type. Maximum depth exceeding 1.5 m; average depth 1.0 m or greater.

Flat (Class 2) (F2) - Moderate quality Flat habitat type. Maximum depth exceeding 1.0 m; generally exceeding 0.75 m.

Flat (Class 3) (F3) - Low quality Flat habitat type. Maximum depth of 0.75 m, averaging <0.50 m.

E) Pool - Discrete portion of channel featuring increased depth and reduced velocity (downstream oriented) relative to Riffle and Run habitat types.

Pool (Class 1) (P1) - Highest quality Pool habitat type. Maximum depth exceeding 1.5 m; average depth 1.0 m or greater; high instream cover at all flow-conditions (submerged boulder, bedrock fractures, depth, bank irregularities). Generally featuring high Riffle and/or Run association (i.e., food input). Often intergrades with deep-slow type of R1.

Pool (Class 2) (P2) - Moderate quality Pool habitat type. Maximum depth reaching or exceeding 1.0 m, generally exceeding 0.75 m. High instream cover at all but low flow events (baseflow).

Pool (Class 3) (P3) - Low quality pool habitat type. Maximum depth of 0.75 m, averaging <0.50 m. Low instream cover at all but high flow events. Includes small pocket eddy type of habitat.

F) Features - Includes the following instream features:

Chutes (CH) - Area of channel constriction; generally resulting in channel deepening and increased velocity. Associated habitat types are R1, R1, R2.

Ledges (LG) - Areas of bedrock intrusion into the channel; often creates Chutes and Pool habitat.

Other - Miscellaneous features (fallen tree, large boulder, etc.).

APPENDIX B2

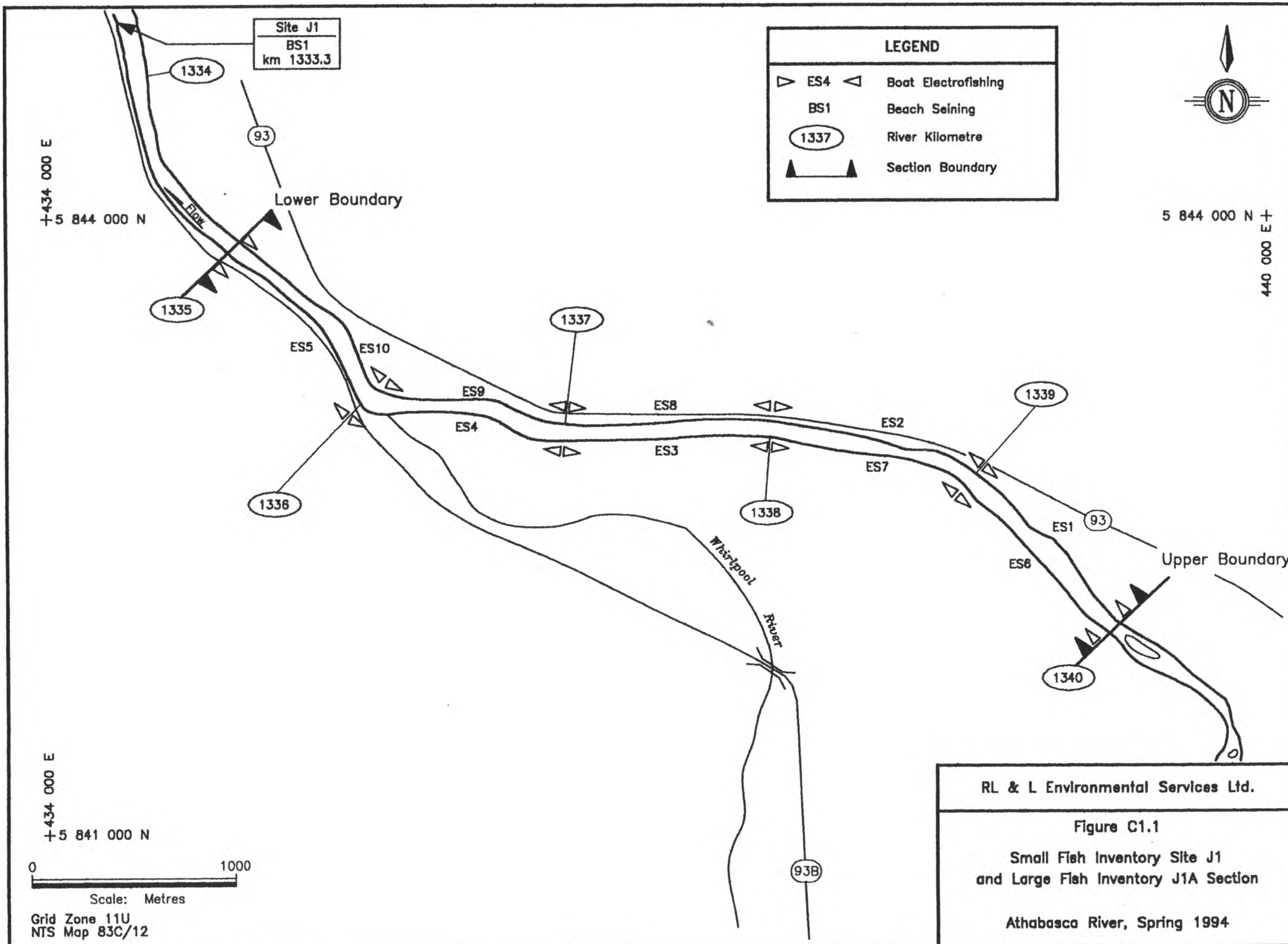
SUBSTRATE CLASSIFICATION SYSTEM
(MODIFIED WENTWORTH SCALE)

Table B2 Modified Wentworth classification for substrate particle sizes.

Classification	Particle Size Range (mm)
Boulder	>256
Cobble (Rubble)	64-256
Pebble	32-64
	16-32
Gravel	8-16
	4-8
	2-4
	1-2
Very coarse sand	0.2-1
Coarse sand	0.25-0.5
Medium sand	0.125-0.25
Very fine sand	0.0625-0.125
Silt	0.0039-0.0625
Clay	<0.0039

APPENDIX C1

SAMPLING LOCATION MAPS FOR ATHABASCA AND SNARING RIVER INVENTORY AREAS

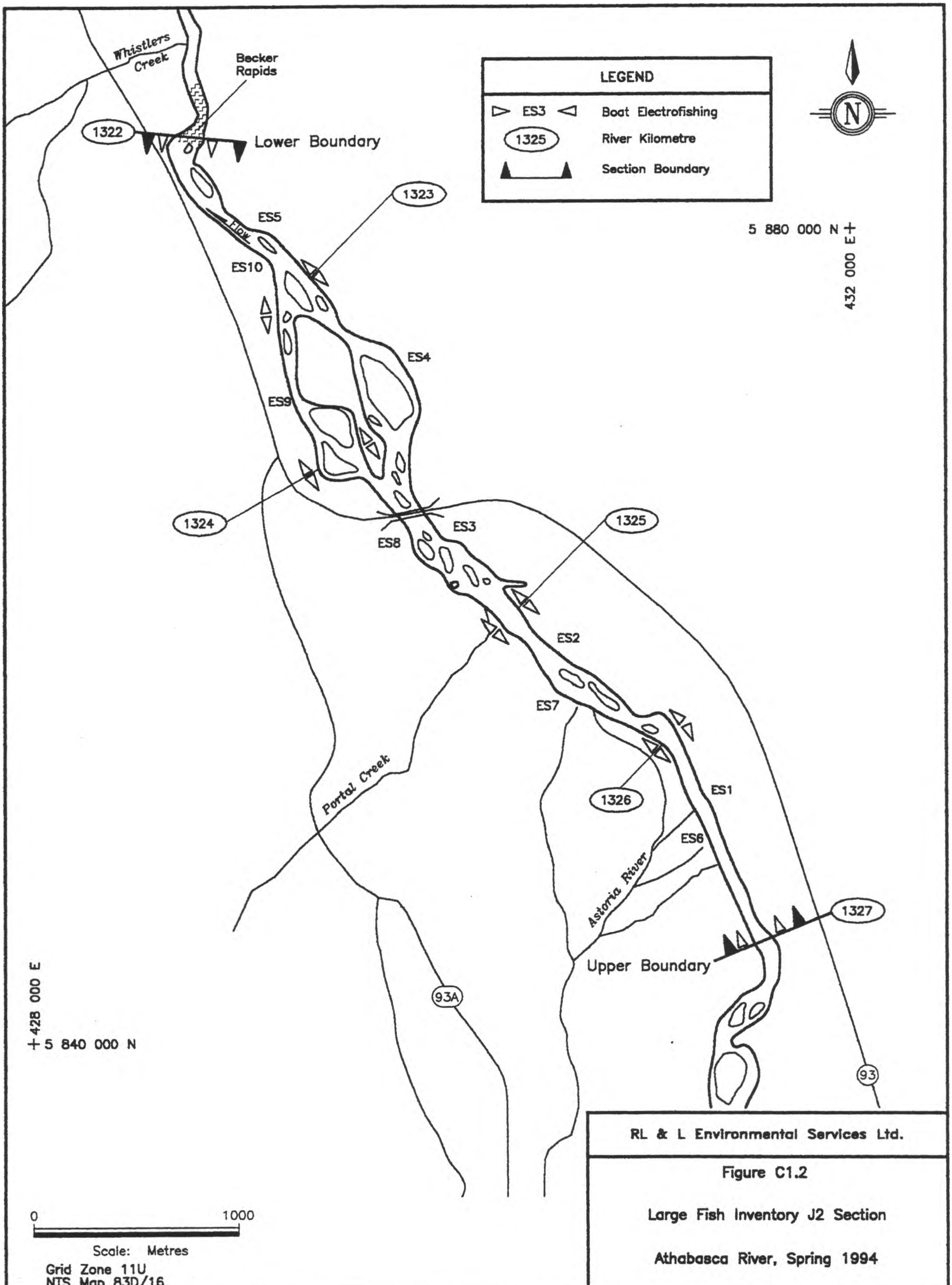


RL & L Environmental Services Ltd.

Figure C1.1

Small Fish Inventory Site J1
and Large Fish Inventory J1A Section

Athabasca River, Spring 1994



RL & L Environmental Services Ltd.

Figure C1.2

Large Fish Inventory J2 Section

Athabasca River, Spring 1994

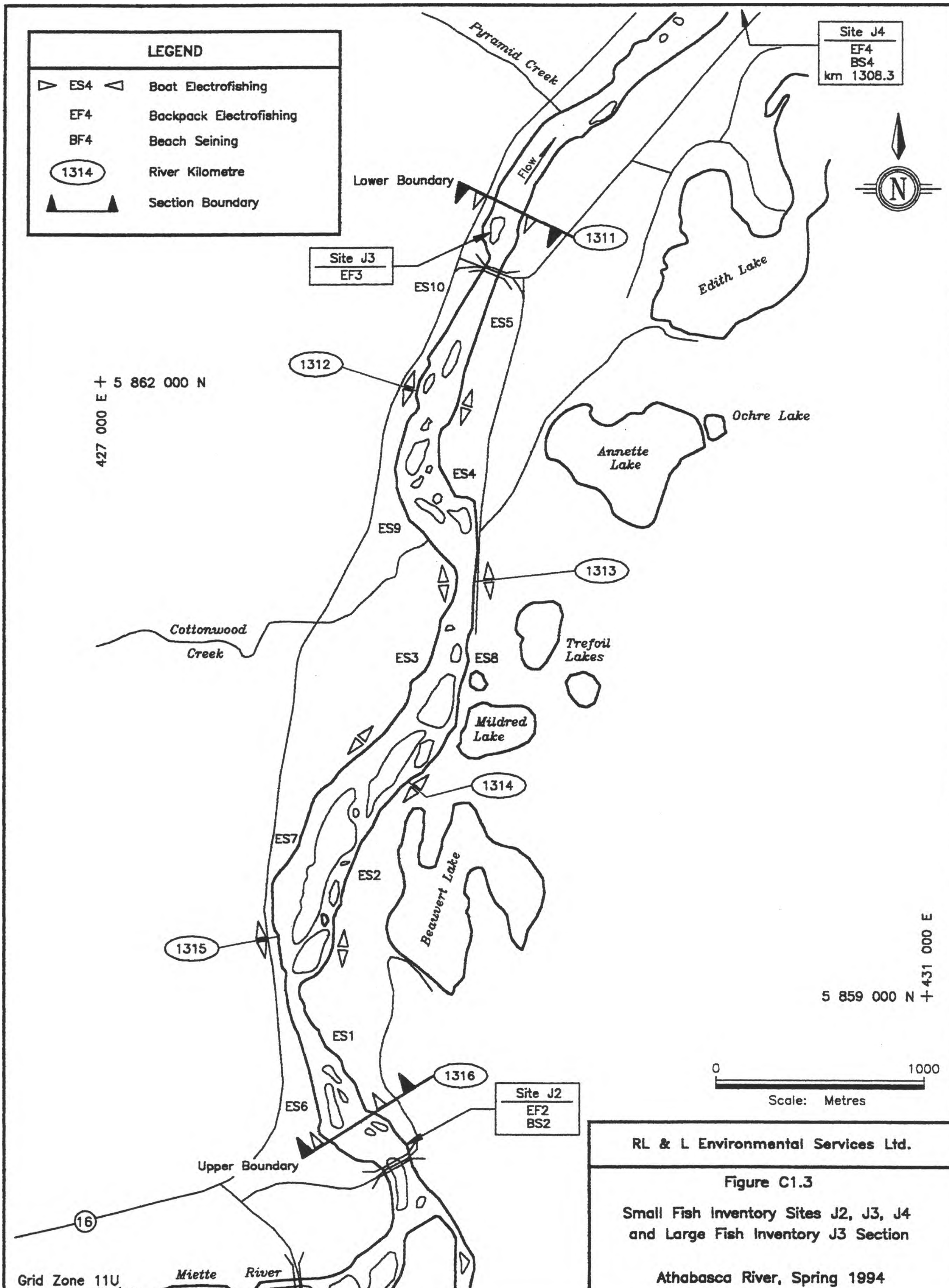
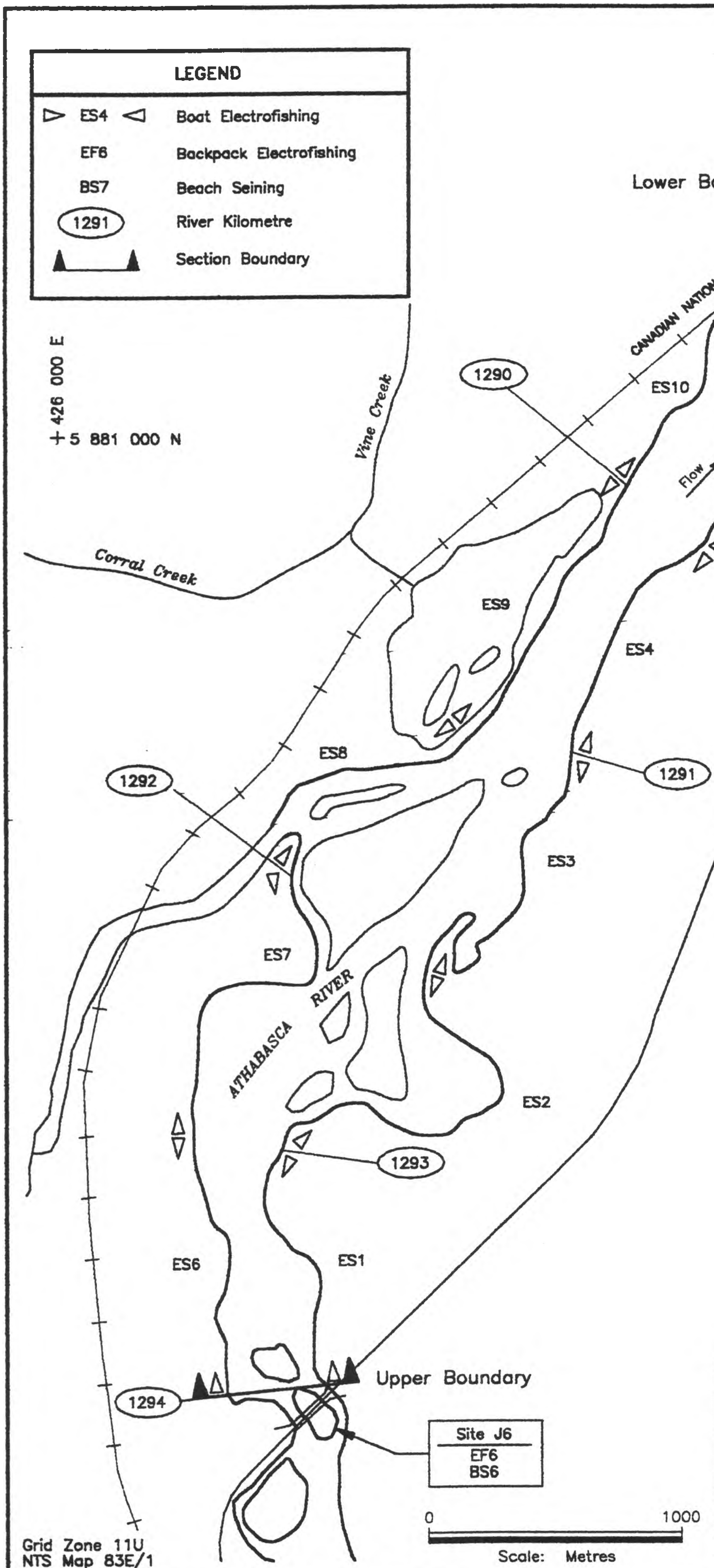


Figure C1.3

Small Fish Inventory Sites J2, J3, J4 and Large Fish Inventory J3 Section

Athabasca River, Spring 1994

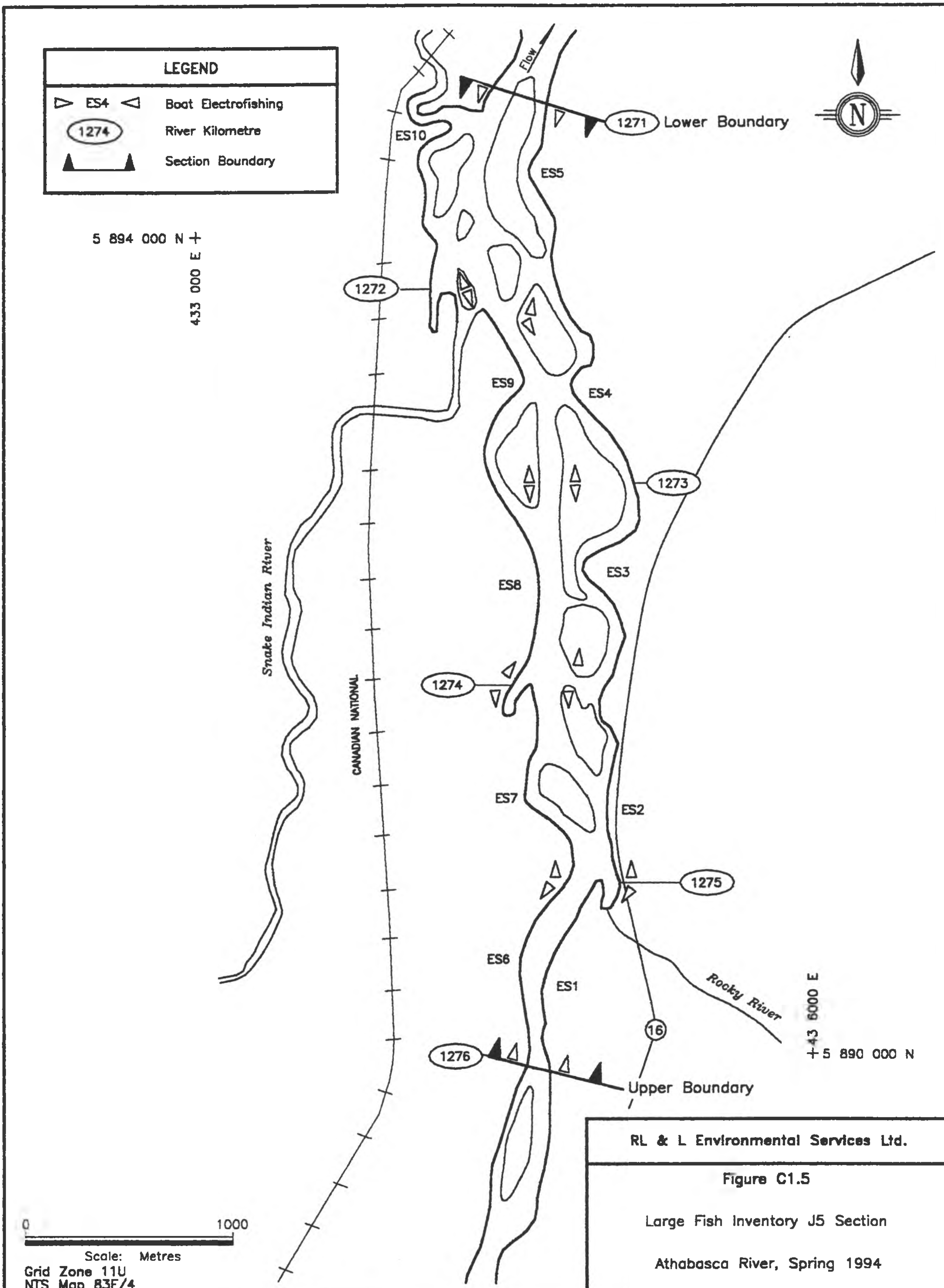


RL & L Environmental Services Ltd.

Figure C1.4

Small Fish Inventory Sites J6, J7 and Large Fish Inventory J4 Section

Athabasca River, Spring 1994

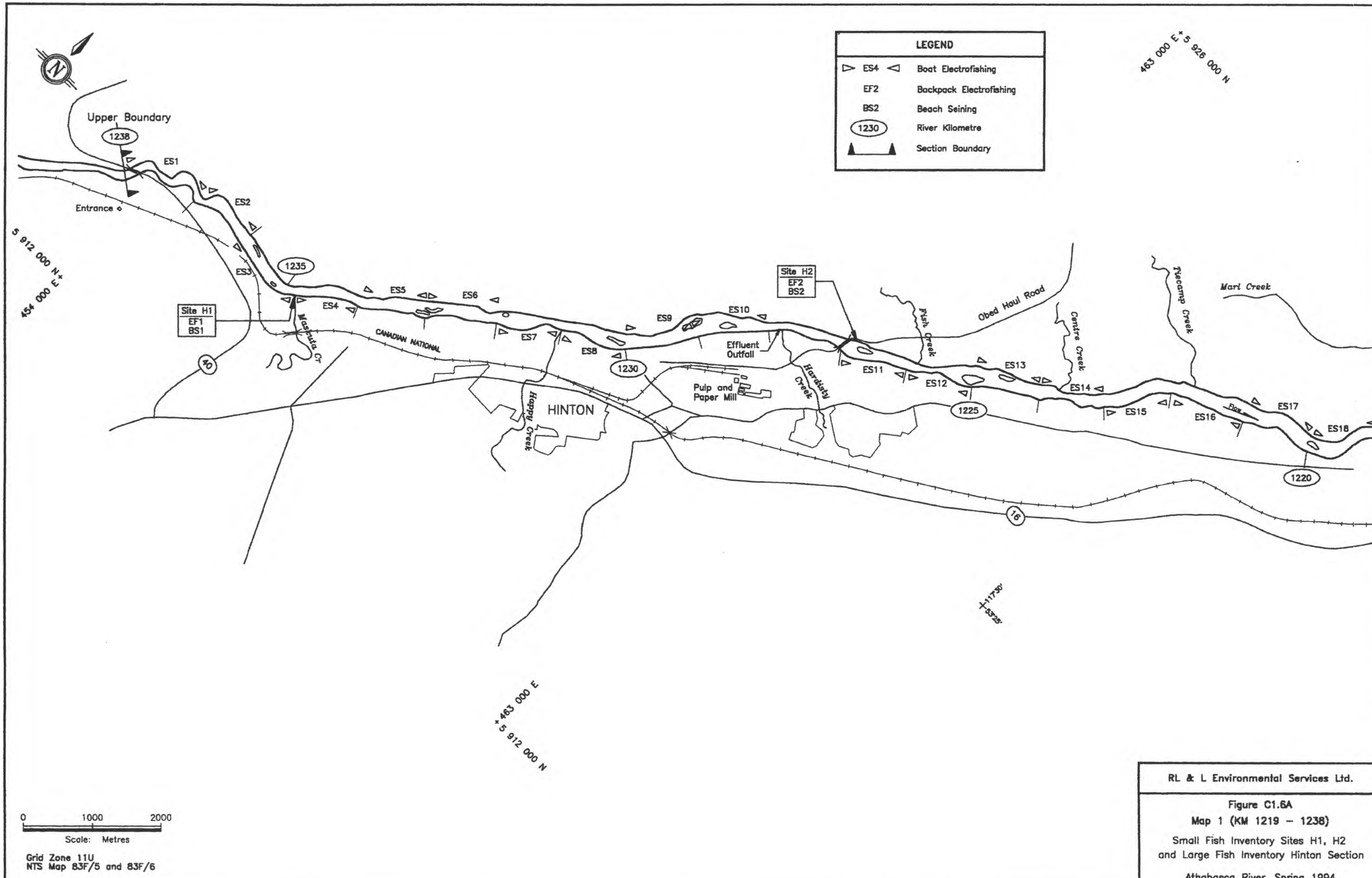


RL & L Environmental Services Ltd.

Figure C1.5

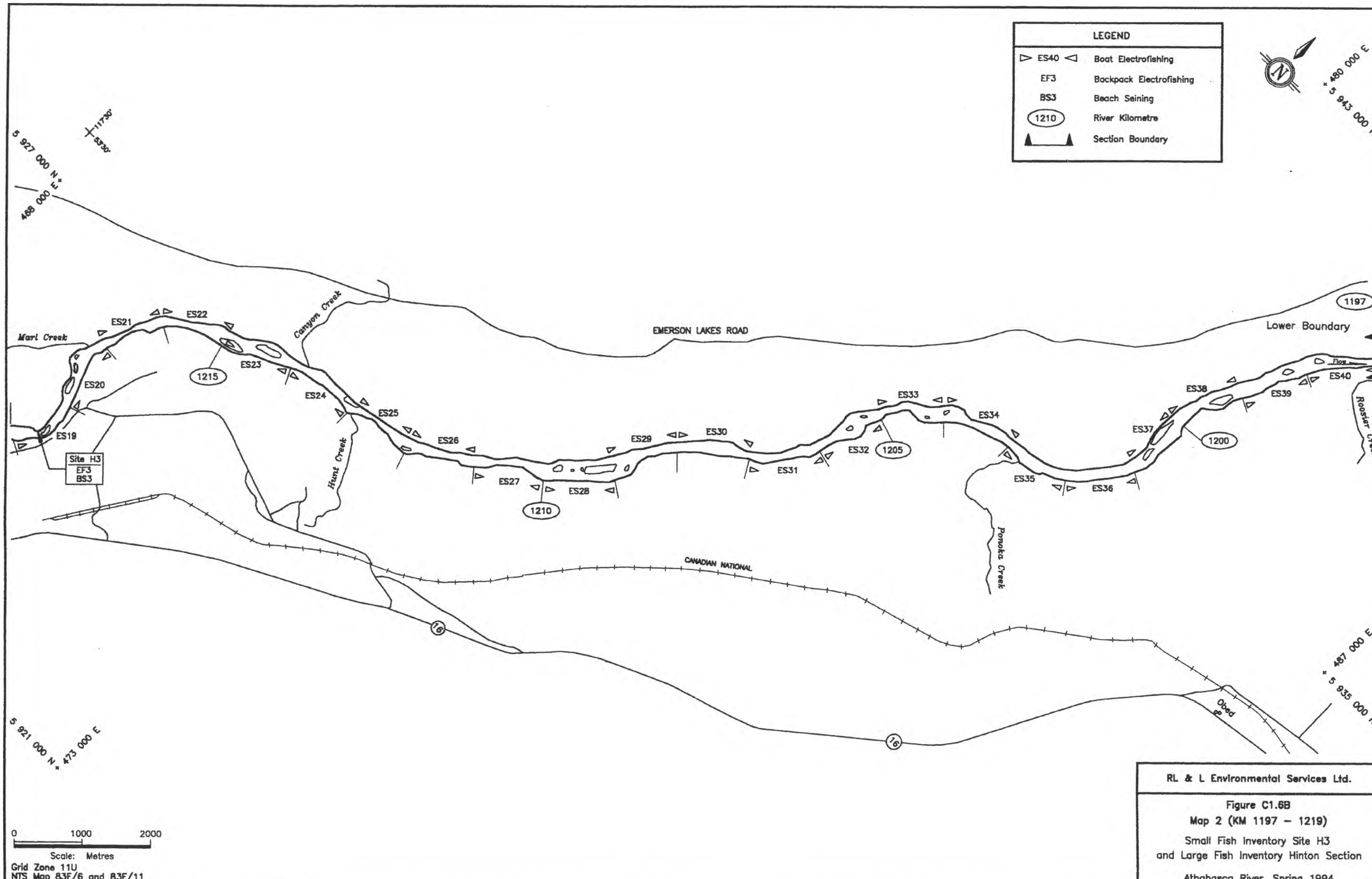
Large Fish Inventory J5 Section

Athabasca River, Spring 1994



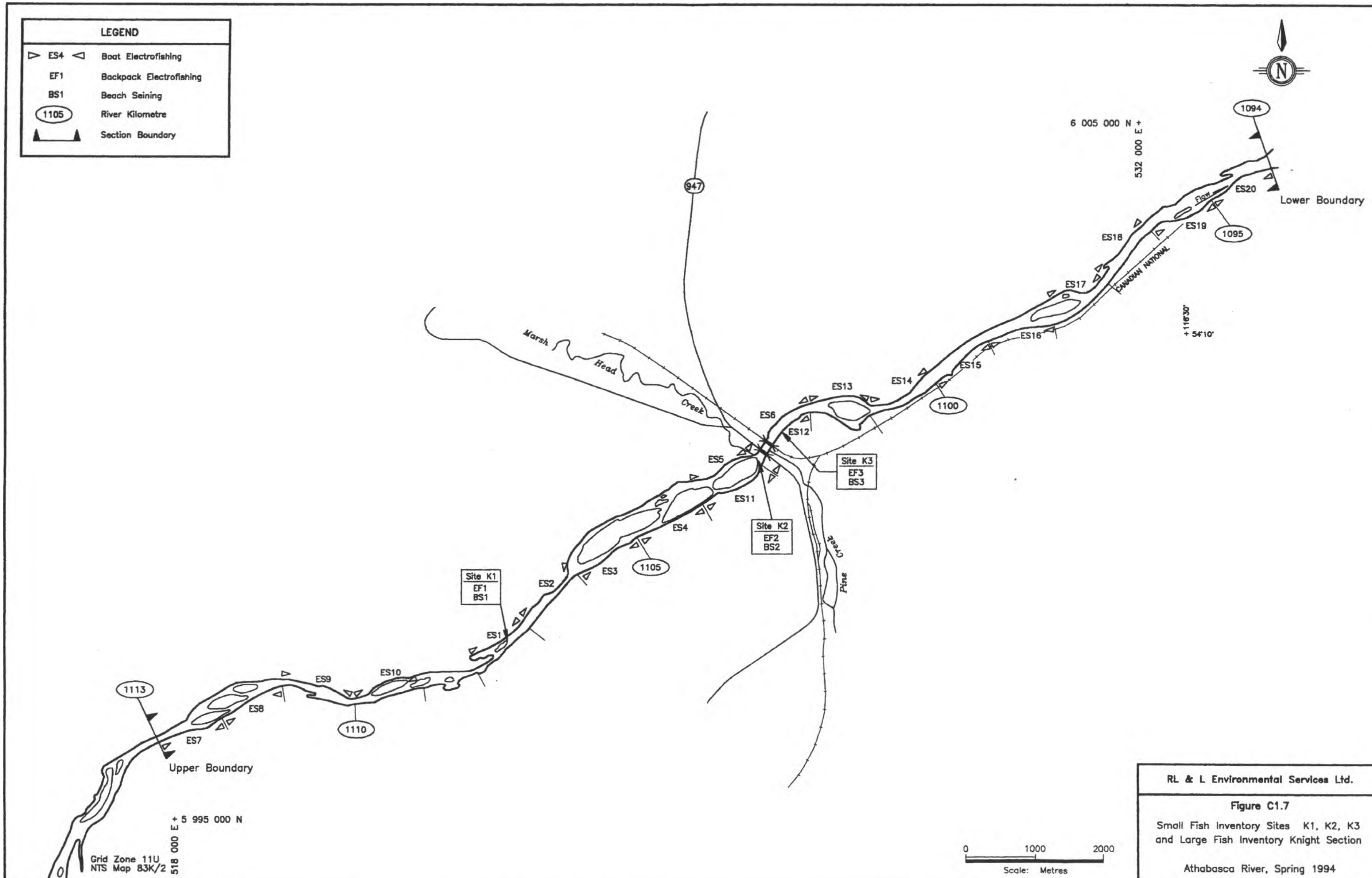
RL & L Environmental Services Ltd.

Figure C1.6A
Map 1 (KM 1219 – 1238)
Small Fish Inventory Sites H1, H2 and Large Fish Inventory Hinton Section
Athabasca River, Spring 1994



RL & L Environmental Services Ltd.

Figure C1.6B
Map 2 (KM 1197 – 1219)
Small Fish Inventory Site H3
and Large Fish Inventory Hinton Section
Athabasca River, Spring 1994

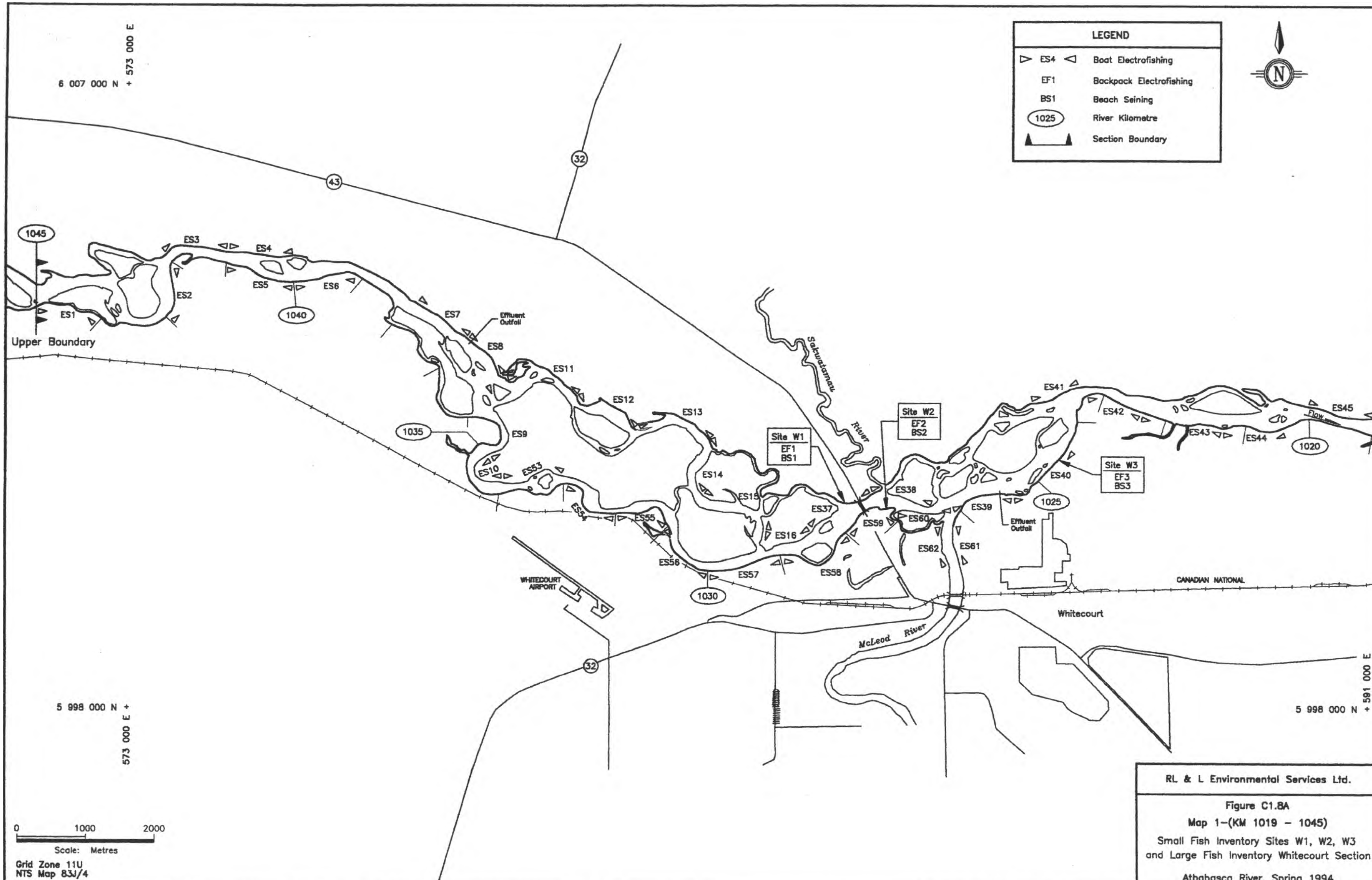


RL & L Environmental Services Ltd.

Figure C1.7

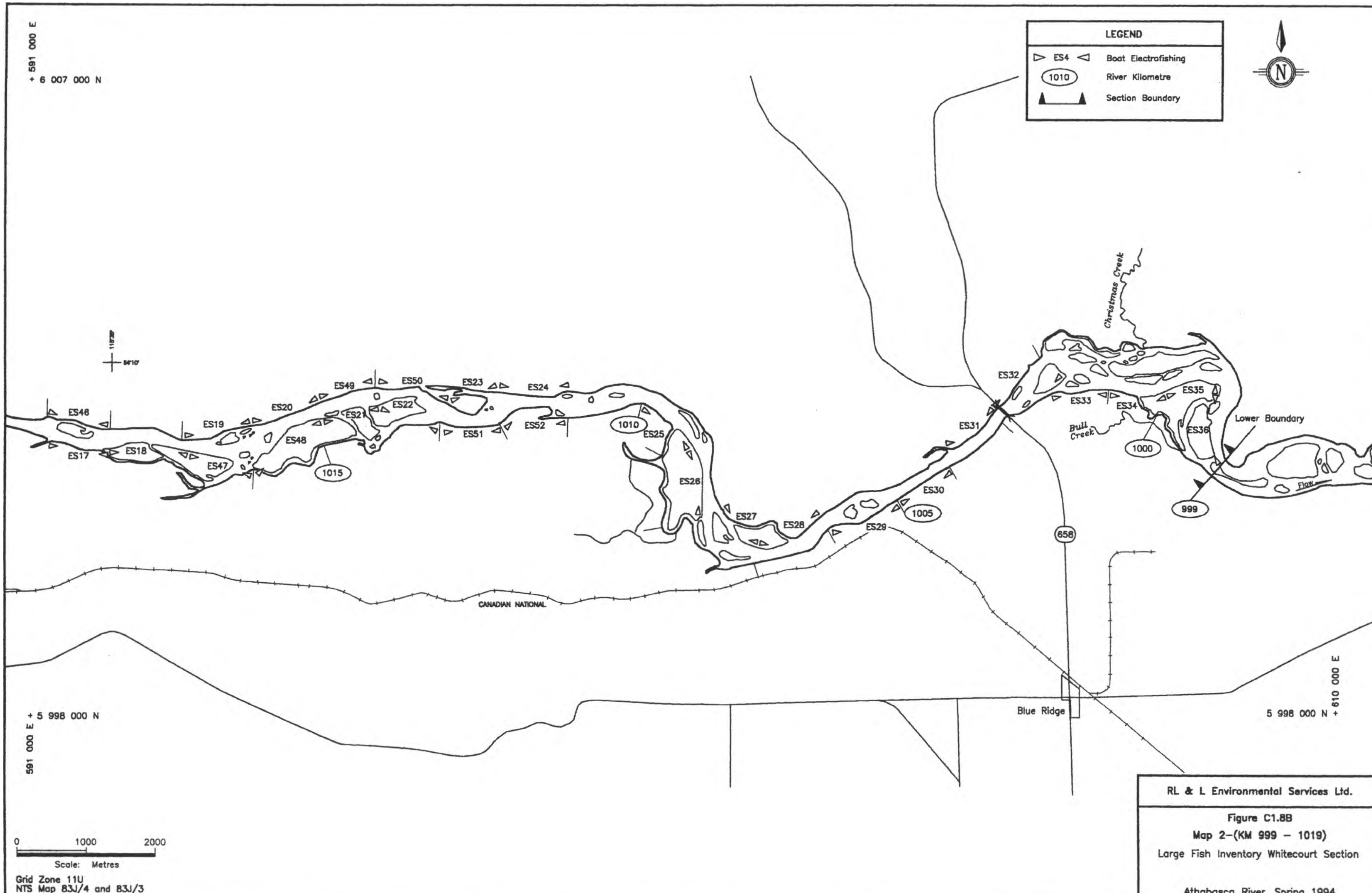
Small Fish Inventory Sites K1, K2, K3
and Large Fish Inventory Knight Section

Athabasca River, Spring 1994



RL & L Environmental Services Ltd.

Figure C1.8A
Map 1–(KM 1019 – 1045)
Small Fish Inventory Sites W1, W2, W3
and Large Fish Inventory Whitecourt Section
Athabasca River, Spring 1994



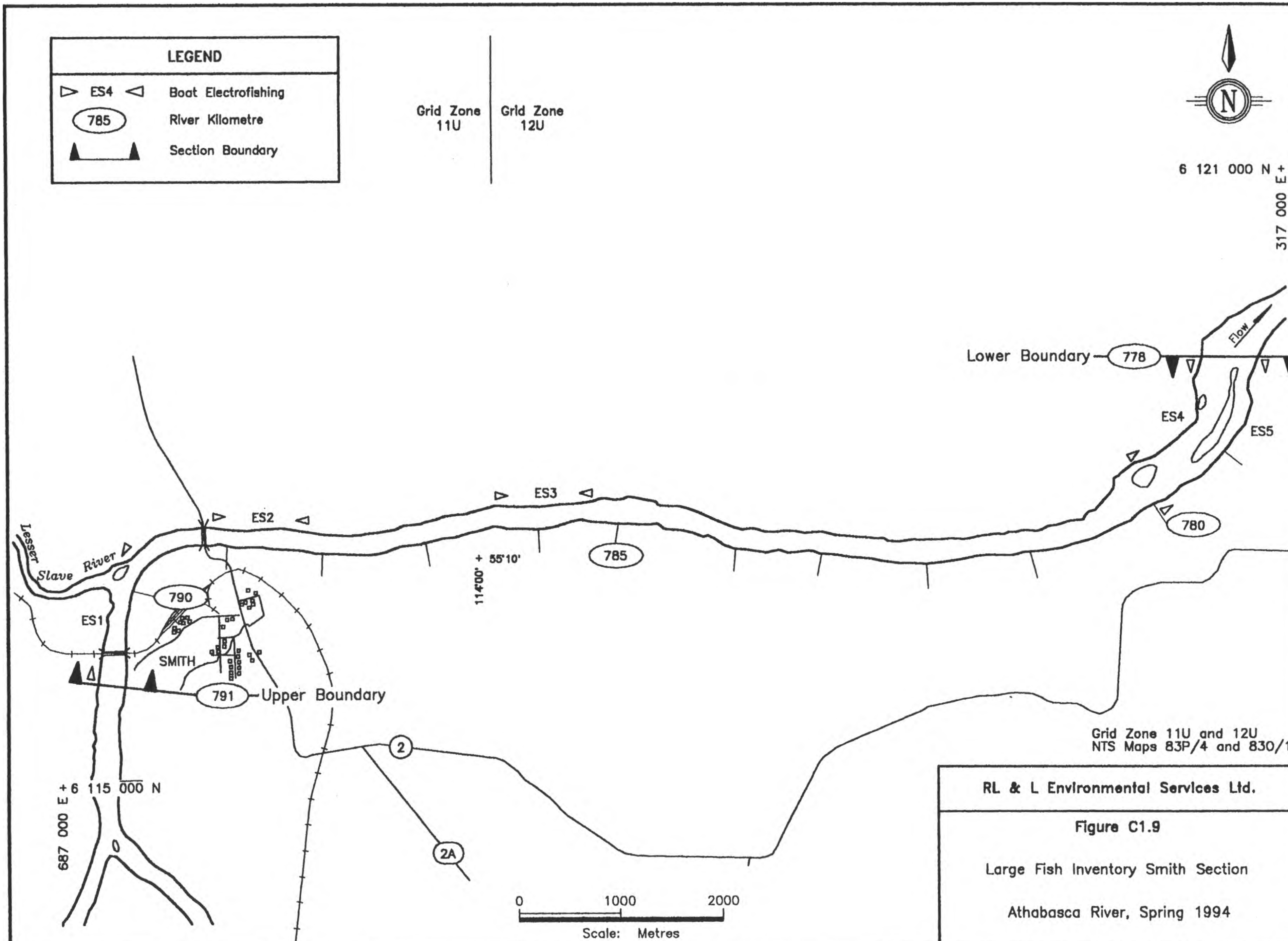
RL & L Environmental Services Ltd.

Figure C1.8B

Map 2-(KM 999 - 1019)

Large Fish Inventory Whitecourt Section

Athabasca River, Spring 1994

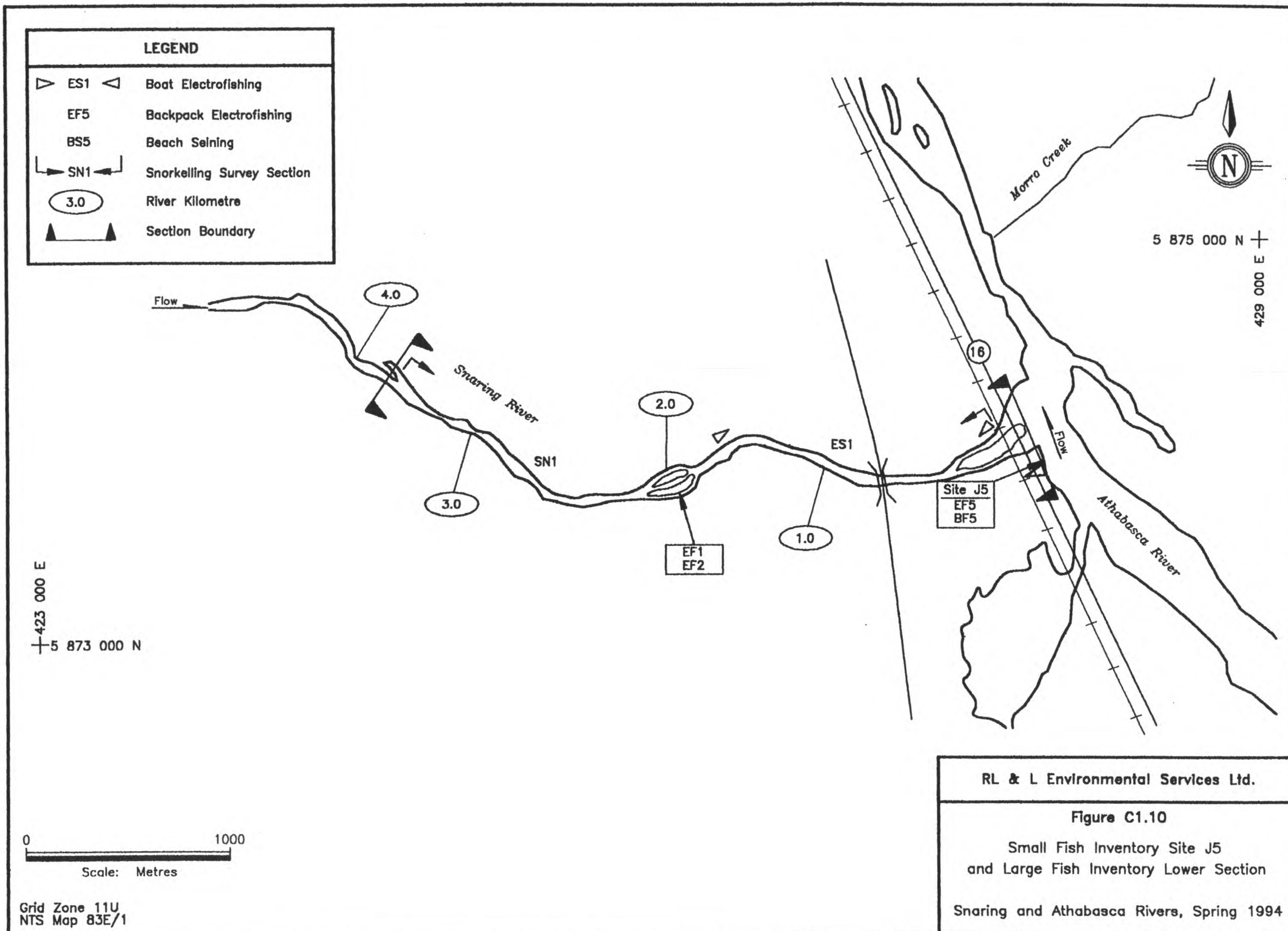


RL & L Environmental Services Ltd.

Figure C1.9

Large Fish Inventory Smith Section

Athabasca River, Spring 1994



RL & L Environmental Services Ltd.

Figure C1.10

Small Fish Inventory Site J5
and Large Fish Inventory Lower Section

Snaring and Athabasca Rivers, Spring 1994

APPENDIX C2

BOAT ELECTROFISHING DATA FOR ATHABASCA AND SNARING RIVER SITES

Appendix C2 Descriptive information for boat electrofishing sections on the Athabasca, Snaring, and McLeod rivers, 10-22 May 1994.

Section	Site	Date	Other Study Designation*	Location (km)	Bank**	Legal Land Description	UTM Coordinates	Hydrometric Watershed Code
J1A	ES1	21 May 94		1339.0	LUB	Tp 43 R 27	11U 438500E 5842700N	07 AA
	ES2	21 May 94		1338.0	LUB	Tp 43 R 27	11U 437550E 5842900N	07 AA
	ES3	21 May 94		1337.0	RUB	Tp 43 R 27	11U 436550E 5842900N	07 AA
	ES4	21 May 94		1336.0	RUB	Tp 43 R 27	11U 435550E 5843100N	07 AA
	ES5	21 May 94		1335.0	RUB	Tp 43 R 27	11U 434900E 5843850N	07 AA
	ES6	21 May 94		1339.0	RUB	Tp 43 R 27	11U 438500E 5842700N	07 AA
	ES7	21 May 94		1338.0	RUB	Tp 43 R 27	11U 437550E 5842900N	07 AA
	ES8	21 May 94		1337.0	LUB	Tp 43 R 27	11U 436550E 5842900N	07 AA
	ES9	21 May 94		1336.0	LUB	Tp 43 R 27	11U 435550E 5843100N	07 AA
	ES10	21 May 94		1335.0	LUB	Tp 43 R 27	11U 434900E 5843850N	07 AA
J2	ES1	21 May 94		1326.0	LUB	Tp 44 R 1	11U 431150E 5850550N	07 AA
	ES2	21 May 94		1325.0	LUB	Tp 44 R 1	11U 430350E 5851150N	07 AA
	ES3	21 May 94		1324.0	LUB	Tp 44 R 1	11U 429850E 5851950N	07 AA
	ES4	21 May 94		1323.0	LUB	Tp 44 R 1	11U 429320E 5852800N	07 AA
	ES5	21 May 94		1322.0	LUB	Tp 44 R 1	11U 428850E 5853500N	07 AA
	ES6	21 May 94		1326.0	RUB	Tp 44 R 1	11U 431150E 5850550N	07 AA
	ES7	21 May 94		1325.0	RUB	Tp 44 R 1	11U 430350E 5851150N	07 AA
	ES8	21 May 94		1324.0	RUB	Tp 44 R 1	11U 429850E 5851950N	07 AA
	ES9	21 May 94		1323.0	RUB	Tp 44 R 1	11U 429320E 5852800N	07 AA
	ES10	21 May 94		1322.0	RUB	Tp 44 R 1	11U 428850E 5853500N	07 AA
J3	ES1	20 May 94		1315.0	LUB	Tp 45 R 1	11U 427920E 5859300N	07 AA
	ES2	20 May 94		1314.0	LUB	Tp 45 R 1	11U 428320E 5860150N	07 AA
	ES3	20 May 94		1313.0	LUB	Tp 45 R 1	11U 428800E 5861000N	07 AA
	ES4	20 May 94		1312.0	LUB	Tp 45 R 1	11U 428650E 5861950N	07 AA
	ES5	20 May 94		1311.0	LUB	Tp 45 R 1	11U 429000E 5862900N	07 AA
	ES6	20 May 94		1315.0	RUB	Tp 45 R 1	11U 427920E 5859300N	07 AA
	ES7	20 May 94		1314.0	RUB	Tp 45 R 1	11U 428320E 5860150N	07 AA
	ES8	20 May 94		1313.0	RUB	Tp 45 R 1	11U 428800E 5861000N	07 AA
	ES9	20 May 94		1312.0	RUB	Tp 45 R 1	11U 428650E 5861950N	07 AA
	ES10	20 May 94		1311.0	RUB	Tp 45 R 1	11U 429000E 5862900N	07 AA
J4	ES1	19 May 94		1293.0	LUB	Tp 47 R 1	11U 426700E 5878200N	07 AA
	ES2	19 May 94		1292.0	LUB	Tp 47 R 1	11U 427300E 5879000N	07 AA
	ES3	19 May 94		1291.0	LUB	Tp 47 R 1	11U 427930E 5879750N	07 AA
	ES4	19 May 94		1290.0	LUB	Tp 47 R 1	11U 428350E 5880700N	07 AA
	ES5	19 May 94		1289.0	LUB	Tp 47 R 1	11U 429120E 5881150N	07 AA
	ES6	19 May 94		1293.0	RUB	Tp 47 R 1	11U 426700E 5878200N	07 AA
	ES7	19 May 94		1292.0	RUB	Tp 47 R 1	11U 427300E 5879000N	07 AA
	ES8	19 May 94		1291.0	RUB	Tp 47 R 1	11U 427930E 5879750N	07 AA

* Electrofishing site designations used during other studies; (EMA) - Golder Associates Ltd. (1994); (A#) - R.L. & L. Environmental Services Ltd. (1993a, 1994a)

** LUB - left bank facing upstream; RUB - right bank facing upstream

Continued ...

Appendix C2 Continued.

Section	Site	Date	Other Study Designation*	Location (km)	Bank**	Legal Land Description	UTM Coordinates	Hydrometric Watershed Code
J4	ES9	19 May 94		1290.0	RUB	Tp 47 R 1	11U 428350E 5880700N	07 AA
	ES10	19 May 94		1289.0	RUB	Tp 47 R 1	11U 429120E 5881150N	07 AA
J5	ES1	22 May 94		1275.0	LUB	Tp 48 R 28	11U 434900E 5890850N	07 AA
	ES2	22 May 94		1274.0	LUB	Tp 48 R 28	11U 434750E 5891830N	07 AA
	ES3	22 May 94		1273.0	LUB	Tp 48 R 28	11U 434730E 5892900N	07 AA
	ES4	22 May 94		1272.0	LUB	Tp 48 R 28	11U 434400E 5893800N	07 AA
	ES5	22 May 94		1271.0	LUB	Tp 48 R 28	11U 434600E 5894700N	07 AA
	ES6	22 May 94		1275.0	RUB	Tp 48 R 28	11U 434900E 5890850N	07 AA
	ES7	22 May 94		1274.0	RUB	Tp 48 R 28	11U 434750E 5891830N	07 AA
	ES8	22 May 94		1273.0	RUB	Tp 48 R 28	11U 434730E 5892900N	07 AA
	ES9	22 May 94		1272.0	RUB	Tp 48 R 28	11U 434400E 5893800N	07 AA
	ES10	22 May 94		1271.0	RUB	Tp 49 R 28	11U 434600E 5894700N	07 AA
Hinton	ES1	16 May 94	ES15 (A1)	1237.0	RUB	Tp 51 R 26 S 2	11U 454550E 5914650N	07 AD
	ES2	16 May 94	ES16 (A1)	1236.0	RUB	Tp 51 R 25	11U 455550E 5914650N	07 AD
	ES3	16 May 94	ES07 (A1)	1235.0	LUB	Tp 51 R 25	11U 456550E 5914550N	07 AD
	ES4	16 May 94	ES08 (A1)	1234.0	LUB	Tp 51 R 25	11U 457350E 5915200N	07 AD
	ES5	16 May 94	ES19 (A1)	1233.0	RUB	Tp 51 R 25	11U 458150E 5915800N	07 AD
	ES6	16 May 94	ES20 (A1)	1232.0	RUB	Tp 51 R 25	11U 458900E 5916400N	07 AD
	ES7	16 May 94		1231.0	LUB	Tp 51 R 25	11U 459700E 5916950N	07 AD
	ES8	16 May 94		1230.0	LUB	Tp 51 R 25	11U 460650E 5917500N	07 AD
	ES9	16 May 94		1229.0	RUB	Tp 51 R 25	11U 461050E 5918400N	07 AD
	ES10	16 May 94		1228.0	RUB	Tp 51 R 25	11U 461750E 5919150N	07 AD
	ES11	16 May 94		1226.0	LUB	Tp 51 R 25	11U 463500E 5920050N	07 AD
	ES12	16 May 94		1225.0	LUB	Tp 51 R 25	11U 464200E 5920550N	07 AD
	ES13	16 May 94		1224.0	RUB	Tp 51 R 24	11U 465100E 5921300N	07 AD
	ES14	16 May 94		1223.0	RUB	Tp 51 R 24	11U 465850E 5921850N	07 AD
	ES15	16 May 94		1222.0	LUB	Tp 51 R 24	11U 466550E 5922600N	07 AD
	ES16	16 May 94		1221.0	LUB	Tp 52 R 24	11U 467500E 5922900N	07 AD
	ES17	16 May 94		1220.0	RUB	Tp 52 R 24	11U 468350E 5923300N	07 AD
	ES18	16 May 94		1219.0	RUB	Tp 52 R 24	11U 469000E 5923950N	07 AD
	ES19	16 May 94		1218.0	LUB	Tp 52 R 24	11U 469450E 5924750N	07 AD
	ES20	16 May 94		1217.0	LUB	Tp 52 R 24	11U 469200E 5925700N	07 AD
	ES21	17 May 94		1216.0	RUB	Tp 52 R 24	11U 469450E 5926700N	07 AD
	ES22	17 May 94		1215.0	RUB	Tp 52 R 24	11U 470400E 5927250N	07 AD
	ES23	17 May 94		1214.0	LUB	Tp 52 R 24	11U 471400E 5927450N	07 AD
	ES24	17 May 94		1213.0	LUB	Tp 52 R 24	11U 472500E 5927750N	07 AD
	ES25	17 May 94		1212.0	RUB	Tp 52 R 24	11U 473400E 5928050N	07 AD
	ES26	17 May 94		1211.0	RUB	Tp 52 R 23	11U 474200E 5928550N	07 AD

* Electrofishing site designations used during other studies; (EMA) - Golder Associates Ltd. (1994); (A#) - R.L. & L. Environmental Services Ltd. (1993a, 1994a)

** LUB - left bank facing upstream; RUB - right bank facing upstream

Continued ...

Section	Site	Date	Other Study Designation*	Location (km)	Bank**	Legal Land Description	UTM Coordinates	Hydrometric Watershed Code
Hinton	ES27	17 May 94		1210.0	LUB	Tp 52 R 23	11U 475150E 5928950N	07 AD
	ES28	17 May 94		1209.0	LUB	Tp 52 R 23	11U 475800E 5929650N	07 AD
	ES29	17 May 94		1208.0	RUB	Tp 52 R 23	11U 476125E 5930750N	07 AD
	ES30	17 May 94		1207.0	RUB	Tp 52 R 23	11U 476950E 5931350N	07 AD
	ES31	17 May 94		1206.0	LUB	Tp 52 R 23	11U 477600E 5932150N	07 AD
	ES32	17 May 94		1205.0	LUB	Tp 52 R 23	11U 477900E 5933000N	07 AD
	ES33	17 May 94		1204.0	RUB	Tp 52 R 23	11U 478450E 5933800N	07 AD
	ES34	17 May 94		1203.0	RUB	Tp 52 R 23	11U 479225E 5934150N	07 AD
	ES35	17 May 94		1202.0	LUB	Tp 52 R 23	11U 480500E 5934250N	07 AD
	ES36	17 May 94		1201.0	LUB	Tp 52 R 23	11U 481100E 5935100N	07 AD
	ES37	17 May 94		1200.0	RUB	Tp 52 R 23	11U 480875E 5936100N	07 AD
	ES38	17 May 94		1199.0	RUB	Tp 52 R 23	11U 481225E 5937100N	07 AD
	ES39	17 May 94		1198.0	LUB	Tp 52 R 23	11U 481850E 5937850N	07 AD
	ES40	17 May 94		1197.0	LUB	Tp 52 R 23	11U 482500E 5937850N	07 AD
Knight	ES1	14 May 94	ES11 (A2)	1107.0	RUB	Tp 59 R 18	11U 523500E 5997150N	07 AE
	ES2	14 May 94	ES12 (A2)	1106.0	RUB	Tp 59 R 18	11U 523600E 5998600N	07 AE
	ES3	14 May 94	ES03 (A2)	1105.0	LUB	Tp 59 R 18	11U 524700E 5999200N	07 AE
	ES4	14 May 94	ES04 (A2)	1104.0	LUB	Tp 59 R 18	11U 525450E 5999750N	07 AE
	ES5	14 May 94	ES15 (A2)	1103.0	RUB	Tp 59 R 18	11U 526450E 6000150N	07 AE
	ES6	14 May 94	ES16 (A2)	1102.0	RUB	Tp 60 R 18	11U 527050E 6000800N	07 AE
	ES7	14 May 94		1112.0	LUB	Tp 59 R 19	11U 518750E 5996400N	07 AE
	ES8	14 May 94		1111.0	LUB	Tp 59 R 19	11U 519575E 5996900N	07 AE
	ES9	14 May 94		1110.0	RUB	Tp 59 R 19	11U 520700E 5996250N	07 AE
	ES10	14 May 94		1109.0	RUB	Tp 59 R 19	11U 521550E 5997100N	07 AE
	ES11	15 May 94	ES05 (A2)	1103.0	LUB	Tp 59 R 18	11U 526450E 6000150N	07 AE
	ES12	15 May 94	ES08 (A2)	1102.0	LUB	Tp 60 R 18	11U 527050E 6000800N	07 AE
	ES13	15 May 94	ES17 (A2)	1101.0	RUB	Tp 60 R 18	11U 528000E 6000750N	07 AE
	ES14	15 May 94	ES18 (A2)	1100.0	RUB	Tp 60 R 18	11U 528850E 6001200N	07 AE
	ES15	15 May 94		1099.0	LUB	Tp 60 R 17	11U 529650E 6001850N	07 AE
	ES16	15 May 94		1098.0	LUB	Tp 60 R 17	11U 530700E 6002050N	07 AE
	ES17	15 May 94		1097.0	RUB	Tp 60 R 17	11U 531350E 6002650N	07 AE
	ES18	15 May 94		1096.0	RUB	Tp 60 R 17	11U 531950E 6003450N	07 AE
	ES19	15 May 94		1095.0	LUB	Tp 60 R 17	11U 532900E 6003800N	07 AE
	ES20	15 May 94		1094.0	LUB	Tp 60 R 17	11U 533350E 6004750N	07 AE
Whitecourt	ES1	11 May 94		1044.0	LUB	Tp 60 R 13	11U 572500E 6004100N	07 AE
	ES2	11 May 94		1042.0	LUB	Tp 60 R 13	11U 573350E 6004400N	07 AE
	ES3	11 May 94		1041.0	RUB	Tp 60 R 13	11U 574400E 6004600N	07 AE
	ES4	11 May 94		1040.0	RUB	Tp 60 R 13	11U 575350E 6004350N	07 AE

* Electrofishing site designations used during other studies; (EMA) - Golder Associates Ltd. (1994); (A#) - R.L. & L. Environmental Services Ltd. (1993a, 1994a)

** LUB - left bank facing upstream; RUB - right bank facing upstream

Continued ....

Appendix C2 Continued.

Section	Site	Date	Other Study Designation*	Location (km)	Bank**	Legal Land Description	UTM Coordinates	Hydrometric Watershed Code
Whitecourt	ES5	11 May 94		1040.0	LUB	Tp 60 R 13	11U 575350E 6004150N	07 AE
	ES6	11 May 94		1039.0	LUB	Tp 60 R 13	11U 576350E 6004250N	07 AE
	ES7	11 May 94		1037.0	RUB	Tp 60 R 13	11U 578050E 6003750N	07 AE
	ES8	11 May 94		1036.0	RUB	Tp 60 R 13	11U 578200E 6002400N	07 AE
	ES9	11 May 94		1035.0	RUB	Tp 60 R 13	11U 578200E 6001600N	07 AE
	ES10	11 May 94		1034.0	RUB	Tp 60 R 12	11U 578450E 6001300N	07 AE
	ES11	11 May 94	2(EMA)	1033.5N	RUB	Tp 60 R 12	11U 579450E 6002500N	07 AE
	ES12	11 May 94	3(EMA)	1032.5N	RUB	Tp 60 R 12	11U 580400E 6002000N	07 AE
	ES13	11 May 94	4(EMA)	1031.5N	RUB	Tp 60 R 12	11U 581400E 6001750N	07 AE
	ES14	11 May 94	5(EMA)	1030.5N	RUB	Tp 60 R 12	11U 581850E 6001000N	07 AE
	ES15	11 May 94	6(EMA)	1029.5N	RUB	Tp 60 R 12	11U 582200E 6000450N	07 AE
	ES16	11 May 94	7(EMA)	1028.5	RUB	Tp 60 R 12	11U 582800E 6000425N	07 AE
	ES17	12 May 94		1018.0	LUB	Tp 60 R 11	11U 592200E 6002000N	07 AH
	ES18	12 May 94		1017.0	LUB	Tp 60 R 11	11U 593150E 6001700N	07 AH
	ES19	12 May 94		1016.0	RUB	Tp 60 R 11	11U 594100E 6002050N	07 AH
	ES20	12 May 94		1015.0	RUB	Tp 60 R 11	11U 595100E 6002300N	07 AH
	ES21	12 May 94		1014.0	LUB	Tp 60 R 11	11U 596050E 6002350N	07 AH
	ES22	12 May 94		1013.0	LUB	Tp 60 R 11	11U 596950E 6002100N	07 AH
	ES23	12 May 94		1012.0	RUB	Tp 60 R 10	11U 598900E 6002550N	07 AH
	ES24	12 May 94		1011.0	RUB	Tp 60 R 10	11U 599950E 6002500N	07 AH
	ES25	12 May 94		1009.0	LUB	Tp 60 R 10	11U 600550E 6001800N	07 AH
	ES26	12 May 94		1008.0	LUB	Tp 60 R 10	11U 600800E 6000800N	07 AH
	ES27	12 May 94	ES11 (A3)	1007.0	RUB	Tp 59 R 10 S 33	11U 601700E 6000200N	07 AH
	ES28	12 May 94	ES12 (A3)	1006.0	RUB	Tp 59 R 10 S 33	11U 602600E 6000600N	07 AH
	ES29	12 May 94	ES03 (A3)	1005.0	LUB	Tp 59 R 10 S 34	11U 602500E 6001000N	07 AH
	ES30	12 May 94	ES04 (A3)	1004.0	LUB	Tp 60 R 10 S 3	11U 604350E 6001500N	07 AH
	ES31	12 May 94	ES15 (A3)	1003.0	RUB	Tp 60 R 10 S 3	11U 605100E 6002150N	07 AH
	ES32	12 May 94	ES16 (A3)	1002.0	RUB	Tp 60 R 10 S 2	11U 605750E 6005900N	07 AH
	ES33	12 May 94	ES07 (A3)	1001.0	LUB	Tp 60 R 10 S 1	11U 606700E 6002650N	07 AH
	ES34	12 May 94	ES08 (A3)	1000.0	LUB	Tp 60 R 10 S 1	11U 607700E 6002650N	07 AH
	ES35	12 May 94		999.0	LUB	Tp 60 R 9	11U 608250E 6002450N	07 AH
	ES36	12 May 94		998.0	LUB	Tp 60 R 9	11U 608300E 6002400N	07 AH
	ES37	13 May 94	8(EMA)	1027.5	RUB	Tp 59 R 12	11U 583500E 6000950N	07 AH
	ES38	13 May 94	9(EMA)	1026.5	RUB	Tp 59 R 12	11U 584650E 6000900N	07 AH
	ES39	13 May 94	10(EMA)	1025.5	LUB	Tp 60 R 12	11U 585550E 6001100N	07 AH
	ES40	13 May 94	11(EMA)	1024.5	LUB	Tp 60 R 12	11U 586250E 6001300N	07 AH
	ES41	13 May 94	12(EMA)	1023.5	RUB	Tp 60 R 12	11U 586900E 6002350N	07 AH
	ES42	13 May 94	13(EMA)	1022.5	LUB	Tp 60 R 12	11U 587750E 6002250N	07 AH

* Electrofishing site designations used during other studies; (EMA) - Golder Associates Ltd. (1994); (A#) - R.L. & L. Environmental Services Ltd. (1993a, 1994a)

** LUB - left bank facing upstream; RUB - right bank facing upstream

Continued ...

Appendix C2 Concluded.

Section	Site	Date	Other Study Designation*	Location (km)	Bank**	Legal Land Description	UTM Cooridnates	Hydrometric Watershed Code
Whitecourt	ES43	13 May 94	14(EMA)	1021.5	LUB	Tp 60 R 11	11U 588650E 6002100N	07 AH
	ES44	13 May 94	15(EMA)	1020.5	LUB	Tp 60 R 11	11U 589800E 6002000N	07 AH
	ES45	13 May 94		1019.0	RUB	Tp 60 R 11	11U 591250E 6002200N	07 AH
	ES46	13 May 94		1018.0	RUB	Tp 60 R 11	11U 592200E 6002000N	07 AH
	ES47	13 May 94		1016.0	LUB	Tp 60 R 11	11U 594300E 6001500N	07 AH
	ES48	13 May 94		1015.0	LUB	Tp 60 R 11	11U 595150E 6002150N	07 AH
	ES49	13 May 94		1014.0	RUB	Tp 60 R 11	11U 596050E 6002600N	07 AH
	ES50	13 May 94		1013.0	RUB	Tp 60 R 11	11U 596950E 6002450N	07 AH
	ES51	13 May 94		1012.0	LUB	Tp 60 R 11	11U 598400E 6002100N	07 AH
	ES52	13 May 94		1011.0	LUB	Tp 60 R 10	11U 598925E 6001150N	07 AH
	ES53	14 May 94		1033.0	RUB	Tp 60 R 12	11U 579400E 6001350N	07 AE
	ES54	14 May 94		1032.0	LUB	Tp 59 R 12	11U 580100E 6000750N	07 AE
	ES55	14 May 94		1031.0	LUB	Tp 59 R 12	11U 580850E 6000650N	07 AE
	ES56	14 May 94		1030.0	LUB	Tp 59 R 12	11U 581550E 6000000N	07 AE
	ES57	14 May 94		1029.0	LUB	Tp 59 R 12	11U 582500E 6000250N	07 AE
	ES58	14 May 94		1028.0	LUB	Tp 59 R 12	11U 583500E 6000500N	07 AE
	ES59	14 May 94		1027.0	LUB	Tp 59 R 12	11U 584250E 6000800N	07 AH
	ES60	14 May 94		1026.0	LUB	Tp 59 R 12	11U 585250E 6001000N	07 AH
McLeod R.	ES61	14 May 94		0.5	LUB	Tp 59 R 12	11U 584800E 6000425N	07 AG
	ES62	14 May 94		0.5	RUB	Tp 59 R 12	11U 585050E 6000450N	07 AG
Smith	ES1	10 May 94		790.0	RUB	Tp 71 R 1	11U 687700E 6117100N	07 BE
	ES2	10 May 94		788.0	RUB	Tp 71 R 1	11U 689550E 6117300N	07 BE
	ES3	10 May 94		784.0		Tp 71 R 26 S 35	12U 311350E 6117400N	07 BE
	ES4	10 May 94	ES14 (A5)	778.0	RUB	Tp 71 R 26 S 35	12U 316250E 6119300N	07 BE
	ES5	10 May 94		778.0	LUB	Tp 71 R 26 S 35	12U 316450E 6119150N	07 BE
Snaring River	ES1	20 May 94		1.5		Tp 46 R 1	11U 426500E 5873980N	07 AA

* Electrofishing site designations used during other studies; (EMA) - Golder Associates Ltd. (1994); (A#) - R.L. & L. Environmental Services Ltd. (1993a, 1994a)

** LUB - left bank facing upstream; RUB - right bank facing upstream

APPENDIX C3

BEACH SEINING DATA FOR ATHABASCA RIVER SITES

Appendix C3 Beach seining information for Athabasca River sites sampled during the small fish inventory, 12-20 May 1994.

Area	Site	Location (km)	UTM Coordinates	Date	Water Temp.(°C)	Haul No.	Haul Length (m)	Haul Width (m)	Haul Area(m²)	Velocity (m/s) (Middle)	Depth Max. (cm)	Depth Mean (cm)	Habitat Type*	Substrate Type Percentage**					
														Fines	Sm. Grav.	Lg. Grav.	Sm. Cob.	Lg. Cob.	Boulder
Jasper***	J1	1333.3	11U 434181E	20-May-94	7.0	1	25	4.0	100.0	0.21	34	18	RUN	100					
			5845482N	20-May-94	7.0	2	25	3.5	87.5	0.29	46	37	RUN	80				20	
	J2	1316.2	11U 428445E	18-May-94	12.0	1	31	4.0	124.0	0.10	67	43	FLAT	70	30				
			5858534N	18-May-94	12.0	2	36	3.5	126.0	0.53	69	51	RUN	40			60		
				18-May-94	12.0	3	28	3.0	84.0	0.44	58	43	RUN	10		10	50	20	10
				18-May-94	12.0	4	22	3.0	66.0	0.00	29	23	FLAT	70				30	
	J4	1308.3	11U 430536E	19-May-94	8.0	1	40	3.5	140.0	0.08	36	32	FLAT	100					
			5865230N	19-May-94	8.0	2	40	3.5	140.0	0.18	39	27	FLAT	100					
	J5	1297.6	11U 427928E	19-May-94	6.5	1	35	3.5	122.5	0.03	15	9	FLAT	100					
			5874260N	19-May-94	6.5	2	35	3.5	122.5	0.02	21	15	FLAT	20	70	10			
				19-May-94	10.0	3	35	4.5	157.5	0.16	20	17	FLAT	100					
				19-May-94	10.0	4	35	4.5	157.5	0.13	27	22	FLAT	100					
	J6	1294.3	11U 426970E	11-May-94	8.0	1	30	3.5	105.0	0.51	36	24	RIFFLE	40		10	50		
			5877324N	11-May-94	8.0	2	20	3.5	70.0	0.51	36	24	RIFFLE	40		10	50		
				11-May-94	8.0	3	30	3.5	105.0	0.51	36	24	RIFFLE	40		10	50		
				11-May-94	8.0	4	28	3.5	98.0	0.04	39	32	RUN	60		10		30	
				11-May-94	8.0	5	28	3.5	98.0	0.39	39	35	FLAT	60		10		30	
				11-May-94	8.0	6	22	3.5	77.0	0.08	29	23	FLAT	60		10		30	
	J7	1287.5	11U 430863E	18-May-94	9.0	1	60	4.5	270.0	0.00	9	8	FLAT	100					
			5881822N	18-May-94	9.0	2	30	4.5	135.0	0.09	10	7	FLAT	100					
				18-May-94	9.0	3	45	4.5	202.5	0.02	6	4	FLAT	100					
Hinton	H1	1234.9	11U 456464E	12-May-94	14.0	1	35	3.0	105.0	0.02	53	40	FLAT	100					
			5914783N	12-May-94	14.0	2	35	3.0	105.0	0.49	36	32	RUN	70			30		
				12-May-94	14.0	3	35	3.0	105.0	0.51	67	55	RUN	70			30		
	H2	1226.7	11U 462798E	12-May-94	10.5	1	53	3.5	185.5	0.14	42	30	RUN	40	30	20	10		
			4920239N	12-May-94	10.5	2	56	3.5	196.0	0.35	31	17	RIFFLE		45	50	5		
				12-May-94	10.5	3	37	3.5	129.5	0.20	53	39	RIFFLE		10	40	40	10	
				12-May-94	10.5	4	24	3.5	84.0	0.00	29	25	FLAT	95			5		
	H3	1218.5	11U 522728E	17-May-94	8.0	1	20	4.5	90.0	0.00	60	35	FLAT	100					
			5997700N	17-May-94	8.0	2	45	4.0	180.0	0.31	29	25	FLAT	100					
				17-May-94	8.0	3	45	4.0	180.0	0.46	62	52	RUN	10	30	60			
Knight	K1	1107.5	11U 523000E	14-May-94	11.0	1	30	3.5	105.0	0.71	39	31	RUN		45	50	5		
			5997600N	14-May-94	11.0	2	30	3.5	105.0	0.12	94	63	RUN		35	35	30		
				14-May-94	11.0	3	50	4.5	225.0	0.00	34	26	FLAT	100					
	K2	1103.1	11U 526245E	15-May-94	9.0	1	40	3.5	140.0	0.78	69	55	RUN		15	80	5		
			6000071N	15-May-94	9.0	2	40	3.5	140.0	0.46	39	29	RUN		15	80	5		
				15-May-94	9.0	3	85	4.0	340.0	0.24	29	8	RIFFLE		30	65	5		
	K3	1102.5	11U 526670E	15-May-94	9.5	1	50	4.0	200.0	0.40	67	51	RUN			10	60	30	
			6000735N	15-May-94	9.5	2	30	4.0	120.0	0.34	55	35	FLAT	80			10	10	
				15-May-94	9.5	3	27	2.0	54.0	0.02	87	61	FLAT	100					
Whitecourt	W1	1027.8	11U 583475E	13-May-94	15.5	1	35	3.0	105.0	0.62	52	37	RUN		20	70	10		
			6001207N	13-May-94	15.5	2	35	3.0	105.0	0.34	48	27	RUN	50				50	
				13-May-94	15.5	3	35	3.0	105.0	0.73	71	59	RUN	30			60	10	
				13-May-94	15.5	4	18	2.0	36.0	0.18	110	82	FLAT	100					
	W2	1027.1	11U 584074E	16-May-94	9.0	1	45	4.0	180.0	1.05	47	34	RUN			50	40	10	
			6001187N	16-May-94	9.0	2	45	4.0	180.0	0.81	42	27	RUN		10	70	20		
				16-May-94	9.0	3	55	4.0	220.0	0.38	53	24	RUN	10	20	50	20		
				16-May-94	9.0	4	20	4.5	90.0	0.00	33	25	FLAT	80		20			
				16-May-94	9.0	5	25	4.5	112.5	0.00	49	44	FLAT	100					
	W3	1024.5	11U 586459E	14-May-94	13.0	1	35	3.0	105.0	0.90	37	33	RIFFLE		10	50	35	5	
			6002008N	14-May-94	13.0	2	35	3.0	105.0	1.16	42	35	RIFFLE		10	50	35	5	
				14-May-94	13.0	3	35	3.0	105.0	0.96	57	44	RUN			60	40		
				14-May-94	13.0	4	32	3.0	96.0	0.64	63	49	RUN			80	20		
				14-May-94	13.0	5	38	3.5	133.0	0.04	59	40	FLAT	100					
				14-May-94	13.0	6	26	3.5	91.0	0.00	45	30	FLAT	100					
				14-May-94	13.0	7	14	3.5	49.0	0.00	23	19	FLAT	100					

* Habitat type definition in Appendix B1.
** Substrate type size categories based on Modified Wentworth Scale
*** Jasper represents Jasper National Park

APPENDIX C4

BACKPACK ELECTROFISHING DATA FOR ATHABASCA AND SNARING RIVER SITES

Appendix C4 Backpack electrofishing information for Athabasca and Snaring river sites sampled during fish inventories, 14-20 May 1994.

Area	Site	Date	Location (Km)	Legal Land Description	UTM Coordinates	Area Sampled (m^2)	Time Sampled (sec)
Jasper*	J2	18 May 1994	1316.2		11U 428445E 5858534N	120	1009
	J3	20 May 1994	1311.2		11U 428928E 5863104N	240	1082
	J4	19 May 1994	1308.3		11U 430536E 5865230N	140	753
	J5	19 May 1994	1297.6		11U 427928E 5874260N	189	1471
	J6	18 May 1994	1294.3		11U 426970E 5877324N	104	1498
Hinton	H1	17 May 1994	1234.9	Tp 51 R 25	11U 456464E 5914783N	115	1949
	H2	17 May 1994	1226.7	Tp 51 R 25	11U 462798E 4920239N	220	1453
	H3	17 May 1994	1218.5	Tp 52 R 24	11U 522728E 5997700N	417	1282
Knight	K1	14 May 1994	1107.5	Tp 59 R 18	11U 523000E 5997600N	188	893
	K2	15 May 1994	1103.1	Tp 59 R 18	11U 526245E 6000071N	204	561
	K3	15 May 1994	1102.5	Tp 60 R 18	11U 526670E 6000735N	200	563
Whitecourt	W1	16 May 1994	1027.8	Tp 59 R 12	11U 583475E 6001207N	131	471
	W2	16 May 1994	1027.1	Tp 59 R 12	11U 584074E 6001187N	175	644
	W3	16 May 1994	1024.5	Tp 60 R 12	11U 586459E 6002008N	175	847
Snaring River	Lower 1	20 May 1994	2.0	Tp 46 R 1	11U 426050E 5873750N		500
	Lower 2	20 May 1994	2.0	Tp 46 R 1	11U 426050E 5873750N		996

* Jasper represents Jasper National Park.

APPENDIX C5

RAW LIFE HISTORY DATA FOR FISH CAPTURED FROM THE ATHABASCA AND SNARING RIVERS

FISH DATA ATHABASCA R. SPRING 1994
September 2, 1994 at 10:31 a.m.

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1	MNWH	127	0	26.0	0	0		ES		0	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
2	MNWH	126	0	26.0	0	0		ES		0	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
3	MNWH	124	0	18.0	0	0		ES		0	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
4	MNWH	392	0	871.0	0	0		ES	Y	11393	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
5	MNWH	190	0	84.0	0	0		ES		0	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
6	MNWH	124	0	21.0	0	0		ES		0	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
7	MNWH	124	0	22.0	0	0		ES		0	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
8	MNWH	392	0	914.0	0	0		ES	Y	11395	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
9	MNWH	413	0	1043.0	0	0		ES	Y	11394	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
10	MNWH	167	0	52.0	0	0		ES		0	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
11	MNWH	369	0	722.0	0	0		ES	Y	11396	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
12	MNWH	117	0	19.0	0	0		ES		0	10	5	94	SMITH	1	790.0		0	0	RUB & LUB
13	MNWH	368	0	655.0	0	0		ES	Y	11397	10	5	94	SMITH	3	784.0		0	0	
14	MNWH	218	0	109.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
15	MNWH	260	285	199.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
16	MNWH	139	0	0.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
17	MNWH	116	0	12.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
18	MNWH	209	0	96.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
19	MNWH	135	0	25.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
20	MNWH	129	0	25.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
21	MNWH	122	0	18.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
22	MNWH	123	0	18.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
23	MNWH	141	0	22.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
24	MNWH	126	0	21.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
25	MNWH	131	0	23.0	0	0		ES		0	10	5	94	SMITH	3	784.0		0	0	
26	MNWH	185	0	66.0	0	0		ES		0	10	5	94	SMITH	2	788.0		0	0	
27	MNWH	130	0	23.0	0	0		ES		0	10	5	94	SMITH	2	788.0		0	0	
28	MNWH	134	0	30.0	0	0		ES		0	10	5	94	SMITH	2	788.0		0	0	
29	MNWH	125	0	23.0	0	0		ES		0	10	5	94	SMITH	2	788.0		0	0	
30	MNWH	155	0	41.0	0	0		ES		0	10	5	94	SMITH	2	788.0		0	0	
31	MNWH	125	0	22.0	0	0		ES		0	10	5	94	SMITH	2	788.0		0	0	
32	MNWH	175	0	51.0	0	0		ES		0	10	5	94	SMITH	2	788.0		0	0	
33	MNWH	127	0	18.0	0	0		ES		0	10	5	94	SMITH	2	788.0		0	0	
34	MNWH	119	0	23.0	0	0		ES		0	10	5	94	SMITH	2	788.0		0	0	
35	MNWH	198	0	82.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
36	MNWH	136	0	27.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
37	MNWH	177	0	77.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
38	MNWH	201	0	96.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
39	MNWH	220	0	131.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
40	MNWH	131	0	26.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
41	MNWH	332	0	507.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
42	MNWH	199	0	62.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
43	MNWH	207	0	96.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
44	MNWH	181	0	92.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
45	MNWH	140	0	31.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
46	MNWH	391	427	758.0	0	0		ES	Y	11399	10	5	94	SMITH	4	778.0	RUB	0	0	
47	MNWH	278	303	248.0	0	0		ES	Y	11400	10	5	94	SMITH	4	778.0	RUB	0	0	
48	MNWH	332	358	450.0	0	0		ES	Y	11401	10	5	94	SMITH	4	778.0	RUB	0	0	
49	MNWH	178	0	65.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
50	MNWH	157	0	49.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
51	MNWH	129	0	25.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
52	MNWH	144	0	35.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
53	MNWH	204	0	102.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
54	MNWH	213	0	129.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
55	MNWH	213	0	125.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
56	MNWH	131	0	33.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
57	MNWH	118	0	13.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
58	MNWH	187	0	84.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
59	MNWH	330	356	461.0	0	0		ES	Y	11402	10	5	94	SMITH	4	778.0	RUB	0	0	
60	MNWH	194	0	106.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
61	MNWH	201	0	122.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
62	MNWH	209	0	95.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
63	MNWH	186	0	69.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
64	MNWH	161	0	49.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
65	MNWH	264	286	232.0	0	0		ES	Y	11403	10	5	94	SMITH	4	778.0	RUB	0	0	
66	MNWH	178	0	60.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
67	MNWH	224	0	161.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
68	MNWH	133	0	24.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
69	MNWH	116	0	22.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
70	MNWH	142	0	36.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
71	MNWH	199	0	98.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
72	MNWH	124	0	20.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
73	MNWH	129	0	27.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
74	MNWH	127	0	22.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
75	MNWH	197	0	95.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
76	MNWH	132	0	25.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
77	MNWH	180	0	75.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
78	MNWH	180	0	72.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
79	MNWH	213	0	123.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
80	MNWH	220	0	133.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
81	MNWH	194	0	79.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
82	MNWH	303	0	322.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	1	0	
83	MNWH	120	0	18.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
84	MNWH	250	270	176.0	0	0		ES	Y	11404	10	5	94	SMITH	4	778.0	RUB	0	0	
85	MNWH	194	0	79.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
86	MNWH	202	0	91.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
87	MNWH	208	0	118.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
88	MNWH	168	0	45.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
89	MNWH	105	0	19.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
90	MNWH	114	0	16.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
91	MNWH	138	0	28.0	0	0		ES		0	10	5	94	SMITH	4	778.0	RUB	0	0	
92	MNWH	185	0	97.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
93	MNWH	202	0	109.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
94	MNWH	193	0	90.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
95	MNWH	177	0	85.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
96	MNWH	162	0	53.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
97	MNWH	174	0	70.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
98	MNWH	130	0	38.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
99	MNWH	128	0	36.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	

FISH DATA ATHABASCA R. SPRING 1994
September 2, 1994 at 10:31 a.m.

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
100	MNWH	140	0	41.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
101	MNWH	290	309	323.0	0	0		ES	Y	11405	10	5	94	SMITH	5	778.0	LUB	0	0	
102	MNWH	132	0	24.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
103	MNWH	135	0	31.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
104	MNWH	315	338	438.0	0	0		ES	Y	11406	10	5	94	SMITH	5	778.0	LUB	0	0	
105	MNWH	285	307	304.0	0	0		ES	Y	11407	10	5	94	SMITH	5	778.0	LUB	0	0	
106	MNWH	220	0	139.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
107	MNWH	148	0	37.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	1	0	
108	MNWH	131	0	23.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
109	MNWH	241	0	165.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
110	MNWH	223	0	135.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
111	MNWH	123	0	14.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
112	MNWH	182	0	79.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
113	MNWH	194	0	83.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
114	MNWH	183	0	74.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
115	MNWH	121	0	16.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
116	MNWH	123	414	22.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
117	MNWH	389	0	723.0	0	0		ES	Y	11408	10	5	94	SMITH	5	778.0	LUB	0	0	
118	MNWH	207	0	127.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
119	MNWH	174	0	54.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
120	MNWH	161	0	52.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
121	MNWH	129	0	22.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
122	MNWH	185	0	69.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
123	MNWH	145	0	35.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
124	MNWH	125	0	25.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
125	MNWH	202	0	111.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
126	MNWH	266	288	231.0	0	0		ES	Y	11409	10	5	94	SMITH	5	778.0	LUB	0	0	
127	MNWH	312	335	377.0	0	0		ES	Y	11411	10	5	94	SMITH	5	778.0	LUB	0	0	
128	MNWH	281	304	267.0	0	0		ES	Y	11412	10	5	94	SMITH	5	778.0	LUB	0	0	
129	MNWH	230	0	145.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
130	MNWH	182	0	61.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
131	MNWH	190	0	76.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
132	MNWH	148	0	38.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
133	MNWH	134	0	34.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
134	MNWH	164	0	45.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
135	MNWH	350	379	568.0	0	0		ES	Y	11413	10	5	94	SMITH	5	778.0	LUB	0	0	
136	MNWH	287	311	295.0	0	0		ES	Y	11414	10	5	94	SMITH	5	778.0	LUB	0	0	
137	MNWH	228	0	117.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
138	MNWH	199	0	91.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
139	MNWH	206	0	98.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
140	MNWH	169	0	47.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
141	MNWH	294	319	317.0	0	0		ES	Y	11415	10	5	94	SMITH	5	778.0	LUB	0	0	
142	MNWH	203	0	83.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
143	MNWH	210	0	99.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
144	MNWH	201	0	96.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
145	MNWH	185	0	69.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
146	MNWH	134	0	23.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
147	MNWH	132	0	24.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
148	MNWH	104	0	14.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
149	MNWH	131	0	18.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
150	MNWH	197	0	102.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
151	MNWH	204	0	105.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
152	MNWH	125	0	19.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
153	MNWH	114	0	11.0	0	0		ES		0	10	5	94	SMITH	5	778.0	LUB	0	0	
154	WHSC	383	0	0.0	0	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
155	MNWH	83	91	0.0	0	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	1	0	
156	WHSC	405	432	0.0	0	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
157	MNWH	224	241	0.0	0	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
158	WHSC	387	413	0.0	9	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
159	WHSC	403	433	0.0	9	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
160	LNSC	351	376	0.0	0	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
161	MNWH	93	104	0.0	0	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
162	LNSC	375	416	0.0	9	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
163	LNSC	86	91	0.0	0	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
164	MNWH	125	139	0.0	0	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
165	MNWH	105	115	0.0	0	0		ES		0	11	5	94	WHITE	1	1044.0	LUB	0	0	
166	WHSC	445	478	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	0	0	
167	MNWH	270	296	214.0	0	0		ES	Y	11416	11	5	94	WHITE	2	1042.0	LUB	0	0	
168	MNWH	126	140	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	1	0	
169	MNWH	95	106	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	1	0	
170	MNWH	171	186	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	0	0	
171	MNWH	115	125	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	0	0	
172	MNWH	106	115	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	0	0	
173	LNSC	387	404	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	0	0	
174	MNWH	103	115	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	0	0	
175	MNWH	195	215	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	0	0	
176	MNWH	263	286	207.0	0	0		ES	Y	11417	11	5	94	WHITE	2	1042.0	LUB	0	0	
177	MNWH	85	94	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	0	0	
178	MNWH	119	127	0.0	0	0		ES		0	11	5	94	WHITE	2	1042.0	LUB	0	0	
179	MNWH	270	290	220.0	0	0		ES	Y	11418	11	5	94	WHITE	3	1041.0	RUB	0	0	
180	MNWH	272	294	236.0	0	0		ES	Y	11419	11	5	94	WHITE	3	1041.0	RUB	0	0	
181	MNWH	264	290	215.0	0	0		ES	Y	11420	11	5	94	WHITE	3	1041.0	RUB	0	0	
182	LNSC	433	458	0.0	0	0		ES		0	11	5	94	WHITE	4	1040.0	RUB	0	0	
183	MNWH	229	243	0.0	0	0		ES		0	11	5	94	WHITE	4	1040.0	RUB	0	0	
184	MNWH	104	107	0.0	0	0		ES		0	11	5	94	WHITE	4	1040.0	RUB	1	0	
185	MNWH	100	105	0.0	0	0		ES		0	11	5	94	WHITE	4	1040.0	RUB	0	0	
186	LKCH	85	92	0.0	0	0		ES		0	11	5	94	WHITE	3	1041.0	RUB	0	0	
187	WHSC	395	413	0.0	9	0		ES		0	11	5	94	WHITE	5	1040.0	LUB	0	0	
188	MNWH	297	322	370.0	0	0		ES	Y	11421	11	5	94	WHITE	5	1040.0	LUB	0	0	
189	MNWH	372	403	773.0	0	0		ES	Y	11422	11	5	94	WHITE	5	1040.0	LUB	0	0	
190	LNSC	383	409	0.0	0	0		ES		0	11	5	94	WHITE	5	1040.0	LUB	0	0	
191	LNSC	370	392	0.0	0	0		ES		0	11	5	94	WHITE	5	1040.0	LUB	0	0	
192	LNSC	382	413	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
193	MNWH	108	117	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
194	MNWH	90	99	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
195	MNWH	118	121	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
196	MNWH	114	123	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
197	LNSC	373	399	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
198	MNWH	360	389	623.0	0	0		ES	Y	11423	11	5	94	WHITE	6	1039.0	LUB	0	0	
199	MNWH	219	235	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
200	MNWH	179	192	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
201	MNWH	193	212	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
202	MNWH	190	210	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
203	MNWH	189	205	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
204	MNWH	93	100	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
205	MNWH	88	96	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
206	TRPR	82	87	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
207	MNWH	270	294	263.0	0	0		ES	Y	11424	11	5	94	WHITE	6	1039.0	LUB	0	0	
208	MNWH	168	179	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
209	MNWH	92	100	0.0	0	0		ES		0	11	5	94	WHITE	6	1039.0	LUB	0	0	
210	MNWH	202	224	0.0	0	0		ES		0	11	5	94	WHITE	5	1040.0	LUB	0	0	
211	LNDC	93	97	0.0	0	0		ES		0	11	5	94	WHITE	5	1040.0	LUB	0	0	
212	WHSC	395	431	0.0	0	0		ES		0	11	5	94	WHITE	7	1037.0	RUB	0	0	
213	WHSC	445	485	0.0	0	0		ES		0	11	5	94	WHITE	7	1037.0	RUB	0	0	
214	MNWH	193	215	0.0	0	0		ES		0	11	5	94	WHITE	7	1037.0	RUB	0	0	
215	WHSC	371	0	0.0	0	0		ES		0	11	5	94	WHITE	7	1037.0	RUB	0	0	
216	WHSC	417	0	0.0	9	0		ES		0	11	5	94	WHITE	7	1037.0	RUB	0	0	
217	MNWH	106	119	0.0	0	0		ES		0	11	5	94	WHITE	7	1037.0	RUB	0	0	
218	WHSC	312	334	0.0	0	0		ES		0	11	5	94	WHITE	7	1037.0	RUB	0	0	
219	MNWH	227	250	0.0	1	0		ES		0	11	5	94	WHITE	7	1037.0	RUB	1	0	STI5 I5CHIR
220	MNWH	178	198	0.0	0	0		ES		0	11	5	94	WHITE	7	1037.0	RUB	0	0	
221	MNWH	171	186	0.0	0	0		ES		0	11	5	94	WHITE	8	1036.0	RUB	0	0	
222	LNSC	378	411	0.0	0	0		ES		0	11	5	94	WHITE	8	1036.0	RUB	0	0	
223	LNSC	396	422	0.0	0	0		ES		0	11	5	94	WHITE	8	1036.0	RUB	0	0	
224	MNWH	306	331	366.0	0	0		ES	Y	10592	11	5	94	WHITE	8	1036.0	RUB	2	0	
225	MNWH	346	377	561.0	0	0		ES	Y	11425	11	5	94	WHITE	8	1036.0	RUB	0	0	
226	MNWH	128	141	0.0	0	0		ES		0	11	5	94	WHITE	8	1036.0	RUB	0	0	
227	LNSC	355	385	0.0	0	0		ES		0	11	5	94	WHITE	8	1036.0	RUB	0	0	
228	WHSC	205	215	0.0	0	0		ES		0	11	5	94	WHITE	7	1037.0	RUB	0	0	
229	MNWH	251	277	203.0	0	0		ES	Y	11410	11	5	94	WHITE	7	1037.0	RUB	0	0	
230	LNDC	75	82	0.0	0	0		ES		0	11	5	94	WHITE	8	1036.0	RUB	0	0	
231	LNSC	406	432	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
232	MNWH	195	213	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
233	MNWH	199	216	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
234	MNWH	313	336	495.0	0	0		ES	Y	11450	11	5	94	WHITE	9	1035.0	RUB	0	0	
235	MNWH	223	240	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
236	LNSC	261	278	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
237	LNSC	134	142	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
238	MNWH	242	265	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
239	MNWH	192	196	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
240	MNWH	336	363	605.0	0	0		ES	Y	11449	11	5	94	WHITE	9	1035.0	RUB	0	0	
241	LNSC	341	364	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
242	MNWH	178	197	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
243	LNSC	120	125	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
244	MNWH	413	438	863.0	0	0		ES	Y	3808	11	5	94	WHITE	9	1035.0	RUB	2	0	
245	MNWH	112	120	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
246	MNWH	90	99	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
247	MNWH	95	101	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
248	MNWH	110	119	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
249	MNWH	84	90	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
250	MNWH	103	111	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
251	MNWH	265	284	267.0	0	0		ES	Y	11448	11	5	94	WHITE	10	1034.0	RUB	0	0	
252	WALL	520	545	1512.0	0	0		ES	Y	11447	11	5	94	WHITE	10	1034.0	RUB	0	0	
253	MNWH	389	420	863.0	0	0		ES	Y	11446	11	5	94	WHITE	10	1034.0	RUB	0	0	
254	LNSC	359	387	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
255	MNWH	174	188	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
256	MNWH	105	112	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	1	0	
257	WHSC	255	268	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
258	MNWH	223	238	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
259	LNSC	119	125	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
260	MNWH	124	135	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
261	LNSC	347	368	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
262	MNWH	259	279	233.0	0	0		ES	Y	11445	11	5	94	WHITE	10	1034.0	RUB	0	0	
263	MNWH	330	352	464.0	0	0		ES	Y	11444	11	5	94	WHITE	10	1034.0	RUB	0	0	
264	MNWH	88	95	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
265	MNWH	82	88	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
266	MNWH	91	98	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
267	MNWH	94	101	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
268	LNDC	89	97	0.0	0	0		ES		0	11	5	94	WHITE	10	1034.0	RUB	0	0	
269	LNSC	83	90	0.0	0	0		ES		0	11	5	94	WHITE	9	1035.0	RUB	0	0	
270	LNSC	385	415	0.0	9	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
271	MNWH	183	198	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
272	MNWH	329	346	487.0	0	0		ES	Y	11443	11	5	94	WHITE	11	1033.5N	RUB	0	0	
273	MNWH	313	337	388.0	0	0		ES	Y	11442	11	5	94	WHITE	11	1033.5N	RUB	0	0	
274	LNSC	358	380	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
275	MNWH	178	188	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
276	LNSC	384	407	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
277	LNSC	345	371	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
278	LNSC	376	397	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
279	MNWH	114	122	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
280	MNWH	207	221	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
281	MNWH	308	334	395.0	0	0		ES	Y	10695	11	5	94	WHITE	11	1033.5N	RUB	2	0	
282	MNWH	104	111	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	1	0	
283	MNWH	204	216	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
284	MNWH	282	302	298.0	0	0		ES	Y	11441	11	5	94	WHITE	11	1033.5N	RUB	0	0	
285	MNWH	127	140	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
286	MNWH	182	193	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
287	LNSC	166	180	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
288	MNWH	236	257	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	CAUDAL CLIP?
289	MNWH	213	236	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
290	MNWH	124	132	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
291	MNWH	248	265	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
292	MNWH	182	196	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
293	MNWH	392	416	0.0	0	0		ES	Y	11440	11	5	94	WHITE	12	1032.5N	RUB	0	0	
294	MNWH	192	203	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
295	MNWH	124	130	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
296	MNWH	314	341	442.0	0	0		ES	Y	11439	11	5	94	WHITE	12	1032.5N	RUB	0	0	
297	MNWH	303	330	357.0	0	0		ES	Y	11438	11	5	94	WHITE	12	1032.5N	RUB	0	0	
298	MNWH	264	285	231.0	0	0		ES	Y	11437	11	5	94	WHITE	12	1032.5N	RUB	0	0	
299	MNWH	317	341	405.0	0	0		ES	Y	11436	11	5	94	WHITE	12	1032.5N	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
300	MNWH	304	322	322.0	0	0		ES	Y	11435	11	5	94	WHITE	12	1032.5N	RUB	0	0	
301	MNWH	290	311	299.0	0	0		ES	Y	11434	11	5	94	WHITE	12	1032.5N	RUB	0	0	
302	LNSC	383	408	0.0	9	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
303	MNWH	233	253	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
304	MNWH	212	227	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
305	MNWH	177	190	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
306	MNWH	231	245	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
307	MNWH	296	317	345.0	0	0		ES	Y	11433	11	5	94	WHITE	12	1032.5N	RUB	0	0	
308	WHSC	395	416	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
309	MNWH	248	269	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
310	WHSC	387	401	0.0	9	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
311	LNSC	372	395	0.0	11	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
312	MNWH	197	209	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
313	MNWH	242	262	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
314	LNSC	342	366	0.0	99	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
315	MNWH	209	220	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
316	MNWH	188	204	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
317	LNDC	****	0	0.0	0	0		ES		0	11	5	94	WHITE	12	1032.5N	RUB	0	0	
318	MNWH	115	122	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
319	LNDC	93	99	0.0	0	0		ES		0	11	5	94	WHITE	11	1033.5N	RUB	0	0	
320	MNWH	325	354	479.0	0	0		ES		0	11	5	94	WHITE	13	1031.5N	RUB	0	0	
321	LNSC	402	428	0.0	9	0		ES		0	11	5	94	WHITE	13	1031.5N	RUB	0	0	
322	MNWH	248	265	0.0	0	0		ES		0	11	5	94	WHITE	13	1031.5N	RUB	0	0	
323	MNWH	203	221	0.0	0	0		ES		0	11	5	94	WHITE	13	1031.5N	RUB	0	0	
324	MNWH	111	120	0.0	0	0		ES		0	11	5	94	WHITE	13	1031.5N	RUB	0	0	
325	LNSC	386	412	0.0	9	0		ES		0	11	5	94	WHITE	13	1031.5N	RUB	0	0	
326	MNWH	371	395	761.0	0	0		ES	Y	11432	11	5	94	WHITE	13	1031.5N	RUB	0	0	
327	MNWH	183	198	0.0	0	0		ES		0	11	5	94	WHITE	13	1031.5N	RUB	0	0	
328	MNWH	194	211	0.0	0	0		ES		0	11	5	94	WHITE	13	1031.5N	RUB	0	0	
329	MNWH	210	228	0.0	0	0		ES		0	11	5	94	WHITE	13	1031.5N	RUB	0	0	
330	MNWH	236	255	0.0	0	0		ES		0	11	5	94	WHITE	13	1031.5N	RUB	2	0	ADIPOSE CLIP
331	MNWH	380	409	775.0	14	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	1	0	ST10 10 PLEC
332	MNWH	346	373	585.0	0	0		ES	Y	11431	11	5	94	WHITE	14	1030.5N	RUB	0	0	
333	MNWH	263	285	263.0	0	0		ES	Y	11430	11	5	94	WHITE	14	1030.5N	RUB	0	0	
334	MNWH	261	287	255.0	1	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	1	0	ST10 SCHIR STRIC
335	LNSC	404	429	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
336	LNSC	421	452	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
337	WHSC	391	412	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
338	LNSC	369	392	0.0	9	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
339	MNWH	207	226	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
340	MNWH	221	239	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
341	MNWH	104	112	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
342	LNSC	422	452	0.0	9	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
343	MNWH	363	394	686.0	0	0		ES	Y	11429	11	5	94	WHITE	14	1030.5N	RUB	0	0	
344	MNWH	261	280	214.0	0	0		ES	Y	11428	11	5	94	WHITE	14	1030.5N	RUB	0	0	
345	LNSC	212	228	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
346	LNSC	377	404	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
347	LNDC	102	110	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
348	LNSC	376	400	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
349	MNWH	293	317	342.0	0	0		ES	Y	11427	11	5	94	WHITE	14	1030.5N	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
350	MNWH	122	132	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
351	MNWH	238	262	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
352	MNWH	201	218	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
353	LNSC	108	113	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
354	MNWH	162	170	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
355	MNWH	188	201	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
356	MNWH	127	135	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
357	LNSC	132	140	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
358	MNWH	122	132	0.0	0	0		ES		0	11	5	94	WHITE	14	1030.5N	RUB	0	0	
359	MNWH	267	293	224.0	0	0		ES	Y	11426	11	5	94	WHITE	15	1029.5N	RUB	0	0	
360	LNSC	425	454	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
361	MNWH	227	249	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
362	LNSC	389	415	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
363	MNWH	289	315	297.0	0	0		ES	Y	11451	11	5	94	WHITE	15	1029.5N	RUB	0	0	
364	LNSC	375	404	0.0	8	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
365	MNWH	283	299	273.0	0	0		ES	Y	11452	11	5	94	WHITE	15	1029.5N	RUB	0	0	
366	MNWH	261	289	185.0	0	0		ES	Y	11453	11	5	94	WHITE	15	1029.5N	RUB	0	0	
367	LNSC	341	359	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
368	LNSC	374	406	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
369	MNWH	165	180	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
370	MNWH	265	291	261.0	0	0		ES	Y	11454	11	5	94	WHITE	15	1029.5N	RUB	0	0	
371	MNWH	230	252	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
372	LNSC	385	416	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
373	LNSC	350	381	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
374	MNWH	219	241	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
375	MNWH	215	232	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
376	MNWH	119	125	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
377	LKCH	59	62	0.0	0	0		ES		0	11	5	94	WHITE	15	1029.5N	RUB	0	0	
378	LNSC	430	466	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
379	LNSC	386	421	0.0	9	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
380	MNWH	197	216	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
381	MNWH	203	219	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
382	LNSC	365	397	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
383	MNWH	350	379	548.0	0	0		ES	Y	11455	11	5	94	WHITE	16	1028.5	RUB	0	0	
384	MNWH	104	112	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
385	MNWH	96	105	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
386	MNWH	109	121	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
387	MNWH	114	124	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
388	MNWH	102	112	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
389	MNWH	116	129	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
390	MNWH	99	108	0.0	0	0		ES		0	11	5	94	WHITE	16	1028.5	RUB	0	0	
391	MNWH	397	425	920.0	0	0		ES	Y	11456	12	5	94	WHITE	17	1018.0	LUB	0	0	
392	MNWH	431	455	1165.0	0	0		ES	Y	11457	12	5	94	WHITE	17	1018.0	LUB	0	0	
393	MNWH	337	363	552.0	0	0		ES	Y	11458	12	5	94	WHITE	17	1018.0	LUB	0	0	
394	LNSC	351	367	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
395	LNSC	414	441	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
396	WALL	581	608	1880.0	0	0		ES	Y	11459	12	5	94	WHITE	17	1018.0	LUB	0	0	
397	MNWH	324	351	427.0	0	0		ES	Y	11460	12	5	94	WHITE	17	1018.0	LUB	0	0	
398	LNSC	352	378	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
399	LNSC	401	429	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
400	MNWH	332	363	551.0	0	0		ES	Y	11461	12	5	94	WHITE	17	1018.0	LUB	0	0	
401	LNSC	379	402	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
402	MNWH	399	430	819.0	0	0		ES	Y	11462	12	5	94	WHITE	17	1018.0	LUB	0	0	
403	LNSC	412	441	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
404	LNSC	392	417	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
405	MNWH	106	113	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
406	MNWH	335	361	514.0	0	0		ES	Y	11463	12	5	94	WHITE	17	1018.0	LUB	0	0	
407	LNSC	379	402	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
408	LNSC	401	422	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
409	LNSC	355	377	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
410	LNSC	367	389	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
411	LNSC	321	340	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
412	LNSC	409	437	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
413	LNSC	116	127	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
414	LNSC	323	341	0.0	0	0		ES		0	12	5	94	WHITE	17	1018.0	LUB	0	0	
415	LNSC	413	443	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
416	MNWH	259	284	232.0	0	0		ES	Y	11464	12	5	94	WHITE	18	1017.0	LUB	0	0	
417	MNWH	247	265	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
418	MNWH	272	295	280.0	0	0		ES	Y	11465	12	5	94	WHITE	18	1017.0	LUB	0	0	
419	MNWH	312	341	354.0	0	0		ES	Y	11466	12	5	94	WHITE	18	1017.0	LUB	0	0	
420	MNWH	360	388	551.0	0	0		ES	Y	11467	12	5	94	WHITE	18	1017.0	LUB	0	0	
421	LNSC	393	418	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
422	MNWH	214	231	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
423	MNWH	216	339	0.0	0	0		ES	Y	11468	12	5	94	WHITE	18	1017.0	LUB	0	0	
424	MNWH	296	317	291.0	0	0		ES	Y	11469	12	5	94	WHITE	18	1017.0	LUB	0	0	
425	LNSC	374	393	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
426	MNWH	259	282	227.0	0	0		ES	Y	11470	12	5	94	WHITE	18	1017.0	LUB	0	0	
427	LNSC	385	411	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
428	MNWH	298	321	343.0	0	0		ES	Y	11471	12	5	94	WHITE	18	1017.0	LUB	0	0	
429	MNWH	263	286	245.0	0	0		ES	Y	11472	12	5	94	WHITE	18	1017.0	LUB	0	0	
430	MNWH	248	270	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
431	MNWH	289	312	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
432	MNWH	321	346	443.0	0	0		ES	Y	11473	12	5	94	WHITE	18	1017.0	LUB	0	0	
433	MNWH	257	274	230.0	0	0		ES	Y	11474	12	5	94	WHITE	18	1017.0	LUB	0	0	
434	MNWH	345	367	481.0	0	0		ES	Y	11475	12	5	94	WHITE	18	1017.0	LUB	0	0	
435	MNWH	273	292	291.0	0	0		ES	Y	11476	12	5	94	WHITE	18	1017.0	LUB	0	0	
436	LNSC	340	360	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
437	LNSC	362	385	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
438	MNWH	325	346	472.0	0	0		ES	Y	11477	12	5	94	WHITE	18	1017.0	LUB	0	0	
439	BURB	608	0	1198.0	0	0		ES	Y	11478	12	5	94	WHITE	18	1017.0	LUB	0	0	
440	LNSC	187	201	0.0	0	0		ES		0	12	5	94	WHITE	18	1017.0	LUB	0	0	
441	MNWH	276	295	251.0	0	0		ES	Y	11479	12	5	94	WHITE	18	1017.0	LUB	0	0	
442	MNWH	276	307	268.0	0	0		ES	Y	11480	12	5	94	WHITE	19	1016.0	RUB	0	0	
443	MNWH	246	269	0.0	0	0		ES		0	12	5	94	WHITE	19	1016.0	RUB	0	0	
444	MNWH	365	398	583.0	0	0		ES	Y	11481	12	5	94	WHITE	19	1016.0	RUB	0	0	
445	MNWH	279	307	278.0	0	0		ES	Y	11482	12	5	94	WHITE	19	1016.0	RUB	0	0	
446	MNWH	314	347	414.0	0	0		ES	Y	11483	12	5	94	WHITE	19	1016.0	RUB	0	0	
447	MNWH	189	206	0.0	0	0		ES		0	12	5	94	WHITE	19	1016.0	RUB	0	0	
448	WHSC	345	369	0.0	0	0		ES		0	12	5	94	WHITE	19	1016.0	RUB	0	0	
449	MNWH	286	315	276.0	0	0		ES	Y	11484	12	5	94	WHITE	19	1016.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
450	MNWH	135	147	0.0	0	0		ES		0	12	5	94	WHITE	19	1016.0	RUB	0	0	
451	MNWH	108	116	0.0	0	0		ES		0	12	5	94	WHITE	19	1016.0	RUB	0	0	
452	MNWH	129	141	0.0	0	0		ES		0	12	5	94	WHITE	19	1016.0	RUB	0	0	
453	MNWH	115	128	0.0	0	0		ES		0	12	5	94	WHITE	19	1016.0	RUB	0	0	
454	MNWH	356	398	718.0	0	0		ES	Y	11485	12	5	94	WHITE	19	1016.0	RUB	0	0	
455	MNWH	116	128	0.0	0	0		ES		0	12	5	94	WHITE	19	1016.0	RUB	0	0	
456	MNWH	123	136	0.0	0	0		ES		0	12	5	94	WHITE	19	1016.0	RUB	0	0	
457	MNWH	249	271	0.0	0	0		ES		0	12	5	94	WHITE	19	1016.0	RUB	0	0	
458	LNSC	404	428	0.0	0	0		ES		0	12	5	94	WHITE	20	1015.0	RUB	0	0	
459	LNSC	441	474	0.0	0	0		ES		0	12	5	94	WHITE	20	1015.0	RUB	0	0	
460	LNSC	403	421	0.0	0	0		ES		0	12	5	94	WHITE	20	1015.0	RUB	0	0	
461	LNSC	131	145	0.0	0	0		ES		0	12	5	94	WHITE	20	1015.0	RUB	0	0	
462	LNSC	326	357	0.0	0	0		ES		0	12	5	94	WHITE	20	1015.0	RUB	0	0	
463	LNSC	361	396	0.0	0	0		ES		0	12	5	94	WHITE	20	1015.0	RUB	0	0	
464	MNWH	316	348	418.0	0	0		ES	Y	11486	12	5	94	WHITE	20	1015.0	RUB	0	0	
465	LNSC	414	443	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
466	LNSC	405	428	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
467	MNWH	304	327	335.0	0	0		ES	Y	11487	12	5	94	WHITE	21	1014.0	LUB	0	0	
468	MNWH	318	341	394.0	0	0		ES	Y	11488	12	5	94	WHITE	21	1014.0	LUB	0	0	
469	MNWH	315	343	393.0	0	0		ES	Y	11489	12	5	94	WHITE	21	1014.0	LUB	0	0	
470	LNSC	339	361	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
471	MNWH	164	178	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
472	MNWH	188	211	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
473	LNSC	396	429	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
474	LNSC	422	447	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
475	LNSC	362	386	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
476	MNWH	194	208	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	1	0	
477	LNSC	168	180	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
478	LNSC	354	378	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
479	LNSC	277	295	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
480	MNWH	239	258	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
481	MNWH	259	282	239.0	0	0		ES	Y	11490	12	5	94	WHITE	21	1014.0	LUB	0	0	
482	MNWH	284	308	290.0	0	0		ES	Y	11491	12	5	94	WHITE	21	1014.0	LUB	0	0	
483	LNSC	203	215	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
484	MNWH	255	276	238.0	0	0		ES	Y	11492	12	5	94	WHITE	21	1014.0	LUB	0	0	
485	MNWH	180	195	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
486	MNWH	243	262	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
487	MNWH	244	264	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
488	LNSC	297	317	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
489	MNWH	90	97	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	1	0	
490	LNSC	155	166	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
491	MNWH	137	149	0.0	0	0		ES		0	12	5	94	WHITE	21	1014.0	LUB	0	0	
492	BURB	854	0	3438.0	0	0		ES	Y	11493	12	5	94	WHITE	22	1013.0	LUB	0	0	
493	LNSC	432	464	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
494	MNWH	116	127	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	1	0	
495	MNWH	298	325	335.0	0	0		ES	Y	11494	12	5	94	WHITE	22	1013.0	LUB	0	0	
496	MNWH	209	223	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
497	MNWH	250	271	207.0	0	0		ES	Y	11495	12	5	94	WHITE	22	1013.0	LUB	0	0	
498	LNSC	262	280	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
499	MNWH	107	112	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
500	MNWH	336	361	510.0	0	0		ES	Y	11496	12	5	94	WHITE	22	1013.0	LUB	0	0	
501	MNWH	137	150	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
502	LNSC	167	180	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
503	LNSC	337	360	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
504	MNWH	141	152	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
505	MNWH	108	116	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
506	MNWH	320	344	403.0	0	0		ES	Y	11497	12	5	94	WHITE	22	1013.0	LUB	0	0	
507	MNWH	267	291	220.0	0	0		ES	Y	11498	12	5	94	WHITE	22	1013.0	LUB	0	0	
508	MNWH	108	120	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
509	LNSC	391	416	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
510	LNSC	324	348	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
511	MNWH	108	119	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
512	MNWH	105	115	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
513	MNWH	107	116	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
514	LNSC	123	132	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
515	LNSC	115	123	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
516	MNWH	449	491	1131.0	0	0		ES	Y	11499	12	5	94	WHITE	22	1013.0	LUB	0	0	
517	MNWH	100	109	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
518	LNSC	154	162	0.0	0	0		ES		0	12	5	94	WHITE	22	1013.0	LUB	0	0	
519	MNWH	148	156	0.0	0	0		ES		0	12	5	94	WHITE	23	1012.0	RUB	0	0	
520	MNWH	142	153	0.0	0	0		ES		0	12	5	94	WHITE	23	1012.0	RUB	0	0	
521	LNSC	323	342	0.0	0	0		ES		0	12	5	94	WHITE	23	1012.0	RUB	0	0	
522	WHSC	420	442	0.0	0	0		ES		0	12	5	94	WHITE	23	1012.0	RUB	0	0	
523	MNWH	114	127	0.0	0	0		ES		0	12	5	94	WHITE	23	1012.0	RUB	0	0	
524	MNWH	452	477	1253.0	0	0		ES	Y	11500	12	5	94	WHITE	23	1012.0	RUB	0	0	
525	MNWH	304	321	363.0	0	0		ES	Y	11552	12	5	94	WHITE	23	1012.0	RUB	0	0	
526	LNSC	349	374	0.0	0	0		ES		0	12	5	94	WHITE	23	1012.0	RUB	0	0	
527	WALL	435	461	863.0	0	0		ES	Y	11553	12	5	94	WHITE	24	1011.0	RUB	0	0	
528	WHSC	469	496	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
529	MNWH	251	270	281.0	0	0		ES	Y	11554	12	5	94	WHITE	24	1011.0	RUB	0	0	
530	MNWH	154	166	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
531	MNWH	159	167	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
532	MNWH	174	191	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
533	MNWH	104	114	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
534	MNWH	359	390	565.0	0	0		ES	Y	11555	12	5	94	WHITE	24	1011.0	RUB	0	0	
535	MNWH	184	197	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
536	MNWH	374	397	662.0	0	0		ES	Y	11556	12	5	94	WHITE	24	1011.0	RUB	0	0	
537	MNWH	287	309	287.0	0	0		ES	Y	11557	12	5	94	WHITE	24	1011.0	RUB	0	0	
538	MNWH	316	330	351.0	0	0		ES	Y	11558	12	5	94	WHITE	24	1011.0	RUB	0	0	
539	MNWH	173	190	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
540	MNWH	249	271	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
541	MNWH	220	235	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
542	MNWH	197	212	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
543	MNWH	126	140	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
544	MNWH	202	212	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	1	0	
545	MNWH	197	211	0.0	0	0		ES		0	12	5	94	WHITE	24	1011.0	RUB	0	0	
546	MNWH	109	117	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
547	MNWH	445	488	1085.0	0	0		ES	Y	11551	12	5	94	WHITE	25	1009.0	LUB	0	0	
548	MNWH	105	113	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
549	LNSC	127	134	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
550	LNSC	208	220	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
551	LNSC	343	369	0.0	9	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
552	LNSC	339	366	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
553	MNWH	129	138	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
554	MNWH	339	371	523.0	0	0		ES	Y	11559	12	5	94	WHITE	25	1009.0	LUB	0	0	
555	MNWH	255	280	206.0	0	0		ES	Y	11560	12	5	94	WHITE	25	1009.0	LUB	0	0	
556	LNSC	170	182	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
557	MNWH	436	471	1112.0	0	0		ES	Y	11561	12	5	94	WHITE	25	1009.0	LUB	0	0	
558	LNSC	355	375	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
559	LNSC	285	405	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
560	LNSC	274	291	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
561	LNSC	300	326	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
562	MNWH	163	182	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
563	MNWH	96	104	0.0	0	0		ES		0	12	5	94	WHITE	25	1009.0	LUB	0	0	
564	WALL	425	459	841.0	0	0		ES	Y	11562	12	5	94	WHITE	26	1008.0	LUB	0	0	
565	MNWH	479	521	1589.0	0	0		ES	Y	11563	12	5	94	WHITE	26	1008.0	LUB	0	0	
566	MNWH	243	266	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
567	WHSC	448	485	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
568	MNWH	267	296	229.0	0	0		ES	Y	11564	12	5	94	WHITE	26	1008.0	LUB	0	0	
569	LNSC	450	488	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
570	MNWH	267	290	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
571	MNWH	368	410	736.0	0	0		ES	Y	11565	12	5	94	WHITE	26	1008.0	LUB	0	0	
572	MNWH	175	189	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
573	MNWH	345	380	543.0	0	0		ES	Y	11566	12	5	94	WHITE	26	1008.0	LUB	0	0	
574	MNWH	427	462	1158.0	0	0		ES	Y	11567	12	5	94	WHITE	26	1008.0	LUB	0	0	
575	MNWH	136	146	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
576	MNWH	212	232	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
577	MNWH	131	142	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
578	MNWH	100	110	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
579	MNWH	105	114	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
580	MNWH	95	103	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
581	MNWH	219	241	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
582	MNWH	187	202	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
583	MNWH	229	251	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
584	TRPR	81	89	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	PREGNANT FEMALE
585	WHSC	218	228	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
586	MNWH	105	112	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	0	0	
587	TRPR	73	83	0.0	0	0		ES		0	12	5	94	WHITE	26	1008.0	LUB	1	0	
588	MNWH	321	344	408.0	0	0		ES	Y	11568	12	5	94	WHITE	27	1007.0	RUB	0	0	
589	MNWH	139	148	0.0	0	0		ES		0	12	5	94	WHITE	27	1007.0	RUB	0	0	
590	MNWH	302	324	335.0	0	0		ES	Y	11569	12	5	94	WHITE	27	1007.0	RUB	0	0	
591	MNWH	173	189	0.0	0	0		ES		0	12	5	94	WHITE	27	1007.0	RUB	0	0	
592	MNWH	163	179	0.0	0	0		ES		0	12	5	94	WHITE	27	1007.0	RUB	0	0	
593	MNWH	114	121	0.0	0	0		ES		0	12	5	94	WHITE	27	1007.0	RUB	0	0	
594	MNWH	142	154	0.0	0	0		ES		0	12	5	94	WHITE	27	1007.0	RUB	1	0	
595	MNWH	194	211	0.0	0	0		ES		0	12	5	94	WHITE	27	1007.0	RUB	0	0	
596	MNWH	390	418	832.0	0	0		ES	Y	11570	12	5	94	WHITE	28	1006.0	RUB	0	0	
597	MNWH	272	294	257.0	0	0		ES	Y	11571	12	5	94	WHITE	28	1006.0	RUB	0	0	
598	MNWH	294	316	341.0	0	0		ES	Y	11572	12	5	94	WHITE	28	1006.0	RUB	0	0	
599	MNWH	293	320	355.0	0	0		ES	Y	11573	12	5	94	WHITE	28	1006.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
600	MNWH	313	336	447.0	0	0		ES	Y	11574	12	5	94	WHITE	28	1006.0	RUB	0	0	
601	MNWH	308	337	417.0	0	0		ES	Y	11575	12	5	94	WHITE	28	1006.0	RUB	0	0	
602	MNWH	208	229	0.0	0	0		ES		0	12	5	94	WHITE	28	1006.0	RUB	0	0	
603	MNWH	186	202	0.0	0	0		ES		0	12	5	94	WHITE	28	1006.0	RUB	0	0	
604	MNWH	306	331	363.0	0	0		ES	Y	11576	12	5	94	WHITE	28	1006.0	RUB	0	0	
605	MNWH	201	218	0.0	0	0		ES		0	12	5	94	WHITE	28	1006.0	RUB	0	0	
606	MNWH	190	207	0.0	0	0		ES		0	12	5	94	WHITE	28	1006.0	RUB	0	0	
607	MNWH	382	409	705.0	0	0		ES	Y	11577	12	5	94	WHITE	28	1006.0	RUB	0	0	
608	MNWH	311	339	403.0	0	0		ES	Y	11578	12	5	94	WHITE	28	1006.0	RUB	0	0	
609	MNWH	171	184	0.0	0	0		ES		0	12	5	94	WHITE	28	1006.0	RUB	0	0	
610	MNWH	318	348	457.0	0	0		ES	Y	11579	12	5	94	WHITE	28	1006.0	RUB	0	0	
611	MNWH	144	154	0.0	0	0		ES		0	12	5	94	WHITE	28	1006.0	RUB	0	0	
612	MNWH	271	297	251.0	0	0		ES	Y	11580	12	5	94	WHITE	28	1006.0	RUB	0	0	
613	MNWH	274	299	251.0	0	0		ES	Y	11581	12	5	94	WHITE	28	1006.0	RUB	0	0	
614	MNWH	394	424	741.0	0	0		ES	Y	11582	12	5	94	WHITE	29	1005.0	LUB	0	0	
615	MNWH	329	354	403.0	0	0		ES	Y	11583	12	5	94	WHITE	29	1005.0	LUB	0	0	
616	MNWH	441	486	1197.0	0	0		ES	Y	11584	12	5	94	WHITE	29	1005.0	LUB	0	0	
617	MNWH	315	336	386.0	0	0		ES	Y	11585	12	5	94	WHITE	29	1005.0	LUB	0	0	
618	MNWH	266	286	236.0	0	0		ES	Y	11587	12	5	94	WHITE	29	1005.0	LUB	0	0	
619	MNWH	315	335	365.0	0	0		ES	Y	11588	12	5	94	WHITE	29	1005.0	LUB	0	0	
620	MNWH	181	194	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
621	MNWH	142	153	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
622	MNWH	293	311	287.0	0	0		ES	Y	11586	12	5	94	WHITE	29	1005.0	LUB	0	0	
623	MNWH	194	211	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
624	MNWH	194	208	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
625	MNWH	195	212	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
626	MNWH	300	317	335.0	0	0		ES	Y	11590	12	5	94	WHITE	29	1005.0	LUB	0	0	
627	MNWH	334	0	485.0	0	0		ES	Y	11591	12	5	94	WHITE	29	1005.0	LUB	0	0	
628	LNSC	317	331	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
629	MNWH	179	192	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	1	0	
630	MNWH	151	160	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
631	MNWH	108	112	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
632	LNSC	281	298	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
633	MNWH	194	206	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
634	MNWH	126	137	0.0	0	0		ES		0	12	5	94	WHITE	29	1005.0	LUB	0	0	
635	MNWH	345	373	597.0	0	0		ES	Y	11592	12	5	94	WHITE	31	1003.0	RUB	0	0	
636	MNWH	353	380	655.0	0	0		ES	Y	11593	12	5	94	WHITE	31	1003.0	RUB	0	0	
637	MNWH	404	430	909.0	0	0		ES	Y	11594	12	5	94	WHITE	31	1003.0	RUB	0	0	
638	MNWH	288	310	336.0	0	0		ES	Y	11595	12	5	94	WHITE	31	1003.0	RUB	0	0	
639	MNWH	202	220	0.0	0	0		ES		0	12	5	94	WHITE	31	1003.0	RUB	0	0	
640	MNWH	124	135	0.0	0	0		ES		0	12	5	94	WHITE	31	1003.0	RUB	0	0	
641	LNSC	342	363	0.0	0	0		ES		0	12	5	94	WHITE	31	1003.0	RUB	0	0	
642	LNSC	192	206	0.0	0	0		ES		0	12	5	94	WHITE	31	1003.0	RUB	0	0	
643	MNWH	172	186	0.0	0	0		ES		0	12	5	94	WHITE	31	1003.0	RUB	0	0	
644	MNWH	345	369	571.0	0	0		ES	Y	11596	12	5	94	WHITE	31	1003.0	RUB	0	0	
645	MNWH	148	157	0.0	0	0		ES		0	12	5	94	WHITE	31	1003.0	RUB	0	0	
646	MNWH	240	257	0.0	0	0		ES		0	12	5	94	WHITE	31	1003.0	RUB	0	0	
647	MNWH	127	142	0.0	0	0		ES		0	12	5	94	WHITE	31	1003.0	RUB	0	0	
648	LNSC	394	440	0.0	0	0		ES		0	12	5	94	WHITE	32	1002.0	RUB	0	0	
649	MNWH	290	311	204.0	0	0		ES	Y	11597	12	5	94	WHITE	32	1002.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
650	MNWH	312	337	404.0	0	0		ES	Y	11589	12	5	94	WHITE	32	1002.0	RUB	0	0	
651	MNWH	118	128	0.0	0	0		ES		0	12	5	94	WHITE	32	1002.0	RUB	1	0	
652	MNWH	111	122	0.0	0	0		ES		0	12	5	94	WHITE	32	1002.0	RUB	0	0	
653	MNWH	110	118	0.0	0	0		ES		0	12	5	94	WHITE	32	1002.0	RUB	0	0	
654	MNWH	224	242	0.0	0	0		ES		0	12	5	94	WHITE	32	1002.0	RUB	0	0	
655	MNWH	187	200	0.0	0	0		ES		0	12	5	94	WHITE	32	1002.0	RUB	0	0	
656	BURB	484	0	545.0	0	0		ES	Y	11598	12	5	94	WHITE	32	1002.0	RUB	0	0	
657	LNSC	361	386	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
658	MNWH	200	220	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
659	MNWH	141	155	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
660	MNWH	145	158	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
661	MNWH	141	157	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
662	MNWH	254	278	170.0	0	0		ES	Y	11599	12	5	94	WHITE	33	1001.0	LUB	0	0	
663	MNWH	176	189	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
664	MNWH	270	296	271.0	0	0		ES	Y	11600	12	5	94	WHITE	33	1001.0	LUB	0	0	
665	LNSC	234	249	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
666	MNWH	214	233	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
667	MNWH	148	162	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
668	MNWH	123	136	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
669	LNSC	119	126	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
670	MNWH	226	248	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
671	MNWH	269	299	251.0	0	0		ES	Y	11550	12	5	94	WHITE	34	1000.0	LUB	0	0	
672	MNWH	231	255	0.0	0	0		ES		0	12	5	94	WHITE	34	1000.0	LUB	0	0	
673	MNWH	181	200	0.0	0	0		ES		0	12	5	94	WHITE	34	1000.0	LUB	0	0	
674	MNWH	288	314	346.0	0	0		ES	Y	11549	12	5	94	WHITE	34	1000.0	LUB	0	0	
675	MNWH	325	359	479.0	0	0		ES	Y	11548	12	5	94	WHITE	34	1000.0	LUB	0	0	
676	LNSC	305	325	0.0	0	0		ES		0	12	5	94	WHITE	34	1000.0	LUB	0	0	
677	LNSC	418	352	0.0	0	0		ES		0	12	5	94	WHITE	34	1000.0	LUB	0	0	
678	LNSC	364	394	0.0	0	0		ES		0	12	5	94	WHITE	34	1000.0	LUB	0	0	
679	LNSC	325	352	0.0	0	0		ES		0	12	5	94	WHITE	34	1000.0	LUB	0	0	
680	LNSC	339	364	0.0	0	0		ES		0	12	5	94	WHITE	34	1000.0	LUB	0	0	
681	MNWH	345	367	471.0	0	0		ES	Y	11547	12	5	94	WHITE	34	1000.0	LUB	0	0	
682	MNWH	186	205	0.0	0	0		ES		0	12	5	94	WHITE	34	1000.0	LUB	0	0	
683	MNWH	331	365	448.0	0	0		ES	Y	11546	12	5	94	WHITE	34	1000.0	LUB	0	0	
684	MNWH	135	147	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
685	MNWH	216	238	0.0	0	0		ES		0	12	5	94	WHITE	33	1001.0	LUB	0	0	
686	MNWH	247	271	0.0	0	0		ES		0	12	5	94	WHITE	35	999.0	LUB	0	0	
687	MNWH	243	258	0.0	0	0		ES		0	12	5	94	WHITE	35	999.0	LUB	0	0	
688	MNWH	297	325	322.0	0	0		ES	Y	11545	12	5	94	WHITE	35	999.0	LUB	0	0	
689	MNWH	137	148	0.0	0	0		ES		0	12	5	94	WHITE	35	999.0	LUB	0	0	
690	MNWH	355	382	553.0	0	0		ES	Y	11544	12	5	94	WHITE	35	999.0	LUB	0	0	
691	MNWH	109	116	0.0	0	0		ES		0	12	5	94	WHITE	35	999.0	LUB	0	0	
692	MNWH	131	141	0.0	0	0		ES		0	12	5	94	WHITE	35	999.0	LUB	0	0	
693	MNWH	386	409	774.0	0	0		ES	Y	11543	12	5	94	WHITE	35	999.0	LUB	0	0	
694	LNSC	427	447	0.0	0	0		ES		0	12	5	94	WHITE	35	999.0	LUB	0	0	
695	MNWH	158	172	0.0	0	0		ES		0	12	5	94	WHITE	35	999.0	LUB	0	0	
696	LNSC	363	383	0.0	0	0		ES		0	12	5	94	WHITE	35	999.0	LUB	0	0	
697	MNWH	128	141	0.0	0	0		ES		0	12	5	94	WHITE	35	999.0	LUB	0	0	
698	MNWH	344	363	543.0	0	0		ES	Y	11542	12	5	94	WHITE	35	999.0	LUB	0	0	
699	MNWH	315	336	370.0	0	0		ES	Y	11541	12	5	94	WHITE	35	999.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
700	MNWH	315	334	391.0	0	0		ES	Y	11540	12	5	94	WHITE	35	999.0	LUB	0	0	
701	MNWH	124	133	0.0	0	0		ES		0	12	5	94	WHITE	35	999.0	LUB	0	0	
702	MNWH	424	452	1054.0	0	0		ES	Y	11539	12	5	94	WHITE	36	998.0	LUB	0	0	
703	MNWH	266	283	201.0	0	0		ES	Y	11538	12	5	94	WHITE	36	998.0	LUB	0	0	
704	MNWH	380	421	743.0	0	0		ES	Y	11537	12	5	94	WHITE	36	998.0	LUB	0	0	
705	MNWH	267	289	235.0	0	0		ES	Y	11536	12	5	94	WHITE	36	998.0	LUB	0	0	
706	WALL	311	329	301.0	0	0		ES	Y	11535	12	5	94	WHITE	36	998.0	LUB	0	0	
707	MNWH	350	380	482.0	0	0		ES	Y	11534	13	5	94	WHITE	37	1027.5	RUB	0	0	
708	MNWH	180	195	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
709	MNWH	175	192	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
710	MNWH	170	184	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
711	LNSC	154	165	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
712	MNWH	117	126	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
713	MNWH	188	201	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
714	MNWH	222	241	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
715	MNWH	134	145	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
716	MNWH	234	256	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
717	MNWH	227	247	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
718	MNWH	122	131	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
719	MNWH	362	388	675.0	0	0		ES	Y	11533	13	5	94	WHITE	37	1027.5	RUB	0	0	
720	MNWH	244	263	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
721	MNWH	167	181	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
722	MNWH	130	142	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
723	MNWH	190	207	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
724	LNSC	407	438	0.0	0	0		ES		0	13	5	94	WHITE	38	1026.5	RUB	0	0	
725	MNWH	275	299	248.0	0	0		ES	Y	11532	13	5	94	WHITE	38	1026.5	RUB	0	0	
726	MNWH	245	266	0.0	0	0		ES		0	13	5	94	WHITE	38	1026.5	RUB	0	0	
727	LNSC	405	429	0.0	0	0		ES		0	13	5	94	WHITE	38	1026.5	RUB	0	0	
728	LNSC	386	415	0.0	9	0		ES		0	13	5	94	WHITE	38	1026.5	RUB	0	0	
729	MNWH	331	356	480.0	0	0		ES	Y	11531	13	5	94	WHITE	38	1026.5	RUB	0	0	
730	MNWH	354	379	595.0	0	0		ES	Y	11530	13	5	94	WHITE	38	1026.5	RUB	0	0	
731	MNWH	300	327	361.0	0	0		ES	Y	11529	13	5	94	WHITE	38	1026.5	RUB	0	0	
732	MNWH	260	288	214.0	0	0		ES	Y	11528	13	5	94	WHITE	38	1026.5	RUB	0	0	
733	MNWH	251	272	207.0	0	0		ES	Y	11527	13	5	94	WHITE	38	1026.5	RUB	0	0	
734	MNWH	225	245	0.0	0	0		ES		0	13	5	94	WHITE	38	1026.5	RUB	0	0	
735	BURB	868	0	3654.0	0	0		ES	Y	11526	13	5	94	WHITE	38	1026.5	RUB	0	0	
736	LNSC	379	402	0.0	0	0		ES		0	13	5	94	WHITE	38	1026.5	RUB	0	0	
737	LNSC	368	395	0.0	9	0		ES		0	13	5	94	WHITE	38	1026.5	RUB	0	0	
738	LNSC	400	427	0.0	0	0		ES		0	13	5	94	WHITE	38	1026.5	RUB	0	0	
739	MNWH	200	221	0.0	0	0		ES		0	13	5	94	WHITE	38	1026.5	RUB	0	0	
740	MNWH	133	144	0.0	0	0		ES		0	13	5	94	WHITE	37	1027.5	RUB	0	0	
741	LNSC	275	291	0.0	0	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
742	WALL	240	255	126.0	0	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
743	LNSC	244	261	0.0	0	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
744	MNWH	199	216	0.0	0	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
745	MNWH	355	388	538.0	0	0		ES	Y	11501	13	5	94	WHITE	39	1025.5	LUB	0	0	
746	MNWH	111	122	0.0	0	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
747	MNWH	343	375	605.0	0	0		ES	Y	11502	13	5	94	WHITE	39	1025.5	LUB	0	0	
748	LNSC	370	399	0.0	8	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
749	WALL	274	288	218.0	0	0		ES	Y	11503	13	5	94	WHITE	39	1025.5	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
750	WALL	250	261	154.0	0	0		ES	Y	11504	13	5	94	WHITE	39	1025.5	LUB	0	0	
751	LNSC	365	395	0.0	0	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
752	WHSC	443	476	0.0	0	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
753	LNSC	360	387	0.0	0	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
754	WALL	411	435	703.0	0	0		ES	Y	11505	13	5	94	WHITE	39	1025.5	LUB	0	0	
755	LNSC	388	414	0.0	0	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
756	LNSC	371	392	0.0	8	0		ES		0	13	5	94	WHITE	39	1025.5	LUB	0	0	
757	MNWH	341	373	502.0	0	0		ES	Y	11506	13	5	94	WHITE	39	1025.5	LUB	0	0	
758	LNSC	388	422	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
759	WHSC	389	416	0.0	8	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
760	MNWH	97	105	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
761	MNWH	123	131	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
762	MNWH	321	331	419.0	0	0		ES	Y	11507	13	5	94	WHITE	40	1024.5	LUB	0	0	
763	MNWH	224	250	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
764	MNWH	133	146	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	1	0	
765	MNWH	129	135	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
766	MNWH	119	128	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
767	MNWH	121	132	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
768	MNWH	234	258	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
769	MNWH	262	287	206.0	0	0		ES	Y	11508	13	5	94	WHITE	40	1024.5	LUB	0	0	
770	MNWH	233	259	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
771	MNWH	128	141	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
772	MNWH	107	116	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
773	MNWH	98	110	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	0	0	
774	MNWH	122	134	0.0	0	0		ES		0	13	5	94	WHITE	40	1024.5	LUB	1	0	
775	MNWH	318	343	391.0	0	0		ES	Y	11509	13	5	94	WHITE	41	1023.5	RUB	0	0	
776	LNSC	355	375	0.0	9	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
777	MNWH	167	180	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
778	MNWH	122	132	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
779	MNWH	372	398	693.0	0	0		ES	Y	11510	13	5	94	WHITE	41	1023.5	RUB	0	0	
780	MNWH	191	206	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
781	LNSC	394	420	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
782	MNWH	113	122	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
783	MNWH	116	125	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
784	MNWH	116	125	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
785	MNWH	111	120	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
786	MNWH	112	123	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
787	MNWH	172	184	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
788	MNWH	371	393	687.0	0	0		ES	Y	11511	13	5	94	WHITE	41	1023.5	RUB	0	0	
789	MNWH	112	121	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
790	MNWH	124	137	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
791	MNWH	117	126	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
792	MNWH	164	177	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
793	MNWH	209	222	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
794	MNWH	237	257	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
795	MNWH	331	353	490.0	0	0		ES	Y	11512	13	5	94	WHITE	41	1023.5	RUB	0	0	
796	MNWH	112	122	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
797	MNWH	214	234	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
798	MNWH	255	274	223.0	0	0		ES	Y	11513	13	5	94	WHITE	41	1023.5	RUB	0	0	
799	MNWH	377	407	673.0	0	0		ES	Y	11514	13	5	94	WHITE	41	1023.5	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
800	MNWH	112	122	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
801	MNWH	116	124	0.0	0	0		ES		0	13	5	94	WHITE	41	1023.5	RUB	0	0	
802	MNWH	423	454	1102.0	0	0		ES	Y	11515	13	5	94	WHITE	42	1022.5	LUB	0	0	
803	MNWH	365	394	666.0	0	0		ES	Y	11516	13	5	94	WHITE	42	1022.5	LUB	0	0	
804	MNWH	117	123	0.0	0	0		ES		0	13	5	94	WHITE	42	1022.5	LUB	0	0	
805	MNWH	408	436	1054.0	0	0		ES	Y	11517	13	5	94	WHITE	42	1022.5	LUB	0	0	
806	LNSC	384	410	0.0	0	0		ES		0	13	5	94	WHITE	42	1022.5	LUB	0	0	
807	MNWH	239	262	0.0	0	0		ES		0	13	5	94	WHITE	42	1022.5	LUB	0	0	
808	MNWH	120	127	0.0	0	0		ES		0	13	5	94	WHITE	42	1022.5	LUB	0	0	
809	MNWH	358	382	613.0	0	0		ES	Y	11518	13	5	94	WHITE	42	1022.5	LUB	0	0	
810	WHSC	388	413	0.0	0	0		ES		0	13	5	94	WHITE	42	1022.5	LUB	0	0	
811	MNWH	94	99	0.0	0	0		ES		0	13	5	94	WHITE	42	1022.5	LUB	0	0	
812	MNWH	340	365	544.0	0	0		ES	Y	11519	13	5	94	WHITE	43	1021.5	LUB	0	0	
813	MNWH	326	352	436.0	0	0		ES	Y	11520	13	5	94	WHITE	43	1021.5	LUB	0	0	
814	MNWH	260	282	219.0	0	0		ES	Y	11521	13	5	94	WHITE	43	1021.5	LUB	0	0	
815	MNWH	199	218	0.0	0	0		ES		0	13	5	94	WHITE	43	1021.5	LUB	0	0	
816	LNSC	360	389	0.0	0	0		ES		0	13	5	94	WHITE	43	1021.5	LUB	0	0	
817	MNWH	284	312	270.0	0	0		ES	Y	11522	13	5	94	WHITE	43	1021.5	LUB	0	0	
818	MNWH	343	367	516.0	0	0		ES	Y	11523	13	5	94	WHITE	43	1021.5	LUB	0	0	
819	MNWH	252	273	199.0	0	0		ES	Y	11524	13	5	94	WHITE	43	1021.5	LUB	0	0	
820	MNWH	259	281	212.0	0	0		ES	Y	11525	13	5	94	WHITE	43	1021.5	LUB	0	0	
821	MNWH	252	268	193.0	0	0		ES	Y	11601	13	5	94	WHITE	43	1021.5	LUB	0	0	
822	MNWH	174	188	0.0	0	0		ES		0	13	5	94	WHITE	43	1021.5	LUB	0	0	
823	BURB	472	472	599.0	0	0		ES	Y	11602	13	5	94	WHITE	43	1021.5	LUB	0	0	
824	LNSC	395	422	0.0	0	0		ES		0	13	5	94	WHITE	43	1021.5	LUB	0	0	
825	MNWH	331	358	449.0	0	0		ES	Y	11603	13	5	94	WHITE	43	1021.5	LUB	0	0	
826	MNWH	323	347	414.0	0	0		ES	Y	11604	13	5	94	WHITE	43	1021.5	LUB	0	0	
827	MNWH	176	190	0.0	0	0		ES		0	13	5	94	WHITE	43	1021.5	LUB	0	0	
828	MNWH	417	447	1141.0	0	0		ES	Y	11605	13	5	94	WHITE	43	1021.5	LUB	0	0	
829	LNSC	444	475	0.0	0	0		ES		0	13	5	94	WHITE	43	1021.5	LUB	0	0	
830	MNWH	174	189	0.0	0	0		ES		0	13	5	94	WHITE	43	1021.5	LUB	0	0	
831	WHSC	376	404	0.0	9	0		ES		0	13	5	94	WHITE	43	1021.5	LUB	0	0	
832	MNWH	329	355	428.0	0	0		ES		0	13	5	94	WHITE	43	1021.5	LUB	0	0	ROLL1#4&5 OPEN SORE
833	LNSC	344	364	0.0	0	0		ES		0	13	5	94	WHITE	43	1021.5	LUB	0	0	
834	MNWH	304	330	348.0	0	0		ES	Y	11606	13	5	94	WHITE	43	1021.5	LUB	0	0	
835	LNSC	293	310	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
836	LNSC	327	352	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
837	LNSC	406	436	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	ROLL1#6&7 OPEN SORE
838	MNWH	409	438	959.0	0	0		ES	Y	11607	13	5	94	WHITE	44	1020.5	LUB	0	0	
839	MNWH	212	232	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
840	MNWH	260	281	203.0	0	0		ES	Y	11608	13	5	94	WHITE	44	1020.5	LUB	0	0	
841	MNWH	155	165	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
842	LNSC	369	393	680.0	0	0		ES	Y	10155	13	5	94	WHITE	44	1020.5	LUB	2	0	
843	MNWH	104	112	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	1	0	
844	WHSC	447	480	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
845	MNWH	300	332	0.0	1	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	1	0	ST5 5 CHIR
846	LNSC	367	392	0.0	9	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
847	MNWH	270	291	248.0	0	0		ES	Y	11609	13	5	94	WHITE	44	1020.5	LUB	0	0	
848	MNWH	287	312	308.0	0	0		ES	Y	11610	13	5	94	WHITE	44	1020.5	LUB	0	0	
849	MNWH	183	198	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
850	MNWH	125	137	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
851	LNSC	372	398	0.0	9	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
852	LNSC	210	223	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
853	MNWH	292	320	276.0	0	0		ES	Y	11611	13	5	94	WHITE	44	1020.5	LUB	0	0	
854	MNWH	128	138	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
855	LNSC	416	441	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
856	MNWH	326	357	428.0	0	0		ES	Y	11612	13	5	94	WHITE	44	1020.5	LUB	0	0	
857	MNWH	94	100	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
858	MNWH	262	284	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
859	MNWH	189	206	0.0	0	0		ES		0	13	5	94	WHITE	44	1020.5	LUB	0	0	
860	WHSC	439	477	0.0	0	0		ES		0	13	5	94	WHITE	45	1019.0	RUB	0	0	
861	MNWH	125	139	0.0	0	0		ES		0	13	5	94	WHITE	45	1019.0	RUB	0	0	
862	MNWH	130	142	0.0	0	0		ES		0	13	5	94	WHITE	45	1019.0	RUB	0	0	
863	MNWH	216	235	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
864	MNWH	373	411	685.0	0	0		ES	Y	11613	13	5	94	WHITE	46	1018.0	RUB	0	0	
865	LNSC	392	425	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
866	MNWH	354	388	548.0	0	0		ES	Y	11614	13	5	94	WHITE	46	1018.0	RUB	0	0	
867	MNWH	116	131	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
868	MNWH	129	140	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
869	LNSC	348	372	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
870	MNWH	267	295	267.0	0	0		ES	Y	11615	13	5	94	WHITE	46	1018.0	RUB	0	0	
871	MNWH	219	243	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
872	MNWH	127	143	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
873	LNSC	401	436	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
874	MNWH	313	342	342.0	0	0		ES	Y	11616	13	5	94	WHITE	46	1018.0	RUB	0	0	
875	MNWH	304	330	364.0	0	0		ES	Y	11617	13	5	94	WHITE	46	1018.0	RUB	0	0	
876	LNSC	369	395	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
877	MNWH	219	241	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	1	0	
878	MNWH	202	222	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
879	MNWH	296	324	360.0	0	0		ES	Y	11618	13	5	94	WHITE	46	1018.0	RUB	0	0	
880	LNSC	273	292	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
881	MNWH	379	412	743.0	0	0		ES	Y	11619	13	5	94	WHITE	46	1018.0	RUB	0	0	
882	MNWH	173	191	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	1	0	
883	MNWH	184	201	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
884	MNWH	333	365	567.0	0	0		ES	Y	11620	13	5	94	WHITE	46	1018.0	RUB	0	0	
885	MNWH	220	242	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
886	LKCH	105	112	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
887	LNSC	316	345	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
888	MNWH	182	200	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
889	LNSC	368	400	0.0	9	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
890	MNWH	165	181	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
891	MNWH	283	311	299.0	0	0		ES	Y	11621	13	5	94	WHITE	46	1018.0	RUB	0	0	
892	MNWH	385	425	757.0	0	0		ES	Y	11623	13	5	94	WHITE	46	1018.0	RUB	0	0	
893	MNWH	395	432	732.0	0	0		ES	Y	11622	13	5	94	WHITE	46	1018.0	RUB	0	0	
894	LNSC	180	191	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
895	MNWH	176	193	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
896	MNWH	138	150	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
897	LNSC	114	122	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
898	MNWH	176	193	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
899	LNSC	254	265	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
900	MNWH	95	104	0.0	0	0		ES		0	13	5	94	WHITE	46	1018.0	RUB	0	0	
901	MNWH	454	487	1004.0	0	0		ES	Y	11624	13	5	94	WHITE	47	1016.0	LUB	0	0	
902	MNWH	409	0	876.0	0	0		ES		0	13	5	94	WHITE	47	1016.0	LUB	0	0	ROLL1#8ABNORMALSORE
903	MNWH	475	0	1515.0	0	0		ES	Y	11625	13	5	94	WHITE	47	1016.0	LUB	0	0	ROLL1 #7 SORES
904	MNWH	370	395	667.0	0	0		ES	Y	11626	13	5	94	WHITE	47	1016.0	LUB	0	0	
905	MNWH	418	453	1033.0	0	0		ES	Y	11627	13	5	94	WHITE	47	1016.0	LUB	0	0	
906	MNWH	268	292	234.0	0	0		ES	Y	11628	13	5	94	WHITE	47	1016.0	LUB	0	0	
907	LNSC	328	348	0.0	0	0		ES		0	13	5	94	WHITE	47	1016.0	LUB	0	0	
908	MNWH	345	0	0.0	0	0		ES	Y	11461	13	5	94	WHITE	47	1016.0	LUB	2	0	RLL12/05/94
909	LNSC	409	431	0.0	0	0		ES		0	13	5	94	WHITE	47	1016.0	LUB	0	0	CAUDAL AREA SORE
910	MNWH	227	242	0.0	0	0		ES		0	13	5	94	WHITE	47	1016.0	LUB	0	0	
911	MNWH	334	357	445.0	0	0		ES	Y	11361	13	5	94	WHITE	47	1016.0	LUB	2	0	
912	MNWH	192	207	0.0	0	0		ES		0	13	5	94	WHITE	47	1016.0	LUB	1	0	
913	MNWH	341	372	594.0	0	0		ES	Y	10909	13	5	94	WHITE	47	1016.0	LUB	2	0	
914	MNWH	404	434	760.0	0	0		ES		0	13	5	94	WHITE	47	1016.0	LUB	0	0	
915	MNWH	404	431	876.0	0	0		ES	Y	11629	13	5	94	WHITE	47	1016.0	LUB	0	0	
916	MNWH	255	277	195.0	0	0		ES	Y	11630	13	5	94	WHITE	47	1016.0	LUB	0	0	
917	MNWH	383	414	841.0	0	0		ES	Y	11631	13	5	94	WHITE	47	1016.0	LUB	0	0	
918	WHSC	404	427	0.0	0	0		ES		0	13	5	94	WHITE	47	1016.0	LUB	0	0	R#1 PH#10 CAUDAL
919	MNWH	404	0	957.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	ABNORMAL SORES
920	MNWH	303	333	369.0	0	0		ES	Y	11632	13	5	94	WHITE	48	1015.0	LUB	0	0	
921	MNWH	139	147	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	
922	LNSC	416	444	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	
923	MNWH	325	351	453.0	0	0		ES	Y	11633	13	5	94	WHITE	48	1015.0	LUB	0	0	
924	MNWH	208	227	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	1	0	
925	WHSC	217	230	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	
926	WHSC	425	456	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	ABNORMAL PEDUNCLE
927	MNWH	335	360	465.0	0	0		ES	Y	11634	13	5	94	WHITE	48	1015.0	LUB	0	0	
928	MNWH	271	295	295.0	0	0		ES	Y	11635	13	5	94	WHITE	48	1015.0	LUB	0	0	
929	MNWH	146	159	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	1	0	
930	LNSC	288	303	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	
931	BURB	454	0	0.0	0	0		ES	Y	11636	13	5	94	WHITE	48	1015.0	LUB	0	0	
932	MNWH	223	241	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	
933	MNWH	218	226	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	
934	MNWH	142	150	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	
935	MNWH	204	220	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	
936	MNWH	147	161	0.0	0	0		ES		0	13	5	94	WHITE	48	1015.0	LUB	0	0	
937	NRPK	690	746	2257.0	0	0		ES	Y	10421	13	5	94	WHITE	49	1014.0	RUB	2	0	
938	MNWH	332	359	477.0	0	0		ES	Y	11637	13	5	94	WHITE	49	1014.0	RUB	0	0	
939	MNWH	225	244	0.0	0	0		ES		0	13	5	94	WHITE	49	1014.0	RUB	0	0	
940	MNWH	318	345	405.0	0	0		ES	Y	11638	13	5	94	WHITE	49	1014.0	RUB	0	0	
941	MNWH	191	209	0.0	0	0		ES		0	13	5	94	WHITE	49	1014.0	RUB	0	0	
942	MNWH	201	220	0.0	0	0		ES		0	13	5	94	WHITE	49	1014.0	RUB	0	0	
943	LNSC	372	394	0.0	0	0		ES		0	13	5	94	WHITE	49	1014.0	RUB	0	0	
944	MNWH	199	218	0.0	0	0		ES		0	13	5	94	WHITE	49	1014.0	RUB	1	0	
945	BURB	554	0	933.0	0	0		ES	Y	11639	13	5	94	WHITE	49	1014.0	RUB	0	0	R#1 PH#11&12
946	MNWH	390	422	674.0	0	0		ES	Y	11640	13	5	94	WHITE	49	1014.0	RUB	0	0	
947	MNWH	211	228	0.0	0	0		ES		0	13	5	94	WHITE	49	1014.0	RUB	0	0	
948	LNSC	342	362	0.0	0	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	0	0	
949	MNWH	223	235	0.0	0	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
950	MNWH	287	314	291.0	0	0		ES	Y	11641	13	5	94	WHITE	50	1013.0	RUB	0	0	
951	MNWH	186	207	0.0	0	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	0	0	
952	LNSC	333	358	0.0	0	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	0	0	
953	MNWH	340	366	536.0	0	0		ES	Y	11642	13	5	94	WHITE	50	1013.0	RUB	0	0	
954	MNWH	274	295	277.0	0	0		ES	Y	11643	13	5	94	WHITE	50	1013.0	RUB	0	0	
955	MNWH	137	148	0.0	0	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	0	0	
956	MNWH	260	282	192.0	0	0		ES	Y	11644	13	5	94	WHITE	50	1013.0	RUB	0	0	
957	LNSC	154	165	0.0	0	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	0	0	
958	MNWH	226	245	0.0	0	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	0	0	
959	MNWH	330	0	0.0	14	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	1	0	ST5 3CHIR2PLEC 1EGG
960	MNWH	332	356	506.0	0	0		ES	Y	11645	13	5	94	WHITE	50	1013.0	RUB	0	0	
961	MNWH	218	235	0.0	0	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	0	0	
962	MNWH	208	226	0.0	0	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	0	0	
963	MNWH	174	191	0.0	0	0		ES		0	13	5	94	WHITE	50	1013.0	RUB	0	0	
964	MNWH	282	310	303.0	0	0		ES	Y	11646	13	5	94	WHITE	50	1013.0	RUB	0	0	
965	MNWH	348	376	639.0	0	0		ES	Y	11647	13	5	94	WHITE	51	1012.0	LUB	0	0	
966	MNWH	245	269	0.0	0	0		ES		0	13	5	94	WHITE	51	1012.0	LUB	0	0	
967	MNWH	395	426	803.0	0	0		ES	Y	11648	13	5	94	WHITE	51	1012.0	LUB	0	0	RED SPOTS
968	MNWH	306	332	402.0	0	0		ES	Y	11649	13	5	94	WHITE	51	1012.0	LUB	0	0	
969	MNWH	271	295	243.0	0	0		ES	Y	11650	13	5	94	WHITE	51	1012.0	LUB	0	0	
970	MNWH	327	351	414.0	0	0		ES	Y	11651	13	5	94	WHITE	51	1012.0	LUB	0	0	
971	MNWH	314	341	418.0	0	0		ES	Y	11652	13	5	94	WHITE	51	1012.0	LUB	0	0	
972	MNWH	228	245	0.0	0	0		ES		0	13	5	94	WHITE	51	1012.0	LUB	0	0	
973	MNWH	289	309	302.0	0	0		ES	Y	11653	13	5	94	WHITE	51	1012.0	LUB	0	0	
974	MNWH	287	312	268.0	0	0		ES	Y	11654	13	5	94	WHITE	51	1012.0	LUB	0	0	
975	MNWH	142	153	0.0	0	0		ES		0	13	5	94	WHITE	51	1012.0	LUB	0	0	
976	MNWH	317	342	389.0	0	0		ES	Y	11655	13	5	94	WHITE	51	1012.0	LUB	0	0	
977	MNWH	219	238	0.0	0	0		ES		0	13	5	94	WHITE	51	1012.0	LUB	0	0	
978	MNWH	167	180	0.0	0	0		ES		0	13	5	94	WHITE	51	1012.0	LUB	0	0	
979	MNWH	318	341	405.0	0	0		ES	Y	11656	13	5	94	WHITE	51	1012.0	LUB	0	0	
980	MNWH	262	285	223.0	0	0		ES	Y	11657	13	5	94	WHITE	51	1012.0	LUB	0	0	
981	MNWH	198	215	0.0	0	0		ES		0	13	5	94	WHITE	51	1012.0	LUB	0	0	
982	MNWH	300	325	353.0	0	0		ES	Y	11658	13	5	94	WHITE	51	1012.0	LUB	0	0	
983	NRPK	872	0	4538.0	0	0		ES	Y	11659	13	5	94	WHITE	52	1011.0	LUB	0	0	R#1PH#13&14 REDSPOT
984	MNWH	452	488	1158.0	0	0		ES	Y	11660	13	5	94	WHITE	52	1011.0	LUB	0	0	
985	NRPK	377	402	378.0	0	0		ES	Y	11661	13	5	94	WHITE	52	1011.0	LUB	0	0	
986	MNWH	339	419	815.0	0	0		ES	Y	11662	13	5	94	WHITE	52	1011.0	LUB	0	0	
987	MNWH	456	487	1342.0	0	0		ES	Y	11663	13	5	94	WHITE	52	1011.0	LUB	0	0	
988	MNWH	202	219	0.0	0	0		ES		0	13	5	94	WHITE	52	1011.0	LUB	0	0	
989	MNWH	146	151	0.0	0	0		ES		0	13	5	94	WHITE	51	1012.0	LUB	1	0	
990	MNWH	247	271	0.0	0	0		ES		0	14	5	94	WHITE	53	1033.0	RUB	0	0	
991	MNWH	248	277	0.0	0	0		ES		0	14	5	94	WHITE	53	1033.0	RUB	0	0	
992	MNWH	188	206	0.0	0	0		ES		0	14	5	94	WHITE	53	1033.0	RUB	0	0	
993	MNWH	94	103	0.0	0	0		ES		0	14	5	94	WHITE	53	1033.0	RUB	0	0	
994	MNWH	225	249	0.0	0	0		ES		0	14	5	94	WHITE	54	1032.0	LUB	0	0	
995	MNWH	118	132	0.0	0	0		ES		0	14	5	94	WHITE	54	1032.0	LUB	0	0	
996	MNWH	216	237	0.0	0	0		ES		0	14	5	94	WHITE	54	1032.0	LUB	0	0	
997	MNWH	121	134	0.0	0	0		ES		0	14	5	94	WHITE	54	1032.0	LUB	0	0	
998	MNWH	226	248	0.0	0	0		ES		0	14	5	94	WHITE	54	1032.0	LUB	0	0	
999	MNWH	265	291	230.0	0	0		ES	Y	11664	14	5	94	WHITE	54	1032.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1000	MNWH	203	223	0.0	0	0		ES		0	14	5	94	WHITE	54	1032.0	LUB	0	0	
1001	MNWH	202	220	0.0	0	0		ES		0	14	5	94	WHITE	54	1032.0	LUB	1	0	
1002	MNWH	183	202	0.0	0	0		ES		0	14	5	94	WHITE	54	1032.0	LUB	0	0	
1003	MNWH	434	465	1048.0	0	0		ES	Y	11665	14	5	94	WHITE	55	1031.0	LUB	0	0	
1004	MNWH	227	245	0.0	0	0		ES		0	14	5	94	WHITE	55	1031.0	LUB	0	0	
1005	MNWH	327	352	462.0	0	0		ES	Y	11666	14	5	94	WHITE	55	1031.0	LUB	0	0	
1006	MNWH	105	115	0.0	0	0		ES		0	14	5	94	WHITE	55	1031.0	LUB	0	0	
1007	MNWH	324	348	443.0	0	0		ES	Y	11667	14	5	94	WHITE	55	1031.0	LUB	0	0	
1008	MNWH	193	207	0.0	0	0		ES		0	14	5	94	WHITE	55	1031.0	LUB	0	0	
1009	MNWH	184	204	0.0	0	0		ES		0	14	5	94	WHITE	55	1031.0	LUB	0	0	
1010	MNWH	184	203	0.0	0	0		ES		0	14	5	94	WHITE	55	1031.0	LUB	0	0	
1011	MNWH	114	124	0.0	0	0		ES		0	14	5	94	WHITE	55	1031.0	LUB	0	0	
1012	MNWH	298	327	323.0	0	0		ES	Y	11668	14	5	94	WHITE	55	1031.0	LUB	0	0	
1013	MNWH	114	124	0.0	0	0		ES		0	14	5	94	WHITE	55	1031.0	LUB	0	0	
1014	MNWH	107	117	0.0	0	0		ES		0	14	5	94	WHITE	55	1031.0	LUB	0	0	
1015	MNWH	314	337	384.0	0	0		ES	Y	11669	14	5	94	WHITE	56	1030.0	LUB	0	0	
1016	MNWH	217	239	0.0	0	0		ES		0	14	5	94	WHITE	56	1030.0	LUB	0	0	
1017	MNWH	358	388	601.0	0	0		ES	Y	11670	14	5	94	WHITE	57	1029.0	LUB	0	0	
1018	MNWH	331	355	424.0	0	0		ES	Y	11671	14	5	94	WHITE	57	1029.0	LUB	0	0	
1019	MNWH	281	304	248.0	0	0		ES	Y	11672	14	5	94	WHITE	57	1029.0	LUB	0	0	
1020	MNWH	265	290	0.0	0	0		ES		0	14	5	94	WHITE	57	1029.0	LUB	0	0	
1021	MNWH	190	205	0.0	0	0		ES		0	14	5	94	WHITE	57	1029.0	LUB	0	0	
1022	MNWH	137	150	0.0	0	0		ES		0	14	5	94	WHITE	57	1029.0	LUB	0	0	
1023	MNWH	128	140	0.0	0	0		ES		0	14	5	94	WHITE	57	1029.0	LUB	0	0	
1024	MNWH	199	220	0.0	0	0		ES		0	14	5	94	WHITE	57	1029.0	LUB	0	0	
1025	MNWH	245	268	0.0	0	0		ES		0	14	5	94	WHITE	57	1029.0	LUB	0	0	
1026	MNWH	194	211	0.0	0	0		ES		0	14	5	94	WHITE	57	1029.0	LUB	0	0	
1027	LNDC	181	189	0.0	0	0		ES		0	14	5	94	WHITE	57	1029.0	LUB	0	0	
1028	MNWH	290	315	317.0	0	0		ES	Y	11673	14	5	94	WHITE	58	1028.0	LUB	0	0	
1029	MNWH	180	197	0.0	0	0		ES		0	14	5	94	WHITE	57	1029.0	LUB	0	0	
1030	MNWH	302	332	413.0	0	0		ES	Y	11674	14	5	94	WHITE	59	1027.0	LUB	0	0	
1031	MNWH	234	257	0.0	0	0		ES		0	14	5	94	WHITE	59	1027.0	LUB	0	0	
1032	MNWH	194	214	0.0	0	0		ES		0	14	5	94	WHITE	59	1027.0	LUB	0	0	
1033	MNWH	212	234	0.0	0	0		ES		0	14	5	94	WHITE	59	1027.0	LUB	0	0	
1034	MNWH	249	273	0.0	0	0		ES		0	14	5	94	WHITE	59	1027.0	LUB	0	0	
1035	MNWH	239	264	0.0	0	0		ES		0	14	5	94	WHITE	59	1027.0	LUB	0	0	
1036	MNWH	210	231	0.0	0	0		ES		0	14	5	94	WHITE	59	1027.0	LUB	0	0	
1037	WALL	425	452	805.0	0	0		ES	Y	11675	14	5	94	WHITE	60	1026.0	LUB	0	0	
1038	MNWH	247	270	0.0	0	0		ES		0	14	5	94	WHITE	60	1026.0	LUB	0	0	
1039	LNSC	374	397	0.0	0	0		ES		0	14	5	94	WHITE	60	1026.0	LUB	0	0	
1040	LNSC	364	391	0.0	0	0		ES		0	14	5	94	WHITE	60	1026.0	LUB	0	0	
1041	MNWH	212	234	0.0	0	0		ES		0	14	5	94	WHITE	60	1026.0	LUB	0	0	
1042	MNWH	218	240	0.0	0	0		ES		0	14	5	94	WHITE	60	1026.0	LUB	0	0	
1043	LNSC	350	379	0.0	0	0		ES		0	14	5	94	WHITE	60	1026.0	LUB	0	0	
1044	LNSC	377	412	0.0	0	0		ES		0	14	5	94	WHITE	60	1026.0	LUB	0	0	
1045	LNSC	386	421	0.0	0	0		ES		0	14	5	94	WHITE	60	1026.0	LUB	0	0	
1046	LNSC	364	395	0.0	0	0		ES		0	14	5	94	WHITE	60	1026.0	LUB	0	0	
1047	LNSC	437	470	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	ABRAS.BELLY&PENDUNC
1048	LNSC	395	421	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	ABRASIONS PEDUNCLE
1049	MNWH	342	367	605.0	0	0		ES	Y	11676	14	5	94	MCLEO	61	.5	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1050	MNWH	205	222	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1051	LNSC	178	192	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1052	MNWH	343	370	614.0	0	0		ES	Y	11677	14	5	94	MCLEO	61	.5	LUB	0	0	OPENSOREBELOWPECFIN
1053	MNWH	294	318	309.0	0	0		ES	Y	11678	14	5	94	MCLEO	61	.5	LUB	0	0	
1054	MNWH	184	200	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1055	WALL	250	265	155.0	0	0		ES	Y	11679	14	5	94	MCLEO	61	.5	LUB	0	0	
1056	MNWH	248	269	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1057	MNWH	115	127	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1058	LNSC	381	408	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1059	MNWH	356	378	0.0	0	0		ES	Y	11530	14	5	94	MCLEO	61	.5	LUB	2	0	
1060	LNSC	373	398	0.0	9	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1061	LNSC	357	382	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1062	MNWH	365	395	591.0	0	0		ES	Y	11680	14	5	94	MCLEO	61	.5	LUB	0	0	
1063	WALL	255	272	156.0	0	0		ES	Y	11681	14	5	94	MCLEO	61	.5	LUB	0	0	
1064	WALL	232	246	127.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1065	MNWH	177	192	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1066	MNWH	187	202	0.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1067	LNSC	384	407	0.0	9	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1068	WALL	223	237	105.0	0	0		ES		0	14	5	94	MCLEO	61	.5	LUB	0	0	
1069	MNWH	409	442	865.0	0	0		ES	Y	11682	14	5	94	MCLEO	62	.5	RUB	0	0	
1070	WALL	253	270	175.0	0	0		ES	Y	11683	14	5	94	MCLEO	62	.5	RUB	0	0	
1071	LNSC	200	215	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1072	WHSC	173	184	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1073	LNSC	145	156	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1074	MNWH	192	206	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1075	MNWH	122	133	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1076	MNWH	115	125	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1077	MNWH	117	128	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1078	MNWH	97	106	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1079	WALL	250	266	150.0	0	0		ES	Y	11684	14	5	94	MCLEO	62	.5	RUB	0	0	
1080	NRPK	304	322	230.0	0	0		ES	Y	11685	14	5	94	MCLEO	62	.5	RUB	0	0	
1081	MNWH	245	267	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1082	MNWH	187	203	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1083	MNWH	223	243	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1084	MNWH	166	181	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1085	MNWH	104	217	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1086	MNWH	114	125	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1087	MNWH	172	187	0.0	0	0		ES		0	14	5	94	MCLEO	62	.5	RUB	0	0	
1088	WALL	257	275	183.0	0	0		ES	Y	11686	14	5	94	MCLEO	62	.5	RUB	0	0	
1089	MNWH	354	378	567.0	0	0		ES	Y	11687	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1090	MNWH	152	170	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1091	MNWH	307	331	422.0	0	0		ES	Y	11688	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1092	MNWH	204	223	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1093	MNWH	155	167	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1094	MNWH	110	120	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1095	MNWH	192	207	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1096	MNWH	151	163	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1097	ARGR	199	218	105.0	0	0	SC	ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1098	MNWH	138	147	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1099	ARGR	111	122	13.0	0	0	SC	ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1100	MNWH	246	266	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1101	MNWH	158	177	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1102	MNWH	325	351	439.0	0	0		ES	Y	11689	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1103	MNWH	160	176	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1104	MNWH	105	114	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1105	LNSC	378	402	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1106	MNWH	170	186	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1107	MNWH	172	188	0.0	0	0		ES		0	14	5	94	KNIGH	2	1106.0	RUB	0	0	
1108	MNWH	240	265	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1109	MNWH	167	185	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1110	MNWH	190	210	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1111	MNWH	304	328	324.0	0	0		ES	Y	11691	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1112	MNWH	290	314	276.0	0	0		ES	Y	11692	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1113	MNWH	328	355	418.0	0	0		ES	Y	11693	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1114	MNWH	225	249	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1115	MNWH	177	195	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1116	MNWH	241	263	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1117	MNWH	226	247	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1118	MNWH	225	249	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1119	MNWH	187	209	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1120	MNWH	110	123	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1121	ARGR	224	246	131.0	0	0	SC	ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1122	MNWH	224	248	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1123	MNWH	228	250	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1124	MNWH	229	250	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1125	MNWH	356	390	571.0	0	0		ES	Y	11694	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1126	MNWH	186	204	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1127	MNWH	105	115	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1128	MNWH	295	320	320.0	0	0		ES	Y	11695	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1129	MNWH	300	326	364.0	0	0		ES	Y	11696	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1130	ARGR	182	200	81.0	0	0	SC	ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1131	ARGR	224	243	151.0	0	0	SC	ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1132	MNWH	94	103	0.0	0	0		ES		0	14	5	94	KNIGH	3	1105.0	LUB	0	0	
1133	MNWH	231	255	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1134	MNWH	230	250	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1135	MNWH	110	121	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1136	ARGR	210	232	129.0	0	0	SC	ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1137	MNWH	116	124	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1138	MNWH	163	177	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1139	ARGR	210	228	105.0	0	0	SC	ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1140	MNWH	130	144	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1141	MNWH	108	116	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1142	MNWH	304	329	375.0	0	0		ES	Y	11697	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1143	MNWH	323	347	435.0	0	0		ES	Y	11698	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1144	MNWH	190	205	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1145	MNWH	109	115	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1146	MNWH	110	123	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1147	MNWH	164	180	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1148	MNWH	172	189	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1149	MNWH	102	110	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1150	MNWH	95	103	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1151	MNWH	92	99	0.0	0	0		ES		0	14	5	94	KNIGH	4	1104.0	LUB	0	0	
1152	ARGR	226	246	140.0	0	0	SC	ES		0	14	5	94	KNIGH	5	1103.0	RUB	0	0	
1153	MNWH	157	170	0.0	0	0		ES		0	14	5	94	KNIGH	5	1103.0	RUB	0	0	
1154	MNWH	194	210	0.0	0	0		ES		0	14	5	94	KNIGH	5	1103.0	RUB	0	0	
1155	LNSC	410	430	0.0	0	0		ES		0	14	5	94	KNIGH	5	1103.0	RUB	0	0	
1156	MNWH	221	238	0.0	0	0		ES		0	14	5	94	KNIGH	5	1103.0	RUB	0	0	
1157	MNWH	104	114	0.0	0	0		ES		0	14	5	94	KNIGH	5	1103.0	RUB	0	0	
1158	MNWH	243	265	0.0	0	0		ES		0	14	5	94	KNIGH	5	1103.0	RUB	0	0	
1159	MNWH	114	123	0.0	0	0		ES		0	14	5	94	KNIGH	5	1103.0	RUB	1	0	
1160	MNWH	110	123	0.0	0	0		ES		0	14	5	94	KNIGH	5	1103.0	RUB	1	0	
1161	ARGR	262	285	235.0	0	0	SC	ES	Y	11699	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1162	ARGR	264	290	234.0	0	0	SC	ES	Y	11700	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1163	MNWH	220	239	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1164	MNWH	224	241	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1165	MNWH	214	230	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1166	ARGR	216	234	123.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1167	WHSC	380	405	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1168	WHSC	454	481	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1169	BURB	393	0	402.0	0	0		ES	Y	11690	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1170	ARGR	260	281	214.0	0	0	SC	ES	Y	11701	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1171	MNWH	322	349	442.0	0	0		ES	Y	11702	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1172	MNWH	332	356	450.0	0	0		ES	Y	11703	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1173	MNWH	175	192	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1174	MNWH	210	229	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1175	MNWH	181	200	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1176	MNWH	109	119	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1177	MNWH	176	192	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1178	LNSC	120	130	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1179	MNWH	104	112	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1180	MNWH	209	224	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1181	ARGR	115	125	0.0	0	0	SC	ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1182	MNWH	99	106	0.0	0	0		ES		0	14	5	94	KNIGH	6	1102.0	RUB	0	0	
1183	MNWH	378	404	713.0	0	0		ES	Y	11704	14	5	94	KNIGH	7	1112.0	LUB	0	0	
1184	ARGR	343	374	475.0	0	0	SC	ES	Y	11705	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1185	MNWH	174	190	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1186	MNWH	181	196	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1187	MNWH	243	264	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1188	MNWH	233	254	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1189	MNWH	130	140	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1190	ARGR	222	239	144.0	0	0	SC	ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1191	RNTR	320	340	418.0	0	0	SC	ES	Y	11706	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1192	MNWH	204	224	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1193	ARGR	274	301	259.0	0	0	SC	ES	Y	11708	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1194	ARGR	199	215	104.0	0	0	SC	ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1195	MNWH	246	268	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1196	MNWH	179	193	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1197	MNWH	239	258	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1198	MNWH	234	254	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1199	MNWH	236	256	0.0	0	0		ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	

FISH DATA ATHABASCA R. SPRING 1994
September 2, 1994 at 10:31 a.m.

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1200	ARGR	232	252	157.0	0	0	SC	ES		0	14	5	94	KNIGH	8	1111.0	LUB	0	0	
1201	MNWH	174	192	0.0	0	0		ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1202	MNWH	105	115	0.0	0	0		ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1203	MNWH	105	115	0.0	0	0		ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1204	LNSC	401	437	0.0	0	0		ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1205	MNWH	482	520	1493.0	0	0		ES	Y	11710	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1206	MNWH	125	133	0.0	0	0		ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1207	MNWH	181	200	0.0	0	0		ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1208	MNWH	218	237	0.0	0	0		ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1209	ARGR	215	234	0.0	0	0	SC	ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1210	MNWH	294	315	289.0	0	0		ES	Y	11711	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1211	ARGR	230	252	152.0	0	0	SC	ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1212	MNWH	99	110	0.0	0	0		ES	Y	11712	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1213	MNWH	312	339	438.0	0	0		ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1214	LNSC	244	263	0.0	0	0		ES		0	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1215	ARGR	274	295	276.0	0	0	SC	ES	Y	11713	15	5	94	KNIGH	9	1110.0	RUB	0	0	
1216	MNWH	302	328	320.0	0	0		ES	Y	11714	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1217	MNWH	202	219	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1218	MNWH	235	262	0.0	0	0		ES	Y	11715	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1219	MNWH	282	308	287.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1220	MNWH	115	129	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1221	MNWH	117	130	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1222	MNWH	99	106	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1223	MNWH	101	109	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1224	ARGR	234	252	148.0	0	0	SC	ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1225	MNWH	277	301	256.0	0	0		ES	Y	11716	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1226	MNWH	311	335	442.0	0	0		ES	Y	11717	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1227	MNWH	183	201	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1228	MNWH	170	187	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1229	MNWH	272	296	206.0	0	0		ES	Y	11718	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1230	MNWH	264	284	235.0	0	0		ES	Y	11719	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1231	MNWH	249	271	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1232	MNWH	93	101	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1233	MNWH	109	119	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1234	ARGR	270	294	215.0	0	0	SC	ES	Y	11720	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1235	MNWH	216	235	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1236	MNWH	325	346	431.0	0	0		ES	Y	11721	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1237	MNWH	165	180	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1238	MNWH	118	130	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1239	ARGR	324	351	384.0	0	0	SC	ES	Y	11722	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1240	MNWH	176	184	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1241	MNWH	221	243	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1242	ARGR	217	236	104.0	0	0	SC	ES	Y	11723	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1243	MNWH	328	355	450.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1244	MNWH	212	234	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1245	MNWH	162	176	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1246	MNWH	180	196	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1247	MNWH	202	223	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1248	MNWH	168	182	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1249	MNWH	109	120	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1250	LNSC	105	112	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1251	MNWH	175	192	0.0	0	0		ES		0	15	5	94	KNIGH	10	1109.0	RUB	0	0	
1252	MNWH	215	235	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1253	MNWH	240	260	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1254	MNWH	105	115	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1255	ARGR	296	325	298.0	0	0	SC	ES	Y	11724	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1256	MNWH	175	193	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1257	MNWH	185	200	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1258	MNWH	181	196	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1259	ARGR	215	233	121.0	0	0	SC	ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1260	WHSC	209	223	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1261	MNWH	186	205	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1262	MNWH	183	200	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1263	ARGR	324	357	426.0	0	0	SC	ES	Y	11725	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1264	MNWH	182	198	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1265	MNWH	153	165	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1266	MNWH	95	104	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1267	MNWH	105	115	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1268	MNWH	90	103	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1269	MNWH	105	115	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1270	MNWH	100	109	0.0	0	0		ES		0	15	5	94	KNIGH	11	1103.0	LUB	0	0	
1271	MNWH	240	257	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1272	MNWH	280	300	255.0	0	0		ES	Y	11726	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1273	ARGR	251	275	218.0	0	0	SC	ES	Y	11727	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1274	ARGR	206	220	107.0	0	0	SC	ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1275	LNSC	370	399	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1276	MNWH	254	274	198.0	0	0		ES	Y	11728	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1277	ARGR	270	290	202.0	0	0	SC	ES	Y	11729	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1278	MNWH	223	240	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1279	MNWH	110	120	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1280	MNWH	95	103	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1281	MNWH	96	105	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1282	ARGR	363	388	543.0	0	0	SC	ES	Y	11730	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1283	MNWH	203	221	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1284	ARGR	265	285	237.0	0	0	SC	ES	Y	11731	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1285	MNWH	183	196	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1286	MNWH	174	186	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1287	MNWH	85	95	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1288	ARGR	226	242	130.0	0	0	SC	ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1289	MNWH	246	263	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1290	MNWH	252	270	187.0	0	0		ES	Y	11732	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1291	MNWH	185	200	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1292	MNWH	107	118	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1293	ARGR	212	230	114.0	0	0	SC	ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1294	ARGR	269	290	244.0	0	0	SC	ES	Y	11733	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1295	MNWH	175	190	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1296	MNWH	285	306	271.0	0	0		ES	Y	11734	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1297	MNWH	263	295	228.0	0	0		ES	Y	11735	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1298	MNWH	228	248	0.0	0	0		ES		0	15	5	94	KNIGH	12	1102.0	LUB	0	0	
1299	MNWH	190	206	0.0	0	0		ES		0	15	5	94	KNIGH	13	1101.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1300	MNWH	438	469	994.0	0	0		ES	Y	11736	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1301	MNWH	273	296	232.0	0	0		ES		0	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1302	MNWH	198	215	0.0	0	0		ES		0	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1303	ARGR	285	306	303.0	0	0	SC	ES	Y	11737	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1304	ARGR	214	237	139.0	0	0	SC	ES		0	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1305	MNWH	204	222	0.0	0	0		ES		0	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1306	LNSC	284	304	0.0	0	0		ES		0	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1307	ARGR	313	340	348.0	0	0	SC	ES	Y	11738	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1308	ARGR	325	357	376.0	0	0	SC	ES	Y	11739	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1309	ARGR	208	227	112.0	0	0	SC	ES		0	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1310	MNWH	107	118	0.0	0	0		ES		0	15	5	94	KNIGH	13	1101.0	RUB	0	0	
1311	WHSC	436	468	0.0	0	0		ES		0	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1312	ARGR	256	284	213.0	0	0	SC	ES		0	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1313	ARGR	104	221	0.0	0	0	SC	ES		0	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1314	MNWH	380	409	882.0	0	0		ES	Y	11740	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1315	MNWH	226	244	0.0	0	0		ES		0	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1316	LNSC	423	450	0.0	9	0		ES		0	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1317	ARGR	285	310	277.0	0	0	SC	ES	Y	11741	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1318	ARGR	246	270	177.0	0	0	SC	ES		0	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1319	ARGR	207	224	111.0	0	0	SC	ES		0	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1320	WHSC	370	423	0.0	0	0		ES		0	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1321	MNWH	248	270	0.0	0	0		ES		0	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1322	ARGR	204	226	111.0	0	0	SC	ES		0	15	5	94	KNIGH	14	1100.0	RUB	0	0	
1323	MNWH	292	320	308.0	0	0		ES	Y	11742	15	5	94	KNIGH	15	1099.0	LUB	0	0	
1324	ARGR	267	292	234.0	0	0	SC	ES	Y	11743	15	5	94	KNIGH	15	1099.0	LUB	0	0	
1325	ARGR	275	298	264.0	0	0	SC	ES	Y	11744	15	5	94	KNIGH	15	1099.0	LUB	0	0	
1326	ARGR	316	343	375.0	0	0	SC	ES	Y	11745	15	5	94	KNIGH	15	1099.0	LUB	0	0	
1327	ARGR	247	270	166.0	0	0	SC	ES		0	15	5	94	KNIGH	15	1099.0	LUB	0	0	
1328	MNWH	235	257	0.0	0	0		ES		0	15	5	94	KNIGH	15	1099.0	LUB	0	0	
1329	MNWH	199	215	0.0	0	0		ES		0	15	5	94	KNIGH	15	1099.0	LUB	0	0	
1330	ARGR	312	340	367.0	0	0	SC	ES	Y	11746	15	5	94	KNIGH	15	1099.0	LUB	0	0	
1331	MNWH	246	267	0.0	0	0		ES		0	15	5	94	KNIGH	15	1099.0	LUB	0	0	
1332	MNWH	122	135	0.0	0	0		ES		0	15	5	94	KNIGH	15	1099.0	LUB	0	0	
1333	ARGR	279	299	200.0	0	0	SC	ES	Y	11747	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1334	MNWH	345	374	431.0	0	0		ES	Y	11748	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1335	LNSC	390	408	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1336	MNWH	359	390	591.0	0	0		ES	Y	11749	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1337	LNSC	397	421	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1338	MNWH	364	391	589.0	0	0		ES	Y	11750	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1339	ARGR	245	265	186.0	0	0	SC	ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1340	ARGR	278	301	248.0	0	0	SC	ES	Y	11707	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1341	MNWH	180	197	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1342	MNWH	114	122	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1343	ARGR	205	217	112.0	0	0	SC	ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1344	MNWH	180	200	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1345	MNWH	209	228	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1346	ARGR	212	231	116.0	0	0	SC	ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1347	ARGR	313	348	347.0	0	0	SC	ES	Y	11709	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1348	ARGR	280	307	252.0	0	0	SC	ES	Y	11751	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1349	ARGR	262	283	239.0	0	0	SC	ES	Y	11752	15	5	94	KNIGH	16	1098.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1350	ARGR	212	230	125.0	0	0	SC	ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1351	MNWH	96	108	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	1	0	
1352	ARGR	280	308	262.0	0	0	SC	ES	Y	11753	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1353	ARGR	328	352	412.0	0	0	SC	ES	Y	11754	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1354	ARGR	212	229	111.0	0	0	SC	ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1355	ARGR	206	222	0.0	0	0	SC	ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1356	ARGR	270	298	228.0	0	0	SC	ES	Y	11755	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1357	MNWH	106	117	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1358	MNWH	97	106	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1359	MNWH	159	175	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1360	MNWH	101	110	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1361	MNWH	120	134	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1362	MNWH	116	127	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1363	MNWH	106	118	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1364	MNWH	115	126	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1365	ARGR	203	223	105.0	0	0	SC	ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1366	ARGR	210	227	118.0	0	0	SC	ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1367	ARGR	167	185	58.0	0	0	SC	ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1368	MNWH	90	99	0.0	0	0		ES		0	15	5	94	KNIGH	16	1098.0	LUB	0	0	
1369	MNWH	142	155	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1370	MNWH	184	202	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1371	MNWH	197	215	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1372	MNWH	191	209	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1373	LNSC	272	289	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1374	ARGR	205	220	110.0	0	0	SC	ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1375	MNWH	111	120	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	1	0	
1376	MNWH	186	201	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1377	ARGR	170	185	0.0	0	0	SC	ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1378	WHSC	454	485	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1379	MNWH	187	206	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1380	MNWH	215	232	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1381	MNWH	182	197	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1382	MNWH	142	157	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1383	MNWH	156	170	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1384	MNWH	111	120	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1385	MNWH	115	125	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1386	MNWH	93	100	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1387	MNWH	110	120	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1388	MNWH	105	115	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1389	MNWH	205	224	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1390	MNWH	99	108	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1391	MNWH	119	129	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1392	MNWH	118	128	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1393	MNWH	114	125	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1394	ARGR	174	188	57.0	0	0	SC	ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1395	ARGR	273	295	210.0	0	0	SC	ES	Y	11756	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1396	MNWH	115	130	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1397	MNWH	95	105	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1398	MNWH	114	122	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1399	MNWH	113	122	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1400	ARGR	218	235	128.0	0	0	SC	ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1401	MNWH	103	111	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1402	MNWH	92	100	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1403	MNWH	103	111	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1404	MNWH	96	106	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1405	MNWH	95	104	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1406	MNWH	90	100	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1407	MNWH	85	94	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1408	MNWH	104	114	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1409	MNWH	97	108	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1410	MNWH	84	93	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1411	MNWH	107	116	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1412	MNWH	117	127	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1413	MNWH	90	98	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1414	MNWH	106	115	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1415	MNWH	89	96	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1416	MNWH	93	100	0.0	0	0		ES		0	15	5	94	KNIGH	17	1097.0	RUB	0	0	
1417	MNWH	352	382	536.0	0	0		ES	Y	11757	15	5	94	KNIGH	18	1096.0	RUB	0	0	
1418	MNWH	167	180	0.0	0	0		ES		0	15	5	94	KNIGH	18	1096.0	RUB	0	0	
1419	LNSC	357	375	0.0	0	0		ES		0	15	5	94	KNIGH	18	1096.0	RUB	0	0	
1420	MNWH	94	105	0.0	0	0		ES		0	15	5	94	KNIGH	18	1096.0	RUB	0	0	
1421	WHSC	152	161	0.0	0	0		ES		0	15	5	94	KNIGH	19	1095.0	LUB	0	0	
1422	MNWH	162	178	0.0	0	0		ES		0	15	5	94	KNIGH	19	1095.0	LUB	0	0	
1423	MNWH	124	136	0.0	0	0		ES		0	15	5	94	KNIGH	19	1095.0	LUB	0	0	
1424	ARGR	297	327	340.0	0	0	SC	ES	Y	11758	15	5	94	KNIGH	19	1095.0	LUB	0	0	
1425	MNWH	177	194	0.0	0	0		ES		0	15	5	94	KNIGH	19	1095.0	LUB	0	0	
1426	ARGR	345	373	445.0	0	0	SC	ES	Y	11759	15	5	94	KNIGH	20	1094.0	LUB	0	0	
1427	ARGR	216	239	145.0	0	0	SC	ES		0	15	5	94	KNIGH	20	1094.0	LUB	0	0	
1428	ARGR	261	285	230.0	0	0	SC	ES	Y	11760	15	5	94	KNIGH	20	1094.0	LUB	0	0	
1429	MNWH	239	259	0.0	0	0		ES		0	15	5	94	KNIGH	20	1094.0	LUB	0	0	
1430	LNSC	375	399	0.0	0	0		ES		0	15	5	94	KNIGH	20	1094.0	LUB	0	0	
1431	ARGR	275	298	273.0	0	0	SC	ES	Y	11761	15	5	94	KNIGH	20	1094.0	LUB	0	0	
1432	ARGR	330	355	439.0	0	0	SC	ES	Y	11762	15	5	94	KNIGH	20	1094.0	LUB	0	0	
1433	MNWH	217	238	0.0	0	0		ES		0	15	5	94	KNIGH	20	1094.0	LUB	0	0	
1434	MNWH	202	220	0.0	0	0		ES		0	15	5	94	KNIGH	20	1094.0	LUB	0	0	
1435	MNWH	133	146	0.0	0	0		ES		0	15	5	94	KNIGH	20	1094.0	LUB	1	0	
1436	LNDC	75	80	0.0	0	0		ES		0	15	5	94	KNIGH	20	1094.0	LUB	0	0	
1437	MNWH	118	131	22.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1438	MNWH	134	148	35.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1439	MNWH	125	139	18.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1440	MNWH	134	146	23.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1441	MNWH	97	106	7.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1442	MNWH	116	126	14.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1443	MNWH	222	244	134.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1444	MNWH	180	197	76.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1445	MNWH	78	84	6.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1446	MNWH	162	176	46.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1447	MNWH	162	183	59.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1448	MNWH	82	87	7.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1449	MNWH	104	110	14.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1450	MNWH	83	88	6.0	0	0		ES		0	16	5	94	HINTO	1	1237.0	RUB	0	0	
1451	LNSC	395	417	0.0	0	0		ES		0	16	5	94	HINTO	2	1236.0	RUB	0	0	
1452	MNWH	256	281	0.0	0	0		ES		0	16	5	94	HINTO	2	1236.0	RUB	0	0	WIMPY
1453	RNTR	262	277	218.0	0	0	SC	ES	Y	11763	16	5	94	HINTO	3	1235.0	LUB	0	0	
1454	MNWH	247	267	206.0	0	0		ES		0	16	5	94	HINTO	3	1235.0	LUB	0	0	
1455	MNWH	142	155	28.0	0	0		ES		0	16	5	94	HINTO	3	1235.0	LUB	0	0	
1456	MNWH	72	80	1.0	0	0		ES		0	16	5	94	HINTO	3	1235.0	LUB	0	0	
1457	MNWH	89	96	2.0	0	0		ES		0	16	5	94	HINTO	3	1235.0	LUB	0	0	
1458	MNWH	79	87	2.0	0	0		ES		0	16	5	94	HINTO	3	1235.0	LUB	1	0	
1459	MNWH	96	106	8.0	0	0		ES		0	16	5	94	HINTO	3	1235.0	LUB	0	0	
1460	MNWH	89	95	3.0	0	0		ES		0	16	5	94	HINTO	3	1235.0	LUB	0	0	
1461	LNSC	362	388	0.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1462	MNWH	188	202	82.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1463	LNSC	402	435	0.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1464	MNWH	156	172	44.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1465	MNWH	134	141	22.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1466	LNSC	399	422	0.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1467	MNWH	207	227	112.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1468	MNWH	121	133	16.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1469	MNWH	131	144	23.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1470	MNWH	136	150	25.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1471	MNWH	92	96	2.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1472	LNSC	422	447	0.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1473	LNSC	371	396	0.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1474	MNWH	186	204	64.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1475	MNWH	128	139	20.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1476	MNWH	90	98	5.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1477	MNWH	139	145	23.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1478	MNWH	144	156	33.0	0	0		ES		0	16	5	94	HINTO	4	1234.0	LUB	0	0	
1479	MNWH	74	80	2.0	0	0		ES	Y	11764	16	5	94	HINTO	4	1234.0	LUB	0	0	
1480	RNTR	374	395	520.0	0	0	SC	ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1481	MNWH	237	260	150.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1482	MNWH	162	176	51.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1483	MNWH	175	195	0.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1484	MNWH	162	176	40.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1485	MNWH	146	162	33.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1486	MNWH	137	150	27.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1487	MNWH	228	250	149.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1488	MNWH	188	205	72.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1489	MNWH	187	202	73.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1490	MNWH	164	176	35.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1491	MNWH	133	145	18.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1492	MNWH	192	210	89.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1493	MNWH	110	132	14.0	0	0		ES		0	16	5	94	HINTO	5	1233.0	RUB	0	0	
1494	BLTR	390	414	587.0	0	0	SC	ES	Y	11765	16	5	94	HINTO	6	1232.0	RUB	0	0	
1495	MNWH	454	487	1091.0	0	0		ES	Y	11766	16	5	94	HINTO	6	1232.0	RUB	0	0	
1496	MNWH	152	162	42.0	0	0		ES		0	16	5	94	HINTO	6	1232.0	RUB	0	0	
1497	MNWH	130	140	25.0	0	0		ES		0	16	5	94	HINTO	6	1232.0	RUB	0	0	
1498	MNWH	256	275	196.0	0	0		ES	Y	11767	16	5	94	HINTO	6	1232.0	RUB	0	0	
1499	MNWH	127	141	19.0	0	0		ES		0	16	5	94	HINTO	6	1232.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1500	MNWH	242	262	173.0	0	0		ES		0	16	5	94	HINTO	6	1232.0	RUB	0	0	
1501	MNWH	218	237	138.0	0	0		ES		0	16	5	94	HINTO	6	1232.0	RUB	0	0	
1502	MNWH	178	193	69.0	0	0		ES		0	16	5	94	HINTO	6	1232.0	RUB	0	0	
1503	MNWH	166	180	58.0	0	0		ES		0	16	5	94	HINTO	6	1232.0	RUB	0	0	
1504	MNWH	126	139	22.0	0	0		ES		0	16	5	94	HINTO	6	1232.0	RUB	0	0	
1505	MNWH	80	87	4.0	0	0		ES		0	16	5	94	HINTO	6	1232.0	RUB	0	0	
1506	MNWH	93	101	9.0	0	0		ES		0	16	5	94	HINTO	6	1232.0	RUB	0	0	
1507	BLTR	652	662	2801.0	0	0	SC	ES	Y	11768	16	5	94	HINTO	7	1231.0	LUB	0	0	
1508	MNWH	238	264	158.0	0	0		ES		0	16	5	94	HINTO	7	1231.0	LUB	0	0	
1509	MNWH	74	80	3.0	0	0		ES		0	16	5	94	HINTO	7	1231.0	LUB	0	0	
1510	LNSC	365	379	0.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1511	MNWH	164	181	0.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1512	LNSC	346	369	0.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1513	MNWH	177	194	64.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1514	MNWH	164	179	50.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1515	MNWH	132	148	23.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1516	LNSC	417	444	0.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1517	LNSC	375	395	0.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1518	MNWH	195	215	86.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1519	MNWH	73	80	5.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1520	MNWH	118	132	18.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1521	MNWH	132	142	24.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1522	MNWH	174	186	53.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1523	MNWH	131	144	23.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1524	MNWH	105	115	9.0	0	0		ES		0	16	5	94	HINTO	8	1230.0	LUB	0	0	
1525	MNWH	160	171	39.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1526	BURB	800	0	3430.0	0	0		ES	Y	11769	16	5	94	HINTO	9	1229.0	RUB	0	0	
1527	BURB	620	0	1416.0	0	0		ES	Y	11770	16	5	94	HINTO	9	1229.0	RUB	0	0	
1528	MNWH	122	131	18.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1529	MNWH	292	318	304.0	0	0		ES	Y	11771	16	5	94	HINTO	9	1229.0	RUB	0	0	
1530	MNWH	160	174	45.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1531	MNWH	150	165	36.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1532	MNWH	127	138	29.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1533	MNWH	127	137	23.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1534	MNWH	110	123	13.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1535	MNWH	138	152	32.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1536	MNWH	115	123	12.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1537	MNWH	131	142	25.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1538	MNWH	139	151	23.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1539	MNWH	145	158	28.0	0	0		ES		0	16	5	94	HINTO	9	1229.0	RUB	0	0	
1540	LNSC	359	382	0.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1541	LNSC	401	425	0.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1542	LNSC	320	340	0.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1543	MNWH	291	311	335.0	0	0		ES	Y	11772	16	5	94	HINTO	10	1228.0	RUB	0	0	
1544	MNWH	224	239	151.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1545	LNSC	338	367	0.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1546	LNSC	385	408	0.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1547	LNSC	393	419	0.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1548	MNWH	181	195	83.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1549	MNWH	225	247	131.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1550	MNWH	265	288	249.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	WIMPY
1551	MNWH	175	180	66.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1552	MNWH	122	136	15.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1553	MNWH	88	95	8.0	0	0		ES		0	16	5	94	HINTO	10	1228.0	RUB	0	0	
1554	LNSC	374	405	0.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1555	LNSC	361	378	0.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1556	LNSC	342	362	0.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1557	MNWH	167	181	54.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1558	MNWH	137	148	28.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1559	MNWH	271	293	237.0	0	0		ES	Y	11773	16	5	94	HINTO	11	1226.0	LUB	0	0	
1560	MNWH	177	194	56.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1561	LNSC	331	354	0.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1562	LNSC	388	415	0.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1563	MNWH	143	156	32.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1564	MNWH	189	206	75.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1565	MNWH	173	190	68.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1566	MNWH	206	222	100.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1567	MNWH	184	200	82.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1568	MNWH	150	165	40.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1569	MNWH	152	167	31.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1570	RNTR	283	302	260.0	0	0	SC	ES	Y	11774	16	5	94	HINTO	11	1226.0	LUB	0	0	
1571	MNWH	214	235	135.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1572	MNWH	306	331	473.0	0	0		ES	Y	11775	16	5	94	HINTO	11	1226.0	LUB	0	0	
1573	MNWH	204	220	96.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1574	MNWH	153	166	37.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1575	MNWH	130	142	29.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1576	MNWH	165	175	52.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1577	MNWH	144	157	33.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1578	MNWH	80	85	4.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1579	MNWH	150	165	38.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1580	MNWH	144	156	33.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1581	MNWH	124	134	17.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1582	MNWH	151	164	35.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1583	MNWH	129	138	21.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1584	MNWH	131	143	26.0	0	0		ES		0	16	5	94	HINTO	11	1226.0	LUB	0	0	
1585	LNSC	414	440	0.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1586	LNSC	388	415	0.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1587	LNSC	359	383	0.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1588	LNSC	269	287	0.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1589	LNSC	357	381	0.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1590	LNSC	360	383	0.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1591	MNWH	206	225	123.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1592	MNWH	155	169	43.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1593	MNWH	174	190	63.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1594	MNWH	146	159	27.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1595	MNWH	130	141	22.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1596	MNWH	80	89	3.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1597	MNWH	78	83	3.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1598	MNWH	155	165	37.0	0	0		ES		0	16	5	94	HINTO	12	1225.0	LUB	0	0	
1599	MNWH	373	401	741.0	0	0		ES	Y	11776	16	5	94	HINTO	13	1224.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1600	MNWH	214	232	133.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1601	MNWH	185	202	77.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1602	MNWH	161	174	44.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1603	MNWH	218	233	120.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1604	MNWH	154	170	46.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1605	MNWH	149	161	40.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1606	MNWH	161	177	48.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1607	MNWH	164	182	42.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1608	MNWH	143	154	33.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1609	MNWH	143	156	33.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1610	MNWH	124	134	16.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1611	MNWH	310	344	432.0	0	0		ES	Y	11777	16	5	94	HINTO	13	1224.0	RUB	0	0	
1612	MNWH	165	181	60.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1613	MNWH	165	178	51.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1614	MNWH	201	222	115.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1615	LNSC	359	380	0.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1616	MNWH	146	162	42.0	0	0		ES		0	16	5	94	HINTO	13	1224.0	RUB	0	0	
1617	LNSC	344	366	0.0	0	0		ES		0	16	5	94	HINTO	14	1223.0	RUB	0	0	
1618	MNWH	163	177	52.0	0	0		ES		0	16	5	94	HINTO	14	1223.0	RUB	0	0	
1619	MNWH	170	185	62.0	0	0		ES		0	16	5	94	HINTO	14	1223.0	RUB	0	0	
1620	MNWH	180	200	77.0	0	0		ES		0	16	5	94	HINTO	14	1223.0	RUB	0	0	
1621	MNWH	370	400	752.0	0	0		ES		0	16	5	94	HINTO	14	1223.0	RUB	0	0	WIMPY
1622	MNWH	82	87	4.0	0	0		ES		0	16	5	94	HINTO	14	1223.0	RUB	0	0	
1623	MNWH	191	211	94.0	0	0		ES		0	16	5	94	HINTO	14	1223.0	RUB	0	0	
1624	MNWH	173	190	68.0	0	0		ES		0	16	5	94	HINTO	14	1223.0	RUB	0	0	
1625	MNWH	156	175	44.0	0	0		ES		0	16	5	94	HINTO	14	1223.0	RUB	0	0	
1626	LNSC	417	441	0.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1627	MNWH	149	162	34.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1628	MNWH	230	248	149.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1629	MNWH	198	215	91.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1630	MNWH	211	231	131.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1631	MNWH	152	167	45.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1632	MNWH	199	217	89.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1633	MNWH	172	184	58.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1634	MNWH	88	95	10.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	1	0	
1635	MNWH	149	162	32.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1636	MNWH	162	176	57.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1637	MNWH	162	175	50.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1638	MNWH	191	210	86.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1639	MNWH	88	96	8.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1640	MNWH	81	87	7.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1641	MNWH	135	148	31.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1642	MNWH	169	183	59.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1643	MNWH	241	263	197.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1644	MNWH	128	140	29.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1645	MNWH	153	166	42.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1646	MNWH	96	105	8.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1647	MNWH	175	190	62.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1648	MNWH	147	161	38.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1649	MNWH	92	100	9.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1650	MNWH	173	192	64.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1651	LNSC	384	407	0.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1652	MNWH	246	268	202.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1653	MNWH	245	268	176.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1654	MNWH	173	189	62.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1655	MNWH	201	220	93.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1656	MNWH	172	189	60.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1657	MNWH	162	175	43.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1658	MNWH	139	150	30.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1659	MNWH	142	154	32.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1660	MNWH	78	86	3.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1661	MNWH	90	99	6.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1662	MNWH	76	89	3.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1663	MNWH	80	88	6.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	0	0	
1664	MNWH	76	80	3.0	0	0		ES		0	16	5	94	HINTO	15	1222.0	LUB	1	0	
1665	BLTR	362	382	468.0	0	0	SC	ES	Y	11778	16	5	94	HINTO	16	1221.0	LUB	0	0	
1666	LNSC	376	382	0.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1667	LNSC	301	319	0.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1668	MNWH	162	175	54.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1669	MNWH	129	139	21.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1670	BURB	777	0	2246.0	0	0		ES	Y	11779	16	5	94	HINTO	16	1221.0	LUB	0	0	
1671	MNWH	159	172	44.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1672	MNWH	165	175	51.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1673	BURB	582	0	964.0	0	0		ES	Y	11780	16	5	94	HINTO	16	1221.0	LUB	0	0	
1674	LNSC	343	365	0.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1675	LNSC	362	384	0.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1676	LNSC	404	430	0.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1677	LNSC	363	387	0.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1678	LNSC	408	434	0.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1679	LNSC	345	365	0.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1680	LNSC	304	325	0.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1681	LNSC	320	343	0.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1682	MNWH	165	180	60.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1683	MNWH	219	195	155.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1684	MNWH	173	195	69.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1685	MNWH	206	227	124.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1686	MNWH	172	187	66.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1687	MNWH	155	172	49.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1688	MNWH	155	168	39.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1689	MNWH	205	221	121.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1690	MNWH	146	155	38.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1691	MNWH	79	78	3.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1692	MNWH	180	198	65.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1693	MNWH	181	197	65.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1694	MNWH	150	165	35.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1695	MNWH	150	165	43.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1696	MNWH	149	158	39.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1697	MNWH	157	172	50.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1698	MNWH	170	183	59.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1699	MNWH	165	179	50.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1700	MNWH	81	87	3.0	0	0		ES		0	16	5	94	HINTO	16	1221.0	LUB	0	0	
1701	LNSC	380	401	0.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1702	LNSC	370	393	0.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1703	MNWH	281	305	290.0	0	0		ES	Y	11781	16	5	94	HINTO	17	1220.0	RUB	0	0	
1704	MNWH	363	391	730.0	0	0		ES	Y	11782	16	5	94	HINTO	17	1220.0	RUB	0	0	
1705	MNWH	302	325	381.0	0	0		ES	Y	11783	16	5	94	HINTO	17	1220.0	RUB	0	0	
1706	MNWH	221	238	143.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1707	MNWH	192	209	90.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1708	MNWH	258	280	211.0	0	0		ES	Y	11784	16	5	94	HINTO	17	1220.0	RUB	0	0	
1709	MNWH	183	197	75.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1710	MNWH	225	239	145.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1711	MNWH	213	228	122.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1712	MNWH	185	201	72.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1713	MNWH	207	225	109.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1714	MNWH	140	154	29.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1715	MNWH	136	147	28.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1716	MNWH	156	170	40.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1717	MNWH	86	91	5.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1718	MNWH	164	177	47.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1719	MNWH	97	105	6.0	0	0		ES		0	16	5	94	HINTO	17	1220.0	RUB	0	0	
1720	LNSC	380	406	0.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1721	MNWH	269	292	275.0	0	0		ES	Y	11785	16	5	94	HINTO	18	1219.0	RUB	0	0	
1722	LNSC	411	436	0.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1723	MNWH	327	350	510.0	0	0		ES	Y	11786	16	5	94	HINTO	18	1219.0	RUB	0	0	
1724	LNSC	406	433	0.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1725	MNWH	230	252	165.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1726	MNWH	290	312	381.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	WIMPY
1727	MNWH	274	294	293.0	0	0		ES	Y	11787	16	5	94	HINTO	18	1219.0	RUB	0	0	
1728	MNWH	190	205	90.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1729	MNWH	215	230	112.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1730	MNWH	198	215	93.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	1	0	
1731	MNWH	188	203	84.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1732	MNWH	179	193	73.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1733	MNWH	208	225	112.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1734	MNWH	184	200	70.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1735	MNWH	167	181	52.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1736	MNWH	165	178	50.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1737	MNWH	221	239	129.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1738	MNWH	169	181	57.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1739	MNWH	156	170	42.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1740	MNWH	96	105	6.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1741	MNWH	83	90	4.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1742	MNWH	91	97	5.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1743	MNWH	192	208	90.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1744	MNWH	173	187	61.0	0	0		ES		0	16	5	94	HINTO	18	1219.0	RUB	0	0	
1745	MNWH	307	332	451.0	0	0		ES	Y	11788	16	5	94	HINTO	19	1218.0	LUB	0	0	
1746	MNWH	261	283	270.0	0	0		ES	Y	11789	16	5	94	HINTO	19	1218.0	LUB	0	0	
1747	MNWH	178	197	76.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1748	MNWH	183	196	71.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1749	MNWH	166	180	56.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1750	MNWH	180	195	68.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1751	MNWH	164	180	56.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1752	MNWH	172	186	60.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1753	MNWH	246	269	202.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1754	MNWH	146	159	38.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1755	MNWH	153	168	37.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1756	MNWH	179	197	68.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1757	MNWH	149	165	43.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1758	MNWH	289	314	346.0	0	0		ES	Y	11790	16	5	94	HINTO	19	1218.0	LUB	0	0	FAT
1759	LNSC	398	430	0.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1760	MNWH	158	177	51.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1761	MNWH	152	166	40.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1762	MNWH	138	151	32.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1763	MNWH	168	186	56.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1764	MNWH	178	195	79.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1765	MNWH	182	200	73.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1766	MNWH	160	177	47.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1767	MNWH	173	192	53.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1768	MNWH	158	177	43.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1769	MNWH	152	165	40.0	0	0		ES		0	16	5	94	HINTO	19	1218.0	LUB	0	0	
1770	MNWH	432	464	1204.0	0	0		ES	Y	11791	16	5	94	HINTO	20	1217.0	LUB	0	0	
1771	MNWH	320	346	492.0	0	0		ES	Y	11792	16	5	94	HINTO	20	1217.0	LUB	0	0	
1772	MNWH	262	285	241.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	WIMPY
1773	MNWH	276	300	333.0	0	0		ES	Y	11793	16	5	94	HINTO	20	1217.0	LUB	0	0	
1774	MNWH	320	343	467.0	0	0		ES	Y	11794	16	5	94	HINTO	20	1217.0	LUB	0	0	
1775	MNWH	177	193	74.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1776	MNWH	167	183	56.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1777	MNWH	167	182	66.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1778	MNWH	338	369	547.0	0	0		ES	Y	11795	16	5	94	HINTO	20	1217.0	LUB	0	0	
1779	MNWH	221	244	148.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1780	MNWH	192	210	92.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1781	MNWH	183	200	90.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1782	MNWH	160	173	46.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1783	MNWH	163	178	57.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1784	MNWH	75	80	2.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	1	0	
1785	LNSC	398	426	0.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1786	LNSC	433	466	0.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1787	MNWH	159	175	58.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1788	MNWH	200	218	107.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1789	MNWH	169	185	63.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1790	MNWH	175	195	60.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1791	MNWH	164	180	52.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1792	MNWH	169	186	67.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1793	MNWH	208	227	117.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1794	MNWH	160	173	55.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1795	MNWH	183	199	88.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1796	MNWH	168	185	55.0	0	0		ES		0	16	5	94	HINTO	20	1217.0	LUB	0	0	
1797	MNWH	441	470	1214.0	4	0	SC	ES		0	17	5	94	HINTO	21	1216.0	RUB	1	0	ST5 5 PLEC
1798	LNSC	365	389	0.0	0	0		ES		0	17	5	94	HINTO	21	1216.0	RUB	0	0	
1799	BLTR	226	237	0.0	0	0	SC	ES		0	17	5	94	HINTO	21	1216.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1800	MNWH	356	375	632.0	0	0		ES	Y	11796	17	5	94	HINTO	21	1216.0	RUB	0	0	
1801	MNWH	170	183	49.0	0	0		ES		0	17	5	94	HINTO	21	1216.0	RUB	0	0	
1802	MNWH	170	184	57.0	0	0		ES		0	17	5	94	HINTO	21	1216.0	RUB	0	0	
1803	MNWH	171	190	61.0	0	0		ES		0	17	5	94	HINTO	21	1216.0	RUB	0	0	
1804	MNWH	140	151	34.0	0	0		ES		0	17	5	94	HINTO	21	1216.0	RUB	0	0	
1805	MNWH	94	101	5.0	0	0		ES		0	17	5	94	HINTO	21	1216.0	RUB	0	0	
1806	MNWH	167	185	60.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1807	MNWH	177	193	60.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1808	MNWH	283	308	305.0	0	0		ES	Y	11797	17	5	94	HINTO	22	1215.0	RUB	0	0	
1809	LNSC	394	415	0.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1810	MNWH	177	194	64.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1811	MNWH	146	156	33.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1812	MNWH	156	171	47.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1813	MNWH	186	202	83.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1814	MNWH	191	207	81.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1815	MNWH	167	180	62.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1816	MNWH	289	316	330.0	0	0		ES	Y	11798	17	5	94	HINTO	22	1215.0	RUB	0	0	
1817	MNWH	172	184	62.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1818	MNWH	172	188	66.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1819	MNWH	168	182	59.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1820	MNWH	138	150	32.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1821	MNWH	232	255	167.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1822	MNWH	143	153	32.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1823	MNWH	240	264	188.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1824	MNWH	223	245	159.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1825	MNWH	165	180	53.0	0	0		ES		0	17	5	94	HINTO	22	1215.0	RUB	0	0	
1826	MNWH	416	446	997.0	4	0	SC	ES		0	17	5	94	HINTO	22	1215.0	RUB	1	0	ST5 5 PLEC
1827	MNWH	235	256	175.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1828	MNWH	165	178	52.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1829	MNWH	180	194	70.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1830	MNWH	181	192	73.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1831	MNWH	167	180	52.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1832	MNWH	167	180	55.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1833	MNWH	175	191	64.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1834	MNWH	163	177	51.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1835	MNWH	182	197	68.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1836	MNWH	187	205	72.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1837	MNWH	149	159	37.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1838	MNWH	144	155	35.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1839	MNWH	153	168	37.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1840	MNWH	134	144	29.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1841	MNWH	144	156	35.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1842	MNWH	314	334	385.0	0	0		ES	Y	11799	18	5	94	HINTO	23	1214.0	LUB	0	0	
1843	MNWH	275	296	264.0	0	0		ES	Y	11800	18	5	94	HINTO	23	1214.0	LUB	0	0	
1844	MNWH	179	195	70.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1845	MNWH	171	187	62.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1846	MNWH	182	200	79.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1847	MNWH	173	187	64.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1848	MNWH	182	201	70.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1849	MNWH	169	182	58.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1850	MNWH	156	170	47.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1851	LNSC	354	374	0.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1852	MNWH	184	198	73.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1853	BKTR	126	131	20.0	0	0	SC	ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1854	MNWH	156	169	44.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1855	MNWH	139	151	24.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1856	MNWH	173	188	63.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1857	MNWH	160	174	49.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1858	MNWH	167	180	56.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1859	MNWH	175	185	65.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1860	MNWH	172	188	67.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1861	MNWH	223	241	152.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1862	MNWH	158	173	53.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1863	MNWH	154	166	47.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1864	MNWH	147	160	41.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1865	MNWH	178	190	64.0	0	0		ES		0	18	5	94	HINTO	23	1214.0	LUB	0	0	
1866	LNSC	400	419	0.0	0	0		ES		0	18	5	94	HINTO	24	1213.0	LUB	0	0	
1867	MNWH	324	351	480.0	0	0		ES	Y	11802	18	5	94	HINTO	24	1213.0	LUB	0	0	TAG11801 DESTROYED
1868	MNWH	380	415	791.0	0	0		ES	Y	11803	18	5	94	HINTO	24	1213.0	LUB	0	0	
1869	MNWH	323	344	513.0	0	0		ES	Y	11805	18	5	94	HINTO	24	1213.0	LUB	0	0	TAG11804 DESTROYED
1870	MNWH	153	162	40.0	0	0		ES		0	18	5	94	HINTO	24	1213.0	LUB	0	0	
1871	MNWH	282	301	354.0	0	0		ES	Y	11806	18	5	94	HINTO	24	1213.0	LUB	0	0	
1872	LNSC	403	430	0.0	0	0		ES		0	18	5	94	HINTO	24	1213.0	LUB	0	0	
1873	MNWH	170	185	61.0	0	0		ES		0	18	5	94	HINTO	24	1213.0	LUB	0	0	
1874	MNWH	315	331	410.0	0	0		ES	Y	11807	18	5	94	HINTO	24	1213.0	LUB	0	0	
1875	MNWH	188	206	0.0	0	0		ES		0	18	5	94	HINTO	24	1213.0	LUB	0	0	
1876	MNWH	193	201	88.0	0	0		ES		0	18	5	94	HINTO	24	1213.0	LUB	0	0	
1877	MNWH	155	169	46.0	0	0		ES		0	18	5	94	HINTO	24	1213.0	LUB	0	0	
1878	MNWH	173	187	67.0	0	0		ES		0	18	5	94	HINTO	24	1213.0	LUB	0	0	
1879	MNWH	155	166	48.0	0	0		ES		0	18	5	94	HINTO	24	1213.0	LUB	0	0	
1880	BLTR	400	421	640.0	0	0	SC	ES	Y	11808	18	5	94	HINTO	25	1212.0	RUB	0	0	
1881	MNWH	196	277	97.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1882	MNWH	177	191	64.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1883	MNWH	176	189	61.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1884	MNWH	169	184	56.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1885	MNWH	160	172	51.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1886	MNWH	167	185	50.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1887	MNWH	178	190	67.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1888	MNWH	172	188	60.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1889	MNWH	151	167	43.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1890	MNWH	150	163	39.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1891	MNWH	85	95	6.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1892	MNWH	363	391	685.0	0	0		ES	Y	11809	18	5	94	HINTO	25	1212.0	RUB	0	0	
1893	MNWH	178	195	74.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1894	MNWH	161	176	45.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1895	MNWH	156	170	42.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	1	0	
1896	MNWH	166	181	58.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1897	MNWH	149	162	36.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1898	MNWH	95	105	10.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1899	MNWH	190	202	87.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1900	MNWH	99	107	8.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1901	MNWH	166	182	55.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1902	MNWH	173	187	67.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1903	MNWH	173	186	59.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1904	MNWH	95	104	8.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	0	0	
1905	MNWH	91	99	6.0	0	0		ES		0	18	5	94	HINTO	25	1212.0	RUB	1	0	
1906	LNSC	356	372	0.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1907	MNWH	180	195	69.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1908	MNWH	163	177	42.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1909	MNWH	157	171	38.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1910	MNWH	99	107	7.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1911	RNTR	288	303	256.0	0	0	SC	ES	Y	11810	18	5	94	HINTO	26	1211.0	RUB	0	0	
1912	RNTR	282	295	266.0	0	0	SC	ES	Y	11811	18	5	94	HINTO	26	1211.0	RUB	0	0	
1913	BLTR	192	205	71.0	0	0	SC	ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1914	MNWH	178	195	71.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1915	MNWH	170	186	63.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1916	MNWH	95	104	9.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1917	MNWH	88	96	7.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1918	MNWH	94	105	10.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1919	MNWH	97	105	10.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1920	MNWH	97	105	9.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1921	MNWH	85	92	8.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1922	MNWH	88	96	6.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1923	MNWH	86	95	8.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1924	MNWH	108	119	13.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1925	MNWH	67	72	3.0	0	0		ES		0	18	5	94	HINTO	26	1211.0	RUB	0	0	
1926	MNWH	364	396	736.0	0	0		ES	Y	11813	18	5	94	HINTO	27	1210.0	LUB	0	0	
1927	LNSC	402	426	0.0	0	0		ES		0	18	5	94	HINTO	27	1210.0	LUB	0	0	
1928	MNWH	174	193	72.0	0	0		ES		0	18	5	94	HINTO	27	1210.0	LUB	0	0	
1929	MNWH	169	185	63.0	0	0		ES		0	18	5	94	HINTO	27	1210.0	LUB	0	0	
1930	MNWH	100	110	13.0	0	0		ES		0	18	5	94	HINTO	27	1210.0	LUB	0	0	
1931	MNWH	218	236	137.0	0	0		ES		0	18	5	94	HINTO	27	1210.0	LUB	0	0	
1932	MNWH	173	190	63.0	0	0		ES		0	18	5	94	HINTO	27	1210.0	LUB	0	0	
1933	MNWH	294	322	384.0	0	0		ES	Y	11814	18	5	94	HINTO	28	1209.0	LUB	0	0	
1934	MNWH	182	193	73.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1935	MNWH	256	277	215.0	0	0		ES	Y	11815	18	5	94	HINTO	28	1209.0	LUB	0	0	
1936	MNWH	218	238	141.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1937	MNWH	177	193	75.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1938	MNWH	159	173	54.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1939	MNWH	153	168	55.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1940	MNWH	106	113	15.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1941	MNWH	157	171	54.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1942	MNWH	137	149	36.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1943	LNSC	402	437	0.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1944	LNSC	386	408	0.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1945	LNSC	369	389	0.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1946	LNSC	361	382	0.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1947	LNSC	355	378	0.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1948	MNWH	185	201	84.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1949	MNWH	152	166	46.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
1950	MNWH	159	174	59.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1951	MNWH	157	169	48.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1952	MNWH	163	177	48.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1953	MNWH	193	206	85.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1954	MNWH	174	189	64.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1955	MNWH	100	110	10.0	0	0		ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1956	RNTR	204	217	95.0	0	0	SC	ES		0	18	5	94	HINTO	28	1209.0	LUB	0	0	
1957	MNWH	218	241	141.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1958	MNWH	156	170	48.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1959	MNWH	278	300	248.0	0	0		ES	Y	11816	18	5	94	HINTO	29	1208.0	RUB	0	0	
1960	MNWH	247	267	172.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1961	MNWH	161	177	48.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1962	MNWH	312	337	422.0	0	0		ES	Y	11817	18	5	94	HINTO	29	1208.0	RUB	0	0	
1963	MNWH	172	185	65.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1964	MNWH	164	179	57.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1965	MNWH	151	165	42.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1966	MNWH	91	95	10.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1967	MNWH	99	108	11.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1968	MNWH	92	102	12.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1969	MNWH	93	103	10.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1970	MNWH	156	168	46.0	0	0		ES		0	18	5	94	HINTO	29	1208.0	RUB	0	0	
1971	MNWH	179	195	72.0	0	0		ES		0	18	5	94	HINTO	30	1207.0	RUB	0	0	
1972	MNWH	175	192	65.0	0	0		ES		0	18	5	94	HINTO	30	1207.0	RUB	0	0	
1973	MNWH	153	166	35.0	0	0		ES		0	18	5	94	HINTO	30	1207.0	RUB	0	0	
1974	LNSC	382	407	0.0	0	0		ES		0	18	5	94	HINTO	31	1206.0	LUB	0	0	
1975	MNWH	294	325	420.0	0	0		ES	Y	11818	18	5	94	HINTO	31	1206.0	LUB	0	0	
1976	MNWH	256	271	218.0	0	0		ES	Y	11819	18	5	94	HINTO	31	1206.0	LUB	0	0	
1977	LNSC	392	415	0.0	0	0		ES		0	18	5	94	HINTO	31	1206.0	LUB	0	0	
1978	MNWH	247	263	211.0	0	0		ES		0	18	5	94	HINTO	31	1206.0	LUB	0	0	
1979	MNWH	292	309	345.0	0	0		ES	Y	11820	18	5	94	HINTO	31	1206.0	LUB	0	0	
1980	MNWH	302	325	381.0	0	0		ES	Y	11821	18	5	94	HINTO	31	1206.0	LUB	0	0	
1981	MNWH	183	200	79.0	0	0		ES		0	18	5	94	HINTO	31	1206.0	LUB	0	0	
1982	MNWH	178	190	72.0	0	0		ES		0	18	5	94	HINTO	31	1206.0	LUB	0	0	
1983	MNWH	224	243	158.0	0	0		ES		0	18	5	94	HINTO	31	1206.0	LUB	0	0	
1984	MNWH	172	190	65.0	0	0		ES		0	18	5	94	HINTO	31	1206.0	LUB	0	0	
1985	MNWH	307	329	412.0	0	0		ES	Y	11822	18	5	94	HINTO	31	1206.0	LUB	0	0	
1986	MNWH	173	190	73.0	0	0		ES		0	18	5	94	HINTO	31	1206.0	LUB	0	0	
1987	MNWH	168	183	56.0	0	0		ES		0	18	5	94	HINTO	31	1206.0	LUB	0	0	
1988	MNWH	369	395	714.0	0	0		ES	Y	11823	18	5	94	HINTO	32	1205.0	LUB	0	0	
1989	MNWH	219	240	150.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
1990	MNWH	218	235	156.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
1991	MNWH	283	300	334.0	0	0		ES	Y	11824	18	5	94	HINTO	32	1205.0	LUB	0	0	
1992	MNWH	299	322	386.0	0	0		ES	Y	11825	18	5	94	HINTO	32	1205.0	LUB	0	0	
1993	MNWH	262	286	253.0	0	0		ES	Y	11826	18	5	94	HINTO	32	1205.0	LUB	0	0	
1994	MNWH	277	300	307.0	0	0		ES	Y	11827	18	5	94	HINTO	32	1205.0	LUB	0	0	
1995	MNWH	189	205	91.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
1996	MNWH	172	189	50.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
1997	MNWH	184	198	69.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
1998	MNWH	161	175	54.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
1999	MNWH	187	200	77.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2000	MNWH	185	200	75.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
2001	MNWH	158	170	44.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
2002	MNWH	198	215	100.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
2003	MNWH	171	188	61.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
2004	MNWH	158	170	49.0	0	0		ES		0	18	5	94	HINTO	32	1205.0	LUB	0	0	
2005	RNTR	352	374	559.0	0	0	SC	ES	Y	11828	18	5	94	HINTO	33	1204.0	RUB	0	0	
2006	RNTR	245	362	169.0	0	0	SC	ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2007	MNWH	223	244	171.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2008	MNWH	177	186	69.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2009	MNWH	182	197	78.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2010	MNWH	159	171	52.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2011	MNWH	194	212	91.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2012	MNWH	154	165	45.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2013	MNWH	182	196	76.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2014	MNWH	163	176	56.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2015	MNWH	238	266	181.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2016	MNWH	192	208	95.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2017	MNWH	178	193	64.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2018	MNWH	160	176	55.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2019	MNWH	158	173	53.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2020	MNWH	155	169	47.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2021	MNWH	183	201	100.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2022	MNWH	203	224	137.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2023	MNWH	164	180	62.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2024	MNWH	102	112	12.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2025	MNWH	87	94	7.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2026	MNWH	95	105	7.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2027	MNWH	98	105	8.0	0	0		ES		0	18	5	94	HINTO	33	1204.0	RUB	0	0	
2028	LNSC	420	446	0.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2029	MNWH	398	429	1006.0	0	0		ES	Y	11829	18	5	94	HINTO	34	1203.0	RUB	0	0	
2030	MNWH	319	343	442.0	0	0		ES	Y	11830	18	5	94	HINTO	34	1203.0	RUB	0	0	
2031	MNWH	283	308	312.0	0	0		ES	Y	11831	18	5	94	HINTO	34	1203.0	RUB	0	0	
2032	MNWH	248	268	206.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2033	MNWH	96	102	11.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	1	0	
2034	LNSC	350	369	0.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2035	MNWH	214	235	135.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2036	MNWH	174	191	69.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2037	MNWH	243	264	185.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2038	MNWH	230	252	155.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2039	MNWH	187	204	97.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2040	MNWH	175	190	62.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2041	MNWH	188	205	89.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2042	MNWH	184	195	67.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2043	MNWH	246	268	215.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2044	MNWH	173	190	72.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2045	MNWH	175	192	72.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2046	MNWH	104	112	14.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	0	0	
2047	MNWH	94	102	10.0	0	0		ES		0	18	5	94	HINTO	34	1203.0	RUB	1	0	
2048	MNWH	212	222	98.0	0	0		ES		0	18	5	94	HINTO	35	1202.0	LUB	0	0	
2049	MNWH	214	239	140.0	0	0		ES		0	18	5	94	HINTO	35	1202.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2050	MNWH	176	186	60.0	0	0		ES		0	18	5	94	HINTO	35	1202.0	LUB	0	0	
2051	MNWH	195	212	0.0	0	0		ES		0	18	5	94	HINTO	35	1202.0	LUB	0	0	
2052	MNWH	256	272	180.0	0	0		ES	Y	11832	18	5	94	HINTO	35	1202.0	LUB	0	0	
2053	MNWH	295	324	369.0	0	0		ES	Y	11833	18	5	94	HINTO	35	1202.0	LUB	0	0	
2054	MNWH	174	188	61.0	0	0		ES		0	18	5	94	HINTO	35	1202.0	LUB	0	0	
2055	MNWH	96	103	10.0	0	0		ES		0	18	5	94	HINTO	35	1202.0	LUB	0	0	
2056	MNWH	93	101	7.0	0	0		ES		0	18	5	94	HINTO	35	1202.0	LUB	0	0	
2057	LNSC	394	431	0.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2058	MNWH	308	330	419.0	0	0		ES	Y	11834	18	5	94	HINTO	36	1201.0	LUB	0	0	
2059	MNWH	324	346	493.0	0	0		ES	Y	11835	18	5	94	HINTO	36	1201.0	LUB	0	0	
2060	MNWH	235	258	193.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2061	MNWH	183	209	85.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2062	MNWH	250	273	214.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	WIMPY
2063	MNWH	218	236	125.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2064	MNWH	337	366	600.0	0	0		ES	Y	11836	18	5	94	HINTO	36	1201.0	LUB	0	0	
2065	MNWH	106	116	13.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2066	LNSC	371	400	0.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2067	RNTR	353	370	460.0	0	0	SC	ES	Y	11837	18	5	94	HINTO	36	1201.0	LUB	0	0	
2068	RNTR	342	357	472.0	0	0	SC	ES	Y	11838	18	5	94	HINTO	36	1201.0	LUB	0	0	
2069	MNWH	306	329	400.0	0	0		ES	Y	11839	18	5	94	HINTO	36	1201.0	LUB	0	0	
2070	MNWH	174	190	60.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2071	MNWH	195	213	96.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2072	MNWH	230	248	173.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2073	MNWH	248	271	209.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2074	MNWH	185	201	80.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2075	MNWH	357	381	620.0	0	0		ES	Y	11840	18	5	94	HINTO	36	1201.0	LUB	0	0	
2076	LNSC	299	312	0.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2077	MNWH	290	313	342.0	0	0		ES	Y	11841	18	5	94	HINTO	36	1201.0	LUB	0	0	
2078	MNWH	287	314	359.0	0	0		ES	Y	11842	18	5	94	HINTO	36	1201.0	LUB	0	0	
2079	MNWH	238	258	203.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2080	MNWH	182	198	81.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2081	MNWH	213	232	135.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2082	MNWH	207	220	115.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2083	MNWH	172	186	61.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2084	MNWH	182	197	83.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2085	MNWH	183	196	75.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2086	MNWH	189	203	90.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2087	MNWH	169	182	65.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2088	MNWH	174	192	70.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2089	MNWH	167	182	63.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2090	MNWH	176	192	75.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2091	MNWH	92	97	6.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2092	MNWH	184	201	80.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2093	MNWH	89	97	7.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2094	MNWH	101	110	9.0	0	0		ES		0	18	5	94	HINTO	36	1201.0	LUB	0	0	
2095	MNWH	311	334	421.0	0	0		ES	Y	11843	18	5	94	HINTO	37	1200.0	RUB	0	0	
2096	MNWH	336	359	498.0	0	0		ES	Y	11844	18	5	94	HINTO	37	1200.0	RUB	0	0	
2097	MNWH	263	284	280.0	0	0		ES	Y	11845	18	5	94	HINTO	37	1200.0	RUB	0	0	
2098	MNWH	276	297	203.0	0	0		ES	Y	11846	18	5	94	HINTO	37	1200.0	RUB	0	0	
2099	MNWH	215	234	127.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2100	MNWH	181	197	79.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2101	LNSC	410	432	0.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2102	MNWH	334	356	490.0	0	0		ES	Y	11847	18	5	94	HINTO	37	1200.0	RUB	0	0	
2103	MNWH	277	299	326.0	0	0		ES	Y	11848	18	5	94	HINTO	37	1200.0	RUB	0	0	
2104	MNWH	230	250	192.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2105	MNWH	253	275	201.0	0	0		ES	Y	11849	18	5	94	HINTO	37	1200.0	RUB	0	0	
2106	MNWH	238	253	168.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2107	MNWH	187	203	88.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2108	MNWH	297	320	348.0	0	0		ES	Y	11850	18	5	94	HINTO	37	1200.0	RUB	0	0	
2109	MNWH	183	195	73.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2110	MNWH	170	188	58.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2111	MNWH	189	204	81.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2112	MNWH	226	248	148.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2113	RNTR	214	225	121.0	0	0	SC	ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2114	MNWH	183	197	68.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2115	MNWH	167	180	49.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2116	MNWH	160	170	45.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2117	MNWH	107	118	19.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2118	BLTR	226	236	128.0	0	0	SC	ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2119	MNWH	191	208	96.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2120	MNWH	98	108	10.0	0	0		ES		0	18	5	94	HINTO	37	1200.0	RUB	0	0	
2121	MNWH	304	327	445.0	0	0		ES	Y	11851	18	5	94	HINTO	38	1199.0	RUB	0	0	
2122	MNWH	203	221	120.0	0	0		ES		0	18	5	94	HINTO	38	1199.0	RUB	0	0	
2123	MNWH	247	266	200.0	0	0		ES		0	18	5	94	HINTO	38	1199.0	RUB	0	0	
2124	LNSC	150	160	0.0	0	0		ES		0	18	5	94	HINTO	38	1199.0	RUB	0	0	
2125	ARGR	356	386	593.0	9	0	SC	ES	Y	11852	18	5	94	HINTO	38	1199.0	RUB	0	0	
2126	MNWH	204	234	158.0	0	0		ES		0	18	5	94	HINTO	38	1199.0	RUB	0	0	
2127	MNWH	223	239	152.0	0	0		ES		0	18	5	94	HINTO	38	1199.0	RUB	0	0	
2128	LNSC	215	230	0.0	0	0		ES		0	18	5	94	HINTO	38	1199.0	RUB	0	0	
2129	MNWH	164	177	52.0	0	0		ES		0	18	5	94	HINTO	38	1199.0	RUB	0	0	
2130	MNWH	162	177	52.0	0	0		ES		0	18	5	94	HINTO	38	1199.0	RUB	0	0	
2131	MNWH	121	132	21.0	0	0		ES		0	18	5	94	HINTO	38	1199.0	RUB	0	0	
2132	BLTR	368	390	512.0	0	0	SC	ES	Y	11853	18	5	94	HINTO	39	1198.0	LUB	0	0	
2133	MNWH	216	237	140.0	0	0		ES		0	18	5	94	HINTO	39	1198.0	LUB	0	0	
2134	MNWH	202	222	123.0	0	0		ES		0	18	5	94	HINTO	39	1198.0	LUB	0	0	
2135	MNWH	164	180	66.0	0	0		ES		0	18	5	94	HINTO	39	1198.0	LUB	0	0	
2136	MNWH	313	336	502.0	0	0		ES	Y	11854	18	5	94	HINTO	40	1197.0	LUB	0	0	
2137	MNWH	222	243	149.0	0	0		ES		0	18	5	94	HINTO	40	1197.0	LUB	0	0	
2138	RNTR	165	175	54.0	0	0	SC	ES		0	18	5	94	HINTO	40	1197.0	LUB	0	0	
2139	MNWH	224	243	166.0	0	0		ES		0	18	5	94	HINTO	40	1197.0	LUB	0	0	
2140	MNWH	190	207	93.0	0	0		ES		0	18	5	94	HINTO	40	1197.0	LUB	0	0	
2141	MNWH	185	201	83.0	0	0		ES		0	18	5	94	HINTO	40	1197.0	LUB	0	0	
2142	MNWH	181	198	90.0	0	0		ES		0	18	5	94	HINTO	40	1197.0	LUB	0	0	
2143	MNWH	200	218	101.0	0	0		ES		0	18	5	94	HINTO	40	1197.0	LUB	0	0	
2144	MNWH	168	182	47.0	0	0		ES		0	18	5	94	HINTO	40	1197.0	LUB	0	0	
2145	BLTR	552	572	1921.0	0	0	SC	ES	Y	11855	18	5	94	HINTO	40	1197.0	LUB	0	0	
2146	MNWH	441	472	1115.0	0	0		ES	Y	11856	19	5	94	J04	1	1293.0	LUB	0	0	LOST TAG
2147	MNWH	423	455	829.0	0	0		ES	Y	3552	19	5	94	J04	1	1293.0	LUB	2	0	
2148	MNWH	424	455	853.0	0	0		ES	Y	11857	19	5	94	J04	1	1293.0	LUB	0	0	
2149	MNWH	355	381	507.0	0	0		ES	Y	11858	19	5	94	J04	1	1293.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2150	MNWH	400	425	671.0	0	0		ES	Y	11859	19	5	94	J04	1	1293.0	LUB	0	0	
2151	MNWH	423	445	753.0	0	0		ES	Y	11860	19	5	94	J04	1	1293.0	LUB	0	0	
2152	MNWH	245	262	171.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2153	MNWH	270	295	244.0	0	0		ES	Y	11861	19	5	94	J04	1	1293.0	LUB	0	0	
2154	MNWH	383	411	571.0	0	0		ES	Y	11862	19	5	94	J04	1	1293.0	LUB	0	0	SKINNY
2155	MNWH	359	385	473.0	0	0		ES	Y	11863	19	5	94	J04	1	1293.0	LUB	0	0	SKINNY
2156	MNWH	318	342	392.0	0	0		ES	Y	11864	19	5	94	J04	1	1293.0	LUB	0	0	
2157	MNWH	222	245	96.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2158	MNWH	277	298	254.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	WIMPY
2159	MNWH	155	167	31.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2160	MNWH	152	164	35.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2161	MNWH	191	206	66.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2162	MNWH	154	166	27.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2163	MNWH	150	159	28.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2164	MNWH	149	165	42.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2165	MNWH	145	162	28.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2166	MNWH	442	466	908.0	0	0		ES	Y	11865	19	5	94	J04	1	1293.0	LUB	0	0	
2167	MNWH	296	325	341.0	0	0		ES	Y	11866	19	5	94	J04	1	1293.0	LUB	0	0	
2168	MNWH	365	393	530.0	0	0		ES	Y	11867	19	5	94	J04	1	1293.0	LUB	0	0	SKINNY
2169	MNWH	314	340	360.0	0	0		ES	Y	11868	19	5	94	J04	1	1293.0	LUB	0	0	
2170	MNWH	263	281	174.0	0	0		ES	Y	11869	19	5	94	J04	1	1293.0	LUB	0	0	
2171	MNWH	264	286	212.0	0	0		ES	Y	11870	19	5	94	J04	1	1293.0	LUB	0	0	
2172	MNWH	209	228	105.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2173	MNWH	145	158	38.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2174	MNWH	413	435	645.0	0	0		ES	Y	11871	19	5	94	J04	1	1293.0	LUB	0	0	SKINNY
2175	MNWH	295	318	305.0	0	0		ES	Y	11872	19	5	94	J04	1	1293.0	LUB	0	0	
2176	MNWH	145	157	23.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2177	MNWH	410	437	759.0	0	0		ES	Y	11873	19	5	94	J04	1	1293.0	LUB	0	0	SKINNY
2178	MNWH	315	335	337.0	0	0		ES	Y	11874	19	5	94	J04	1	1293.0	LUB	0	0	
2179	MNWH	309	333	350.0	0	0		ES	Y	11875	19	5	94	J04	1	1293.0	LUB	0	0	
2180	MNWH	242	262	142.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2181	MNWH	275	300	210.0	0	0		ES	Y	11877	19	5	94	J04	1	1293.0	LUB	0	0	
2182	MNWH	243	266	166.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2183	MNWH	275	299	240.0	0	0		ES	Y	11878	19	5	94	J04	1	1293.0	LUB	0	0	
2184	MNWH	198	215	79.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2185	MNWH	211	230	83.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2186	MNWH	156	170	38.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2187	MNWH	207	224	85.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2188	MNWH	185	200	68.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2189	MNWH	145	156	23.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2190	MNWH	165	178	40.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2191	MNWH	147	157	29.0	0	0		ES		0	19	5	94	J04	1	1293.0	LUB	0	0	
2192	LNSC	465	492	0.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2193	LNSC	404	428	0.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2194	LNSC	374	397	0.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2195	LNSC	355	378	0.0	9	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2196	LNSC	384	405	0.0	9	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2197	LNSC	394	419	0.0	9	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2198	LNSC	395	425	0.0	18	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2199	LNSC	455	482	0.0	18	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2200	LNSC	372	395	0.0	9	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2201	LKWH	470	521	1305.0	0	0	SC	ES	Y	11879	19	5	94	J04	2	1292.0	LUB	0	0	
2202	LKWH	494	532	1400.0	0	0	SC	ES	Y	11881	19	5	94	J04	2	1292.0	LUB	0	0	
2203	LKWH	450	504	1111.0	0	0	SC	ES	Y	11880	19	5	94	J04	2	1292.0	LUB	0	0	
2204	NRPK	527	566	1000.0	0	0	FR	ES	Y	11883	19	5	94	J04	2	1292.0	LUB	0	0	
2205	NRPK	511	544	968.0	0	0	FR	ES	Y	11882	19	5	94	J04	2	1292.0	LUB	0	0	
2206	LNSC	410	436	0.0	18	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2207	LNSC	376	399	0.0	8	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2208	MNWH	382	403	590.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	SKINNY WIMP
2209	MNWH	262	282	197.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	WIMPY
2210	MNWH	180	196	62.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	WIMPY
2211	MNWH	295	315	311.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	WIMPY
2212	MNWH	281	305	280.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	WIMPY
2213	MNWH	225	239	161.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	WIMPY
2214	MNWH	254	280	207.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	WIMPY
2215	MNWH	288	312	291.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	WIMPY
2216	MNWH	179	196	54.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2217	MNWH	180	197	61.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2218	MNWH	203	221	106.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2219	MNWH	186	202	60.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2220	MNWH	175	192	53.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2221	MNWH	185	200	65.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2222	MNWH	195	212	80.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2223	MNWH	150	164	44.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2224	MNWH	142	153	26.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2225	MNWH	218	238	132.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2226	MNWH	188	203	75.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2227	MNWH	179	195	78.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2228	MNWH	185	202	71.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2229	MNWH	146	160	23.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2230	MNWH	188	204	90.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2231	MNWH	145	156	48.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2232	MNWH	181	196	67.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2233	MNWH	158	172	53.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2234	MNWH	148	162	47.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2235	MNWH	152	166	59.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2236	MNWH	139	150	30.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2237	MNWH	145	157	39.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2238	MNWH	136	147	27.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2239	MNWH	143	155	38.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2240	MNWH	145	157	35.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2241	MNWH	139	152	40.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2242	MNWH	145	157	40.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2243	MNWH	139	150	33.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2244	MNWH	170	181	64.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2245	MNWH	149	162	34.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2246	MNWH	175	190	60.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2247	MNWH	150	161	42.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2248	MNWH	146	157	39.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2249	MNWH	132	143	31.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2250	MNWH	123	133	31.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2251	MNWH	175	192	61.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2252	MNWH	130	141	24.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2253	MNWH	150	164	38.0	0	0		ES		0	19	5	94	J04	2	1292.0	LUB	0	0	
2254	LNSC	452	490	0.0	0	0		ES		0	19	5	94	J04	3	1291.0	LUB	0	0	
2255	LKWH	464	517	1232.0	0	0	SC	ES	Y	11884	19	5	94	J04	3	1291.0	LUB	0	0	
2256	MNWH	403	430	920.0	0	0		ES	Y	11885	19	5	94	J04	3	1291.0	LUB	0	0	
2257	LKWH	465	522	1219.0	0	0	SC	ES	Y	11886	19	5	94	J04	3	1291.0	LUB	0	0	
2258	MNWH	136	150	32.0	0	0		ES		0	19	5	94	J04	3	1291.0	LUB	0	0	
2259	MNWH	138	154	33.0	0	0		ES		0	19	5	94	J04	3	1291.0	LUB	0	0	
2260	NRPK	510	541	1042.0	0	0	FR	ES	Y	11887	19	5	94	J04	3	1291.0	LUB	0	0	
2261	NRPK	443	473	613.0	0	0	FR	ES	Y	11888	19	5	94	J04	3	1291.0	LUB	0	0	
2262	LKWH	433	485	1151.0	0	0	SC	ES	Y	11889	19	5	94	J04	4	1290.0	LUB	0	0	
2263	LKWH	429	483	957.0	0	0	SC	ES	Y	11890	19	5	94	J04	4	1290.0	LUB	0	0	
2264	LKWH	471	526	1355.0	0	0	SC	ES	Y	11891	19	5	94	J04	4	1290.0	LUB	0	0	
2265	NRPK	498	537	770.0	0	0	FR	ES	Y	11892	19	5	94	J04	4	1290.0	LUB	0	0	
2266	MNWH	274	299	276.0	0	0		ES	Y	11893	19	5	94	J04	4	1290.0	LUB	0	0	
2267	MNWH	256	288	216.0	0	0		ES	Y	11894	19	5	94	J04	4	1290.0	LUB	0	0	
2268	MNWH	227	249	142.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	0	0	
2269	MNWH	173	153	67.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	0	0	
2270	MNWH	140	153	35.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	0	0	
2271	MNWH	146	155	36.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	0	0	
2272	MNWH	123	133	22.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	0	0	
2273	MNWH	142	160	32.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	0	0	
2274	MNWH	143	155	35.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	0	0	
2275	MNWH	136	148	29.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	0	0	
2276	MNWH	132	143	26.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	0	0	
2277	MNWH	82	50	5.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	0	0	
2278	MNWH	85	96	7.0	0	0		ES		0	19	5	94	J04	4	1290.0	LUB	1	0	
2279	BKTR	244	256	151.0	0	0	SC	ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2280	MNWH	267	287	200.0	0	0		ES	Y	11895	19	5	94	J04	5	1289.0	LUB	0	0	
2281	MNWH	152	161	36.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2282	MNWH	147	162	31.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2283	PGWH	132	142	29.0	0	0	SC	ES		0	19	5	94	J04	5	1289.0	LUB	1	0	preserved
2284	MNWH	123	133	15.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2285	MNWH	155	167	27.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2286	MNWH	135	145	22.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2287	MNWH	132	141	19.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2288	MNWH	136	148	25.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2289	MNWH	135	146	22.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2290	MNWH	132	147	23.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2291	MNWH	129	138	21.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2292	MNWH	133	142	20.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2293	MNWH	131	142	24.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2294	MNWH	141	152	26.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2295	MNWH	134	145	35.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2296	MNWH	97	105	10.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2297	MNWH	98	104	6.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2298	MNWH	132	144	22.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2299	MNWH	102	111	15.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2300	MNWH	105	115	13.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2301	MNWH	94	100	6.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2302	MNWH	102	111	9.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2303	MNWH	72	84	4.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2304	MNWH	100	112	12.0	0	0		ES		0	19	5	94	J04	5	1289.0	LUB	0	0	
2305	MNWH	255	274	229.0	0	0		ES	Y	11896	19	5	94	J04	6	1293.0	RUB	0	0	
2306	MNWH	242	260	135.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2307	MNWH	434	462	831.0	0	0		ES	Y	11897	19	5	94	J04	6	1293.0	RUB	0	0	SKINNY
2308	MNWH	454	482	1169.0	0	0		ES	Y	11898	19	5	94	J04	6	1293.0	RUB	0	0	
2309	MNWH	429	453	766.0	0	0		ES	Y	11899	19	5	94	J04	6	1293.0	RUB	0	0	SKINNY
2310	MNWH	496	435	1355.0	0	0		ES	Y	11900	19	5	94	J04	6	1293.0	RUB	0	0	SKINNY
2311	MNWH	142	156	31.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	1	0	
2312	MNWH	455	482	893.0	0	0		ES	Y	3560	19	5	94	J04	6	1293.0	RUB	2	0	
2313	MNWH	292	315	266.0	0	0		ES	Y	11876	19	5	94	J04	6	1293.0	RUB	0	0	
2314	MNWH	372	397	600.0	0	0		ES	Y	11812	19	5	94	J04	6	1293.0	RUB	0	0	SKINNY
2315	MNWH	173	185	52.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2316	MNWH	426	455	794.0	0	0		ES	Y	11901	19	5	94	J04	6	1293.0	RUB	0	0	SKINNY
2317	MNWH	257	278	209.0	0	0		ES	Y	11902	19	5	94	J04	6	1293.0	RUB	0	0	
2318	MNWH	240	262	174.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2319	MNWH	419	452	741.0	0	0		ES	Y	11903	19	5	94	J04	6	1293.0	RUB	0	0	SKINNY
2320	MNWH	345	373	437.0	0	0		ES	Y	11904	19	5	94	J04	6	1293.0	RUB	0	0	SKINNY
2321	MNWH	363	391	524.0	0	0		ES	Y	11905	19	5	94	J04	6	1293.0	RUB	0	0	SKINNY
2322	MNWH	443	476	825.0	0	0		ES	Y	11906	19	5	94	J04	6	1293.0	RUB	0	0	SKINNY
2323	MNWH	363	391	473.0	0	0		ES	Y	11907	19	5	94	J04	6	1293.0	RUB	0	0	SKINNY
2324	MNWH	275	298	270.0	0	0		ES	Y	11908	19	5	94	J04	6	1293.0	RUB	0	0	
2325	MNWH	222	242	131.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2326	MNWH	206	222	88.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2327	MNWH	226	245	135.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2328	MNWH	215	230	120.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2329	MNWH	183	201	95.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2330	MNWH	197	214	85.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2331	MNWH	180	195	57.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2332	MNWH	193	209	76.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2333	MNWH	165	178	60.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2334	MNWH	178	196	66.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2335	MNWH	162	177	71.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2336	MNWH	188	206	82.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2337	MNWH	153	162	44.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2338	MNWH	145	156	32.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2339	MNWH	145	158	36.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2340	MNWH	142	155	35.0	0	0		ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2341	NRPK	205	215	63.0	0	0	FR	ES		0	19	5	94	J04	6	1293.0	RUB	0	0	
2342	MNWH	406	439	711.0	0	0		ES	Y	11909	19	5	94	J04	7	1292.0	RUB	0	0	SKINNY
2343	MNWH	355	380	571.0	0	0		ES	Y	11910	19	5	94	J04	7	1292.0	RUB	0	0	
2344	MNWH	451	482	912.0	0	0		ES	Y	11911	19	5	94	J04	7	1292.0	RUB	0	0	SKINNY
2345	MNWH	427	461	742.0	0	0		ES	Y	11912	19	5	94	J04	7	1292.0	RUB	0	0	SKINNY
2346	MNWH	412	438	794.0	0	0		ES	Y	11913	19	5	94	J04	7	1292.0	RUB	0	0	
2347	MNWH	278	304	237.0	0	0		ES	Y	11914	19	5	94	J04	7	1292.0	RUB	0	0	
2348	MNWH	495	548	1540.0	0	0		ES	Y	11915	19	5	94	J04	7	1292.0	RUB	0	0	
2349	MNWH	348	375	481.0	0	0		ES	Y	11916	19	5	94	J04	7	1292.0	RUB	0	0	SKINNY

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2350	MNWH	299	320	349.0	0	0		ES		0	19	5	94	J04	7	1292.0	RUB	0	0	WIMPY
2351	MNWH	294	317	254.0	0	0		ES	Y	11917	19	5	94	J04	7	1292.0	RUB	0	0	
2352	MNWH	200	220	97.0	0	0		ES		0	19	5	94	J04	7	1292.0	RUB	0	0	
2353	MNWH	195	215	89.0	0	0		ES		0	19	5	94	J04	7	1292.0	RUB	0	0	
2354	MNWH	165	180	65.0	0	0		ES		0	19	5	94	J04	7	1292.0	RUB	0	0	
2355	MNWH	140	151	49.0	0	0		ES		0	19	5	94	J04	7	1292.0	RUB	0	0	
2356	LKWH	500	562	1494.0	0	0	SC	ES	Y	11918	19	5	94	J04	8	1291.0	RUB	0	0	
2357	NRPK	575	613	1427.0	0	0	FR	ES	Y	11919	19	5	94	J04	8	1291.0	RUB	0	0	
2358	MNWH	142	152	29.0	0	0		ES		0	19	5	94	J04	8	1291.0	RUB	0	0	
2359	LKWH	445	502	1033.0	0	0	SC	ES	Y	11920	19	5	94	J04	8	1291.0	RUB	0	0	
2360	LNSC	406	434	0.0	0	0		ES		0	19	5	94	J04	8	1291.0	RUB	0	0	
2361	LNSC	404	429	0.0	9	0		ES		0	19	5	94	J04	8	1291.0	RUB	0	0	
2362	MNWH	245	262	184.0	0	0		ES		0	19	5	94	J04	8	1291.0	RUB	0	0	
2363	MNWH	175	192	53.0	0	0		ES		0	19	5	94	J04	8	1291.0	RUB	0	0	
2364	MNWH	145	159	33.0	0	0		ES		0	19	5	94	J04	8	1291.0	RUB	0	0	
2365	MNWH	136	149	27.0	0	0		ES		0	19	5	94	J04	8	1291.0	RUB	0	0	
2366	LKWH	474	536	1568.0	0	0	SC	ES	Y	11921	19	5	94	J04	9	1290.0	RUB	0	0	
2367	LKWH	451	504	1200.0	0	0	SC	ES	Y	11922	19	5	94	J04	9	1290.0	RUB	0	0	
2368	LKWH	448	506	1120.0	0	0	SC	ES	Y	11923	19	5	94	J04	9	1290.0	RUB	0	0	
2369	LKWH	448	508	1223.0	0	0	SC	ES	Y	11924	19	5	94	J04	9	1290.0	RUB	0	0	
2370	LKWH	444	505	1124.0	0	0	SC	ES	Y	11925	19	5	94	J04	9	1290.0	RUB	0	0	
2371	LKWH	442	499	1005.0	0	0	SC	ES	Y	11926	19	5	94	J04	9	1290.0	RUB	0	0	
2372	MNWH	159	173	47.0	0	0		ES		0	19	5	94	J04	9	1290.0	RUB	0	0	
2373	MNWH	149	161	44.0	0	0		ES		0	19	5	94	J04	9	1290.0	RUB	0	0	
2374	MNWH	106	112	18.0	0	0		ES		0	19	5	94	J04	9	1290.0	RUB	0	0	
2375	LKWH	434	486	1065.0	0	0		ES	Y	11927	19	5	94	J04	10	1289.0	RUB	0	0	
2376	LKWH	473	528	1502.0	0	0		ES	Y	11928	19	5	94	J04	10	1289.0	RUB	0	0	
2377	LKWH	491	550	1476.0	0	0		ES	Y	11929	19	5	94	J04	10	1289.0	RUB	0	0	
2378	LKWH	472	526	1158.0	0	0		ES	Y	11930	19	5	94	J04	10	1289.0	RUB	0	0	
2379	LKWH	473	528	1329.0	0	0		ES	Y	11931	19	5	94	J04	10	1289.0	RUB	0	0	
2380	LKWH	461	514	1265.0	0	0		ES	Y	11932	19	5	94	J04	10	1289.0	RUB	0	0	
2381	MNWH	180	197	72.0	0	0		ES		0	19	5	94	J04	10	1289.0	RUB	0	0	
2382	MNWH	206	220	94.0	0	0		ES		0	19	5	94	J04	10	1289.0	RUB	0	0	
2383	MNWH	293	316	278.0	0	0		ES	Y	11933	19	5	94	J04	10	1289.0	RUB	0	0	
2384	MNWH	143	155	36.0	0	0		ES		0	19	5	94	J04	10	1289.0	RUB	0	0	
2385	MNWH	305	328	312.0	0	0		ES	Y	11934	19	5	94	J04	10	1289.0	RUB	0	0	
2386	NRPK	647	689	2169.0	0	0	FR	ES	Y	3591	19	5	94	J04	10	1289.0	RUB	2	0	
2387	NRPK	631	668	2130.0	0	0	FR	ES	Y	11935	19	5	94	J04	10	1289.0	RUB	0	0	
2388	BLTR	431	453	741.0	0	0		ES	Y	12001	20	5	94	J03	6	1315.0	RUB	0	0	HOOK IN GILLS
2389	MNWH	140	152	0.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2390	MNWH	265	289	222.0	0	0		ES	Y	12002	20	5	94	J03	6	1315.0	RUB	0	0	
2391	RNTR	166	179	47.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2392	MNWH	238	257	166.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2393	MNWH	183	202	62.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2394	BLTR	201	216	88.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2395	MNWH	165	182	54.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2396	MNWH	229	250	122.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2397	MNWH	196	215	85.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2398	MNWH	183	205	73.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2399	RNTR	142	152	29.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2400	MNWH	215	239	118.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2401	RNTR	176	191	61.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2402	MNWH	122	134	19.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2403	MNWH	216	236	112.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2404	MNWH	179	196	60.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2405	RNTR	187	200	67.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2406	MNWH	176	193	53.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	1	0	
2407	MNWH	106	116	13.0	0	0		ES		0	20	5	94	J03	6	1315.0	RUB	0	0	
2408	MNWH	225	240	133.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2409	MNWH	189	208	72.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2410	MNWH	162	178	53.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2411	MNWH	112	124	17.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	1	0	
2412	MNWH	187	208	82.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2413	MNWH	214	236	107.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2414	MNWH	238	265	177.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2415	MNWH	296	324	363.0	0	0		ES	Y	12003	20	5	94	J03	7	1314.0	RUB	0	0	
2416	MNWH	216	258	133.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2417	MNWH	154	168	45.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2418	MNWH	263	289	211.0	0	0		ES	Y	12004	20	5	94	J03	7	1314.0	RUB	0	0	
2419	MNWH	319	347	423.0	0	0		ES	Y	12005	20	5	94	J03	7	1314.0	RUB	0	0	
2420	MNWH	210	230	102.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2421	MNWH	203	222	87.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2422	MNWH	277	304	253.0	0	0		ES	Y	12006	20	5	94	J03	7	1314.0	RUB	0	0	
2423	MNWH	258	283	206.0	0	0		ES	Y	12008	20	5	94	J03	7	1314.0	RUB	0	0	
2424	MNWH	243	266	191.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2425	MNWH	150	165	45.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2426	MNWH	184	202	75.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2427	MNWH	153	169	41.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2428	MNWH	134	147	30.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2429	MNWH	136	149	30.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2430	MNWH	125	138	25.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2431	MNWH	279	304	299.0	0	0		ES	Y	12009	20	5	94	J03	7	1314.0	RUB	0	0	
2432	MNWH	226	248	150.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2433	BKTR	252	263	142.0	0	0		ES	Y	12010	20	5	94	J03	7	1314.0	RUB	0	0	
2434	MNWH	167	184	52.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2435	MNWH	172	190	53.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2436	RNTR	220	235	101.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2437	MNWH	268	295	234.0	0	0		ES	Y	12011	20	5	94	J03	7	1314.0	RUB	0	0	
2438	MNWH	169	186	54.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2439	MNWH	164	181	44.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2440	MNWH	167	185	52.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2441	MNWH	130	143	21.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2442	MNWH	129	143	22.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2443	BKTR	205	215	84.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2444	MNWH	74	79	2.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2445	MNWH	226	249	124.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2446	MNWH	169	185	48.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2447	MNWH	156	170	38.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2448	MNWH	122	136	15.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2449	MNWH	116	127	10.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2450	MNWH	137	152	27.0	0	0		ES		0	20	5	94	J03	7	1314.0	RUB	0	0	
2451	MNWH	341	362	396.0	0	0		ES	Y	12012	20	5	94	J03	3	1313.0	LUB	0	0	
2452	MNWH	278	300	281.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2453	MNWH	210	229	124.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2454	MNWH	268	290	260.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2455	MNWH	165	178	40.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2456	MNWH	170	184	49.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2457	MNWH	146	157	32.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2458	LNSC	417	448	0.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2459	LNSC	422	451	0.0	19	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2460	BLTR	254	268	168.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2461	LNSC	400	419	0.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2462	MNWH	286	310	283.0	0	0		ES	Y	12013	20	5	94	J03	3	1313.0	LUB	0	0	
2463	MNWH	230	249	166.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2464	MNWH	183	198	72.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2465	MNWH	142	153	29.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2466	RNTR	208	219	123.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2467	MNWH	202	219	101.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2468	MNWH	271	295	207.0	0	0		ES	Y	12014	20	5	94	J03	3	1313.0	LUB	0	0	
2469	MNWH	180	196	76.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2470	MNWH	191	208	72.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2471	MNWH	202	218	114.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2472	MNWH	140	152	0.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2473	MNWH	271	294	231.0	0	0		ES	Y	12015	20	5	94	J03	3	1313.0	LUB	0	0	
2474	MNWH	253	276	187.0	0	0		ES	Y	12016	20	5	94	J03	3	1313.0	LUB	0	0	
2475	MNWH	221	241	111.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2476	MNWH	188	205	72.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2477	MNWH	140	151	23.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2478	MNWH	144	158	26.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2479	MNWH	138	145	19.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2480	MNWH	312	336	344.0	0	0		ES	Y	12017	20	5	94	J03	3	1313.0	LUB	0	0	
2481	MNWH	214	232	97.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2482	MNWH	234	253	141.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2483	MNWH	195	211	78.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2484	MNWH	196	201	65.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2485	MNWH	180	195	46.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2486	MNWH	178	197	51.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2487	MNWH	182	196	56.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2488	MNWH	153	166	30.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2489	MNWH	137	152	21.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2490	BLTR	360	381	510.0	0	0		ES	Y	12018	20	5	94	J03	3	1313.0	LUB	0	0	
2491	MNWH	213	232	110.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2492	MNWH	258	278	177.0	0	0		ES	Y	12019	20	5	94	J03	3	1313.0	LUB	0	0	
2493	MNWH	216	235	105.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2494	MNWH	245	264	169.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2495	MNWH	222	242	131.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2496	MNWH	184	203	67.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2497	MNWH	124	134	26.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2498	MNWH	218	235	124.0	0	0		ES		0	20	5	94	J03	3	1313.0	LUB	0	0	
2499	MNWH	234	253	171.0	0	0		ES		0	20	5	94	J03	4	1312.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2500	MNWH	293	316	309.0	0	0		ES		0	20	5	94	J03	4	1312.0	LUB	0	0	
2501	MNWH	231	252	152.0	0	0		ES		0	20	5	94	J03	4	1312.0	LUB	0	0	
2502	MNWH	158	173	47.0	0	0		ES		0	20	5	94	J03	4	1312.0	LUB	0	0	
2503	MNWH	144	154	34.0	0	0		ES		0	20	5	94	J03	4	1312.0	LUB	0	0	
2504	MNWH	217	238	119.0	0	0		ES		0	20	5	94	J03	4	1312.0	LUB	0	0	
2505	MNWH	229	247	139.0	0	0		ES		0	20	5	94	J03	4	1312.0	LUB	0	0	
2506	MNWH	183	198	71.0	0	0		ES		0	20	5	94	J03	4	1312.0	LUB	0	0	
2507	MNWH	225	245	139.0	0	0		ES		0	20	5	94	J03	4	1312.0	LUB	0	0	
2508	MNWH	196	212	98.0	0	0		ES		0	20	5	94	J03	4	1312.0	LUB	1	0	
2509	MNWH	316	338	314.0	0	0		ES	Y	12020	20	5	94	J03	10	1311.0	RUB	0	0	
2510	MNWH	299	344	305.0	0	0		ES	Y	12021	20	5	94	J03	10	1311.0	RUB	0	0	
2511	MNWH	210	231	85.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2512	MNWH	260	282	245.0	0	0		ES	Y	12022	20	5	94	J03	10	1311.0	RUB	0	0	
2513	MNWH	307	333	344.0	0	0		ES	Y	12023	20	5	94	J03	10	1311.0	RUB	0	0	
2514	MNWH	315	339	329.0	0	0		ES	Y	12024	20	5	94	J03	10	1311.0	RUB	0	0	
2515	MNWH	342	368	464.0	0	0		ES	Y	12025	20	5	94	J03	10	1311.0	RUB	0	0	
2516	MNWH	339	364	456.0	0	0		ES	Y	12026	20	5	94	J03	10	1311.0	RUB	0	0	
2517	MNWH	309	336	347.0	0	0		ES	Y	12027	20	5	94	J03	10	1311.0	RUB	0	0	
2518	MNWH	351	378	449.0	0	0		ES	Y	12028	20	5	94	J03	10	1311.0	RUB	0	0	
2519	MNWH	292	317	337.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2520	MNWH	261	279	225.0	0	0		ES	Y	12029	20	5	94	J03	10	1311.0	RUB	0	0	
2521	MNWH	303	328	358.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2522	MNWH	284	308	293.0	0	0		ES	Y	12030	20	5	94	J03	10	1311.0	RUB	0	0	
2523	MNWH	239	261	166.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2524	MNWH	256	278	150.0	0	0		ES	Y	12031	20	5	94	J03	10	1311.0	RUB	0	0	
2525	MNWH	322	346	368.0	0	0		ES	Y	12032	20	5	94	J03	10	1311.0	RUB	0	0	
2526	MNWH	301	330	381.0	0	0		ES	Y	12033	20	5	94	J03	10	1311.0	RUB	0	0	
2527	MNWH	292	317	351.0	0	0		ES	Y	12034	20	5	94	J03	10	1311.0	RUB	0	0	
2528	MNWH	287	312	325.0	0	0		ES	Y	12035	20	5	94	J03	10	1311.0	RUB	0	0	
2529	MNWH	339	366	444.0	0	0		ES	Y	12036	20	5	94	J03	10	1311.0	RUB	0	0	
2530	MNWH	244	268	215.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2531	MNWH	179	193	71.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2532	MNWH	142	153	25.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2533	MNWH	185	201	82.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2534	MNWH	156	168	50.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2535	MNWH	184	197	80.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2536	MNWH	208	228	107.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2537	MNWH	156	167	49.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2538	MNWH	270	292	271.0	0	0		ES	Y	12037	20	5	94	J03	10	1311.0	RUB	0	0	
2539	MNWH	293	318	278.0	0	0		ES	Y	12038	20	5	94	J03	10	1311.0	RUB	0	0	
2540	MNWH	301	327	361.0	0	0		ES	Y	12039	20	5	94	J03	10	1311.0	RUB	0	0	
2541	MNWH	268	290	264.0	0	0		ES	Y	12040	20	5	94	J03	10	1311.0	RUB	0	0	
2542	MNWH	311	335	358.0	0	0		ES	Y	12041	20	5	94	J03	10	1311.0	RUB	0	0	
2543	MNWH	286	307	302.0	0	0		ES	Y	12042	20	5	94	J03	10	1311.0	RUB	0	0	
2544	MNWH	245	264	172.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2545	MNWH	211	229	138.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2546	MNWH	276	300	303.0	0	0		ES	Y	12043	20	5	94	J03	10	1311.0	RUB	0	0	
2547	MNWH	265	286	222.0	0	0		ES	Y	12044	20	5	94	J03	10	1311.0	RUB	0	0	
2548	MNWH	255	278	235.0	0	0		ES	Y	12045	20	5	94	J03	10	1311.0	RUB	0	0	
2549	MNWH	275	298	276.0	0	0		ES	Y	12046	20	5	94	J03	10	1311.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2550	MNWH	190	207	79.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2551	MNWH	203	220	94.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2552	MNWH	204	225	106.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2553	MNWH	217	239	115.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2554	MNWH	231	253	161.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2555	MNWH	177	195	73.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2556	MNWH	194	210	94.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2557	MNWH	149	161	35.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2558	MNWH	187	203	74.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2559	MNWH	151	163	34.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2560	MNWH	160	171	35.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2561	MNWH	175	192	51.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2562	MNWH	328	355	422.0	0	0		ES	Y	12007	20	5	94	J03	10	1311.0	RUB	0	0	
2563	MNWH	289	314	298.0	0	0		ES	Y	12047	20	5	94	J03	10	1311.0	RUB	0	0	
2564	MNWH	268	292	230.0	0	0		ES	Y	12048	20	5	94	J03	10	1311.0	RUB	0	0	
2565	MNWH	238	257	155.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2566	BKTR	116	123	7.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2567	MNWH	195	213	67.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2568	RNTR	226	242	118.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2569	MNWH	219	239	107.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2570	MNWH	173	189	54.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2571	MNWH	212	230	127.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2572	MNWH	177	192	55.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2573	MNWH	132	145	28.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2574	MNWH	157	175	32.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2575	MNWH	139	149	19.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2576	MNWH	144	156	44.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2577	MNWH	180	196	60.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2578	MNWH	206	227	112.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2579	MNWH	134	147	25.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2580	MNWH	139	150	17.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2581	MNWH	156	171	31.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2582	MNWH	175	190	77.0	0	0		ES		0	20	5	94	J03	10	1311.0	RUB	0	0	
2583	MNWH	283	304	318.0	14	0		ES		0	20	5	94	J03	10	1311.0	RUB	1	0	ST5 UNIDENTIFIED
2584	MNWH	189	208	87.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2585	MNWH	161	177	33.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2586	MNWH	222	244	134.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2587	MNWH	160	179	41.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2588	MNWH	126	139	18.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2589	MNWH	210	229	113.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2590	MNWH	200	219	78.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2591	MNWH	131	144	25.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2592	MNWH	154	169	29.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2593	MNWH	165	182	38.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2594	MNWH	164	179	42.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2595	MNWH	147	162	31.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2596	RNTR	251	265	132.0	0	0		ES	Y	12049	20	5	94	J03	1	1315.0	LUB	0	0	
2597	MNWH	131	145	0.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2598	MNWH	151	171	35.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2599	MNWH	138	152	23.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2600	MNWH	184	203	56.0	0	0		ES		0	20	5	94	J03	1	1315.0	LUB	0	0	
2601	MNWH	189	210	82.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2602	MNWH	184	200	64.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2603	MNWH	183	200	67.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2604	MNWH	249	273	191.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2605	MNWH	248	272	192.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2606	MNWH	232	253	141.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2607	MNWH	178	197	67.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2608	MNWH	146	163	0.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2609	MNWH	137	149	22.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2610	MNWH	259	284	213.0	0	0		ES	Y	12050	20	5	94	J03	2	1314.0	LUB	0	0	
2611	MNWH	179	198	57.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2612	MNWH	210	229	98.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2613	BLTR	251	268	168.0	0	0		ES	Y	12052	20	5	94	J03	2	1314.0	LUB	0	0	
2614	MNWH	229	249	143.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2615	MNWH	141	154	21.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2616	MNWH	227	248	145.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2617	MNWH	215	234	104.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2618	MNWH	133	146	26.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2619	MNWH	198	217	91.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2620	MNWH	211	231	108.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2621	MNWH	194	214	94.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2622	MNWH	181	199	0.0	0	0		ES		0	20	5	94	J03	2	1314.0	LUB	0	0	
2623	MNWH	226	245	141.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2624	MNWH	325	349	347.0	0	0		ES	Y	12053	20	5	94	J03	8	1313.0	RUB	0	0	
2625	MNWH	211	229	111.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2626	MNWH	215	235	107.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2627	MNWH	229	249	144.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2628	MNWH	125	137	0.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2629	MNWH	121	131	0.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2630	RNTR	208	221	92.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2631	RNTR	189	201	73.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2632	MNWH	228	245	149.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2633	MNWH	249	267	167.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2634	MNWH	233	253	142.0	0	0		ES		0	20	5	94	J03	8	1313.0	RUB	0	0	
2635	MNWH	253	276	232.0	0	0		ES	Y	12054	20	5	94	J03	9	1312.0	RUB	0	0	
2636	MNWH	293	317	284.0	0	0		ES	Y	12055	20	5	94	J03	9	1312.0	RUB	0	0	
2637	MNWH	222	243	140.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2638	MNWH	214	234	128.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2639	MNWH	168	181	47.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2640	MNWH	183	201	71.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2641	MNWH	173	189	68.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2642	MNWH	158	172	41.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2643	MNWH	146	159	34.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2644	MNWH	236	256	147.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2645	MNWH	196	215	96.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2646	MNWH	176	193	68.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2647	MNWH	214	232	122.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2648	MNWH	144	158	36.0	0	0		ES		0	20	5	94	J03	9	1312.0	RUB	0	0	
2649	MNWH	196	215	78.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2650	MNWH	288	311	295.0	0	0		ES	Y	12056	20	5	94	J03	5	1311.0	LUB	0	0	
2651	MNWH	280	306	282.0	0	0		ES	Y	12057	20	5	94	J03	5	1311.0	LUB	0	0	
2652	MNWH	408	437	661.0	0	0		ES	Y	12058	20	5	94	J03	5	1311.0	LUB	0	0	
2653	MNWH	317	343	396.0	0	0		ES	Y	12059	20	5	94	J03	5	1311.0	LUB	0	0	
2654	MNWH	312	337	357.0	0	0		ES	Y	12060	20	5	94	J03	5	1311.0	LUB	0	0	
2655	MNWH	315	344	446.0	0	0		ES	Y	12061	20	5	94	J03	5	1311.0	LUB	0	0	
2656	MNWH	297	323	355.0	0	0		ES	Y	12062	20	5	94	J03	5	1311.0	LUB	0	0	
2657	MNWH	284	308	290.0	0	0		ES	Y	12063	20	5	94	J03	5	1311.0	LUB	0	0	
2658	MNWH	265	286	248.0	0	0		ES	Y	12064	20	5	94	J03	5	1311.0	LUB	0	0	
2659	MNWH	325	357	443.0	0	0		ES	Y	12065	20	5	94	J03	5	1311.0	LUB	0	0	
2660	MNWH	275	300	291.0	0	0		ES	Y	12066	20	5	94	J03	5	1311.0	LUB	0	0	
2661	MNWH	254	276	230.0	0	0		ES	Y	12067	20	5	94	J03	5	1311.0	LUB	0	0	
2662	MNWH	290	310	284.0	0	0		ES	Y	12068	20	5	94	J03	5	1311.0	LUB	0	0	
2663	MNWH	245	266	207.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2664	MNWH	188	205	94.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2665	MNWH	187	201	109.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2666	MNWH	222	240	162.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2667	MNWH	191	205	76.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2668	MNWH	157	173	50.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2669	MNWH	144	168	0.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2670	MNWH	253	275	272.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2671	MNWH	360	393	590.0	0	0		ES	Y	12069	20	5	94	J03	5	1311.0	LUB	0	0	
2672	MNWH	250	274	183.0	0	0		ES	Y	12070	20	5	94	J03	5	1311.0	LUB	0	0	
2673	MNWH	265	284	212.0	0	0		ES	Y	12071	20	5	94	J03	5	1311.0	LUB	0	0	
2674	MNWH	245	269	212.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2675	MNWH	351	381	481.0	0	0		ES	Y	12072	20	5	94	J03	5	1311.0	LUB	0	0	
2676	MNWH	159	170	53.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2677	MNWH	150	163	49.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2678	MNWH	179	195	91.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2679	MNWH	220	241	152.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2680	MNWH	143	153	40.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2681	MNWH	210	228	129.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2682	MNWH	150	162	43.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2683	MNWH	232	252	154.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2684	MNWH	196	212	109.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2685	MNWH	304	331	325.0	0	0		ES	Y	12051	20	5	94	J03	5	1311.0	LUB	0	0	
2686	MNWH	147	156	33.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2687	MNWH	200	218	96.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2688	MNWH	167	179	64.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2689	MNWH	155	167	48.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2690	MNWH	144	156	35.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2691	MNWH	185	203	79.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2692	MNWH	235	254	151.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2693	MNWH	232	253	147.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2694	MNWH	197	211	107.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2695	MNWH	220	241	163.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2696	MNWH	192	203	93.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2697	MNWH	162	176	56.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2698	MNWH	173	188	72.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2699	MNWH	233	253	144.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2700	MNWH	171	185	60.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2701	MNWH	212	232	118.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2702	MNWH	191	211	100.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2703	MNWH	157	170	59.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2704	MNWH	157	171	54.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2705	MNWH	162	175	51.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	0	0	
2706	MNWH	187	203	90.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	1	0	
2707	MNWH	375	403	720.0	0	0		ES		0	20	5	94	J03	5	1311.0	LUB	1	0	ST20 20 TRIC
2708	BLTR	631	662	3133.0	0	0		ES	Y	12073	20	5	94	J03	5	1311.0	LUB	0	0	
2709	MNWH	311	335	387.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	START AT KM1340
2710	MNWH	295	317	293.0	0	0		ES	Y	12074	21	5	94	J01A	1	1339.0	LUB	0	0	KM1339 BOTTOMENDLUB
2711	MNWH	225	242	133.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2712	MNWH	252	272	161.0	0	0		ES	Y	12075	21	5	94	J01A	1	1339.0	LUB	0	0	
2713	MNWH	235	256	141.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2714	MNWH	216	235	112.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2715	MNWH	153	166	35.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2716	MNWH	160	174	43.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2717	MNWH	180	199	69.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2718	MNWH	128	136	22.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2719	MNWH	254	272	169.0	0	0		ES	Y	12076	21	5	94	J01A	1	1339.0	LUB	0	0	
2720	MNWH	229	246	131.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2721	MNWH	210	231	107.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2722	MNWH	147	159	27.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2723	MNWH	165	180	50.0	0	0		ES		0	21	5	94	J01A	1	1339.0	LUB	0	0	
2724	BLTR	467	492	1103.0	0	0		ES	Y	12077	21	5	94	J01A	1	1339.0	LUB	0	0	
2725	MNWH	260	282	163.0	0	0		ES	Y	12078	21	5	94	J01A	2	1338.0	LUB	0	0	
2726	MNWH	295	319	284.0	0	0		ES	Y	12079	21	5	94	J01A	2	1338.0	LUB	0	0	
2727	MNWH	336	359	0.0	0	0		ES	Y	12081	21	5	94	J01A	2	1338.0	LUB	0	0	
2728	MNWH	299	326	343.0	0	0		ES	Y	12082	21	5	94	J01A	2	1338.0	LUB	0	0	
2729	MNWH	275	296	236.0	0	0		ES	Y	12083	21	5	94	J01A	2	1338.0	LUB	0	0	
2730	MNWH	245	263	162.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2731	MNWH	243	264	173.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2732	MNWH	213	229	103.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2733	MNWH	160	172	40.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2734	MNWH	212	234	100.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2735	MNWH	220	234	116.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2736	MNWH	185	200	69.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2737	MNWH	159	172	40.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2738	MNWH	158	174	56.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2739	MNWH	124	136	20.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2740	MNWH	150	165	33.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2741	MNWH	237	257	149.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2742	MNWH	235	252	132.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2743	MNWH	222	238	97.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2744	MNWH	175	190	62.0	0	0		ES		0	21	5	94	J01A	2	1338.0	LUB	0	0	
2745	MNWH	285	306	246.0	0	0		ES	Y	12084	21	5	94	J01A	3	1337.0	RUB	0	0	
2746	MNWH	260	280	200.0	0	0		ES	Y	12085	21	5	94	J01A	3	1337.0	RUB	0	0	
2747	MNWH	195	211	82.0	0	0		ES		0	21	5	94	J01A	3	1337.0	RUB	0	0	
2748	MNWH	229	250	129.0	0	0		ES		0	21	5	94	J01A	3	1337.0	RUB	0	0	
2749	MNWH	202	220	89.0	0	0		ES		0	21	5	94	J01A	3	1337.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2750	MNWH	209	225	87.0	0	0		ES		0	21	5	94	J01A	3	1337.0	RUB	0	0	
2751	MNWH	177	191	55.0	0	0		ES		0	21	5	94	J01A	3	1337.0	RUB	0	0	
2752	MNWH	154	168	38.0	0	0		ES		0	21	5	94	J01A	3	1337.0	RUB	0	0	
2753	MNWH	155	167	43.0	0	0		ES		0	21	5	94	J01A	3	1337.0	RUB	0	0	
2754	MNWH	163	178	44.0	0	0		ES		0	21	5	94	J01A	3	1337.0	RUB	0	0	
2755	MNWH	143	155	32.0	0	0		ES		0	21	5	94	J01A	3	1337.0	RUB	0	0	
2756	MNWH	134	144	24.0	0	0		ES		0	21	5	94	J01A	3	1337.0	RUB	0	0	
2757	MNWH	305	325	314.0	0	0		ES	Y	12080	21	5	94	J01A	4	1336.0	RUB	0	0	
2758	MNWH	212	233	109.0	0	0		ES		0	21	5	94	J01A	5	1335.0	RUB	0	0	
2759	MNWH	205	221	93.0	0	0		ES		0	21	5	94	J01A	5	1335.0	RUB	0	0	
2760	MNWH	171	183	48.0	0	0		ES		0	21	5	94	J01A	5	1335.0	RUB	0	0	
2761	MNWH	140	153	26.0	0	0		ES		0	21	5	94	J01A	5	1335.0	RUB	0	0	
2762	MNWH	214	233	126.0	0	0		ES		0	21	5	94	J01A	5	1335.0	RUB	0	0	
2763	MNWH	130	141	21.0	0	0		ES		0	21	5	94	J01A	5	1335.0	RUB	0	0	
2764	MNWH	132	142	19.0	0	0		ES		0	21	5	94	J01A	5	1335.0	RUB	0	0	
2765	MNWH	253	275	227.0	0	0		ES	Y	12086	21	5	94	J01A	6	1339.0	RUB	0	0	KM1339.0 RUB
2766	MNWH	233	252	133.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	0	0	
2767	MNWH	168	183	50.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	0	0	
2768	MNWH	203	221	84.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	0	0	
2769	MNWH	221	241	120.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	0	0	
2770	MNWH	195	214	89.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	0	0	
2771	MNWH	148	157	30.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	0	0	
2772	MNWH	211	230	107.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	0	0	
2773	MNWH	158	173	54.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	0	0	
2774	MNWH	137	148	30.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	1	0	
2775	MNWH	157	169	40.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	0	0	
2776	MNWH	137	151	26.0	0	0		ES		0	21	5	94	J01A	6	1339.0	RUB	0	0	
2777	MNWH	261	284	202.0	0	0		ES		0	21	5	94	J01A	7	1338.0	RUB	0	0	WIMPY
2778	MNWH	273	295	244.0	0	0		ES	Y	12087	21	5	94	J01A	7	1338.0	RUB	0	0	
2779	MNWH	211	230	96.0	0	0		ES		0	21	5	94	J01A	7	1338.0	RUB	0	0	
2780	MNWH	129	140	26.0	0	0		ES		0	21	5	94	J01A	7	1338.0	RUB	0	0	
2781	MNWH	241	261	183.0	0	0		ES		0	21	5	94	J01A	7	1338.0	RUB	0	0	
2782	MNWH	219	239	144.0	0	0		ES		0	21	5	94	J01A	7	1338.0	RUB	0	0	
2783	MNWH	195	215	80.0	0	0		ES		0	21	5	94	J01A	7	1338.0	RUB	0	0	
2784	MNWH	140	153	26.0	0	0		ES		0	21	5	94	J01A	7	1338.0	RUB	0	0	
2785	MNWH	210	229	92.0	0	0		ES		0	21	5	94	J01A	7	1338.0	RUB	0	0	
2786	MNWH	150	161	38.0	0	0		ES		0	21	5	94	J01A	8	1337.0	LUB	0	0	
2787	MNWH	203	221	90.0	0	0		ES		0	21	5	94	J01A	8	1337.0	LUB	0	0	
2788	MNWH	157	172	47.0	0	0		ES		0	21	5	94	J01A	8	1337.0	LUB	0	0	
2789	MNWH	125	132	25.0	0	0		ES		0	21	5	94	J01A	8	1337.0	LUB	0	0	
2790	MNWH	120	138	25.0	0	0		ES		0	21	5	94	J01A	8	1337.0	LUB	0	0	
2791	MNWH	154	167	46.0	0	0		ES		0	21	5	94	J01A	8	1337.0	LUB	0	0	
2792	MNWH	178	196	52.0	0	0		ES		0	21	5	94	J01A	8	1337.0	LUB	0	0	
2793	MNWH	235	257	141.0	0	0		ES		0	21	5	94	J01A	9	1336.0	LUB	0	0	
2794	MNWH	272	300	207.0	0	0		ES	Y	12088	21	5	94	J01A	9	1336.0	LUB	0	0	
2795	MNWH	290	314	290.0	0	0		ES	Y	12089	21	5	94	J01A	9	1336.0	LUB	0	0	
2796	MNWH	217	233	92.0	0	0		ES		0	21	5	94	J01A	9	1336.0	LUB	0	0	
2797	MNWH	240	261	144.0	0	0		ES		0	21	5	94	J01A	9	1336.0	LUB	0	0	
2798	MNWH	233	251	118.0	0	0		ES		0	21	5	94	J01A	9	1336.0	LUB	0	0	
2799	MNWH	284	302	245.0	0	0		ES	Y	12090	21	5	94	J01A	9	1336.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2800	MNWH	284	307	268.0	0	0		ES	Y	12091	21	5	94	J01A	9	1336.0	LUB	0	0	
2801	MNWH	234	252	134.0	0	0		ES		0	21	5	94	J01A	9	1336.0	LUB	0	0	
2802	MNWH	252	275	180.0	0	0		ES	Y	12092	21	5	94	J01A	9	1336.0	LUB	0	0	
2803	MNWH	227	245	117.0	0	0		ES		0	21	5	94	J01A	9	1336.0	LUB	0	0	
2804	MNWH	172	189	41.0	0	0		ES		0	21	5	94	J01A	9	1336.0	LUB	0	0	
2805	MNWH	172	187	45.0	0	0		ES		0	21	5	94	J01A	10	1335.0	LUB	0	0	
2806	MNWH	268	290	182.0	0	0		ES	Y	12093	21	5	94	J01A	10	1335.0	LUB	0	0	
2807	MNWH	240	262	141.0	0	0		ES		0	21	5	94	J01A	10	1335.0	LUB	0	0	
2808	MNWH	163	176	44.0	0	0		ES		0	21	5	94	J01A	10	1335.0	LUB	0	0	
2809	MNWH	166	183	40.0	0	0		ES		0	21	5	94	J01A	10	1335.0	LUB	0	0	
2810	MNWH	131	142	22.0	0	0		ES		0	21	5	94	J01A	10	1335.0	LUB	0	0	
2811	MNWH	145	156	32.0	0	0		ES		0	21	5	94	J01A	10	1335.0	LUB	0	0	
2812	MNWH	120	131	19.0	0	0		ES		0	21	5	94	J01A	10	1335.0	LUB	0	0	
2813	BLTR	334	355	393.0	0	0		ES	Y	12094	21	5	94	J02	1	1326.0	LUB	0	0	
2814	MNWH	230	252	129.0	0	0		ES		0	21	5	94	J02	1	1326.0	LUB	0	0	
2815	MNWH	225	245	130.0	0	0		ES		0	21	5	94	J02	1	1326.0	LUB	0	0	
2816	MNWH	275	300	254.0	0	0		ES	Y	12095	21	5	94	J02	1	1326.0	LUB	0	0	
2817	MNWH	259	279	202.0	0	0		ES	Y	12096	21	5	94	J02	1	1326.0	LUB	0	0	
2818	MNWH	130	142	20.0	0	0		ES		0	21	5	94	J02	1	1326.0	LUB	0	0	
2819	MNWH	130	142	22.0	0	0		ES		0	21	5	94	J02	1	1326.0	LUB	0	0	
2820	MNWH	219	240	112.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2821	BLTR	369	387	499.0	0	0		ES	Y	12097	21	5	94	J02	2	1325.0	LUB	0	0	
2822	BLTR	300	316	243.0	0	0		ES	Y	12098	21	5	94	J02	2	1325.0	LUB	0	0	
2823	MNWH	263	288	196.0	0	0		ES	Y	12099	21	5	94	J02	2	1325.0	LUB	0	0	
2824	MNWH	201	222	93.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2825	MNWH	308	328	274.0	0	0		ES	Y	12100	21	5	94	J02	2	1325.0	LUB	0	0	
2826	MNWH	291	316	270.0	0	0		ES	Y	11941	21	5	94	J02	2	1325.0	LUB	0	0	
2827	MNWH	232	253	146.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2828	MNWH	229	252	115.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2829	MNWH	190	207	79.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2830	MNWH	217	236	106.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2831	MNWH	135	140	27.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2832	MNWH	162	176	47.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2833	BLTR	215	230	86.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2834	MNWH	149	162	34.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2835	MNWH	155	167	34.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	0	0	
2836	MNWH	120	133	11.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	1	0	
2837	MNWH	135	148	0.0	0	0		ES		0	21	5	94	J02	2	1325.0	LUB	1	0	
2838	MNWH	360	388	663.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	
2839	LNSC	385	407	0.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	
2840	MNWH	318	344	460.0	0	0		ES	Y	12511	22	5	94	J05	6	1275.0	RUB	0	0	
2841	MNWH	355	382	571.0	0	0		ES	Y	12512	22	5	94	J05	6	1275.0	RUB	0	0	
2842	MNWH	244	267	194.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	
2843	MNWH	314	336	329.0	0	0		ES	Y	12513	22	5	94	J05	6	1275.0	RUB	0	0	
2844	MNWH	174	190	61.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	
2845	MNWH	283	306	300.0	0	0		ES	Y	12514	22	5	94	J05	6	1275.0	RUB	0	0	
2846	MNWH	278	301	237.0	0	0		ES	Y	12515	22	5	94	J05	6	1275.0	RUB	0	0	
2847	MNWH	267	290	254.0	0	0		ES	Y	12516	22	5	94	J05	6	1275.0	RUB	0	0	
2848	MNWH	240	265	169.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	
2849	MNWH	211	232	135.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2850	MNWH	231	252	138.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	
2851	MNWH	228	249	154.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	
2852	MNWH	177	194	61.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	
2853	MNWH	256	280	197.0	0	0		ES	Y	12517	22	5	94	J05	6	1275.0	RUB	0	0	
2854	MNWH	285	311	179.0	0	0		ES	Y	12518	22	5	94	J05	6	1275.0	RUB	0	0	
2855	MNWH	207	228	113.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	
2856	MNWH	214	233	122.0	0	0		ES		0	22	5	94	J05	6	1275.0	RUB	0	0	
2857	MNWH	378	407	645.0	0	0		ES	Y	3670	22	5	94	J05	7	1274.0	RUB	2	0	
2858	MNWH	433	466	1029.0	0	0		ES	Y	12519	22	5	94	J05	7	1274.0	RUB	0	0	
2859	MNWH	270	294	238.0	0	0		ES	Y	12520	22	5	94	J05	7	1274.0	RUB	0	0	
2860	MNWH	254	279	206.0	0	0		ES	Y	12521	22	5	94	J05	7	1274.0	RUB	0	0	
2861	MNWH	231	252	176.0	0	0		ES		0	22	5	94	J05	7	1274.0	RUB	0	0	
2862	MNWH	170	187	61.0	0	0		ES		0	22	5	94	J05	7	1274.0	RUB	0	0	
2863	MNWH	200	218	83.0	0	0		ES		0	22	5	94	J05	7	1274.0	RUB	0	0	
2864	MNWH	334	358	417.0	0	0		ES	Y	12522	22	5	94	J05	7	1274.0	RUB	0	0	
2865	MNWH	339	365	440.0	0	0		ES	Y	12523	22	5	94	J05	7	1274.0	RUB	0	0	
2866	MNWH	290	316	291.0	0	0		ES	Y	12524	22	5	94	J05	7	1274.0	RUB	0	0	
2867	MNWH	343	370	433.0	0	0		ES	Y	12525	22	5	94	J05	7	1274.0	RUB	0	0	
2868	MNWH	246	270	190.0	0	0		ES		0	22	5	94	J05	7	1274.0	RUB	0	0	
2869	MNWH	137	152	30.0	0	0		ES		0	22	5	94	J05	7	1274.0	RUB	0	0	
2870	MNWH	143	157	34.0	0	0		ES		0	22	5	94	J05	7	1274.0	RUB	0	0	
2871	MNWH	182	198	64.0	0	0		ES		0	22	5	94	J05	7	1274.0	RUB	0	0	
2872	MNWH	380	410	662.0	14	0	SC	ES		0	22	5	94	J05	7	1274.0	RUB	1	0	ST5 3TRIC/2MISC
2873	MNWH	440	471	1121.0	0	0		ES	Y	12151	22	5	94	J05	3	1273.0	LUB	0	0	
2874	MNWH	324	346	352.0	0	0		ES	Y	12152	22	5	94	J05	3	1273.0	LUB	0	0	
2875	MNWH	403	431	642.0	0	0		ES	Y	12153	22	5	94	J05	3	1273.0	LUB	0	0	
2876	MNWH	322	345	388.0	0	0		ES	Y	12155	22	5	94	J05	3	1273.0	LUB	0	0	
2877	LNSC	406	433	0.0	0	0		ES		0	22	5	94	J05	3	1273.0	LUB	0	0	
2878	MNWH	325	347	406.0	11	0	SC	ES		0	22	5	94	J05	3	1273.0	LUB	1	0	ST5 3TRIC/2PLEC
2879	MNWH	266	287	239.0	0	0		ES	Y	12157	22	5	94	J05	3	1273.0	LUB	0	0	
2880	MNWH	307	330	367.0	0	0		ES	Y	12158	22	5	94	J05	3	1273.0	LUB	0	0	
2881	MNWH	325	349	420.0	0	0		ES	Y	12159	22	5	94	J05	3	1273.0	LUB	0	0	
2882	MNWH	327	347	425.0	0	0		ES	Y	12160	22	5	94	J05	3	1273.0	LUB	0	0	
2883	MNWH	263	284	246.0	0	0		ES	Y	12161	22	5	94	J05	3	1273.0	LUB	0	0	
2884	MNWH	305	330	291.0	0	0		ES	Y	12162	22	5	94	J05	3	1273.0	LUB	0	0	
2885	MNWH	183	201	64.0	0	0		ES		0	22	5	94	J05	3	1273.0	LUB	0	0	
2886	MNWH	155	169	38.0	0	0		ES		0	22	5	94	J05	3	1273.0	LUB	0	0	
2887	MNWH	123	136	18.0	0	0		ES		0	22	5	94	J05	3	1273.0	LUB	0	0	
2888	MNWH	129	139	20.0	0	0		ES		0	22	5	94	J05	3	1273.0	LUB	0	0	
2889	MNWH	271	293	254.0	0	0		ES	Y	12163	22	5	94	J05	4	1272.0	LUB	0	0	
2890	MNWH	121	132	18.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2891	MNWH	146	161	35.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2892	LNSC	406	433	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2893	LNSC	405	435	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2894	MNWH	349	374	468.0	0	0		ES	Y	12164	22	5	94	J05	4	1272.0	LUB	0	0	
2895	MNWH	303	329	351.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2896	MNWH	229	246	130.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2897	MNWH	126	137	27.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	1	0	
2898	MNWH	126	137	13.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2899	MNWH	144	156	30.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2900	MNWH	327	350	434.0	0	0		ES	Y	12165	22	5	94	J05	4	1272.0	LUB	0	0	
2901	MNWH	262	283	256.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2902	MNWH	140	151	27.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2903	MNWH	132	146	20.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2904	MNWH	433	464	873.0	0	0		ES	Y	12166	22	5	94	J05	4	1272.0	LUB	0	0	
2905	MNWH	367	392	541.0	0	0		ES	Y	12167	22	5	94	J05	4	1272.0	LUB	0	0	
2906	MNWH	221	240	147.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2907	LNSC	404	431	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2908	MNWH	267	285	212.0	0	0		ES	Y	12168	22	5	94	J05	4	1272.0	LUB	0	0	
2909	MNWH	169	185	52.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2910	MNWH	153	163	34.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2911	MNWH	138	151	26.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2912	MNWH	142	155	32.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2913	MNWH	140	152	20.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2914	MNWH	141	153	29.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2915	LNSC	364	388	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2916	MNWH	391	421	625.0	0	0		ES	Y	12169	22	5	94	J05	4	1272.0	LUB	0	0	
2917	MNWH	334	359	390.0	0	0		ES	Y	12170	22	5	94	J05	4	1272.0	LUB	0	0	
2918	MNWH	225	245	118.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2919	MNWH	314	336	366.0	0	0		ES	Y	12172	22	5	94	J05	4	1272.0	LUB	0	0	
2920	MNWH	142	151	29.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2921	MNWH	392	427	595.0	0	0		ES	Y	3712	22	5	94	J05	4	1272.0	LUB	2	0	
2922	MNWH	171	185	50.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2923	MNWH	152	165	35.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2924	MNWH	132	141	18.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2925	MNWH	146	156	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2926	BLTR	560	585	1833.0	0	0		ES	Y	12173	22	5	94	J05	4	1272.0	LUB	0	0	
2927	MNWH	148	163	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2928	MNWH	145	156	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2929	MNWH	142	154	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2930	MNWH	139	146	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2931	MNWH	148	160	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2932	MNWH	139	151	0.0	0	0		ES		0	22	5	94	J05	4	1272.0	LUB	0	0	
2933	LNSC	376	401	0.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2934	LNSC	434	461	0.0	9	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2935	LNSC	416	442	0.0	18	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2936	LNSC	437	466	0.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2937	LNSC	385	408	0.0	9	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2938	LNSC	372	397	0.0	9	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2939	LNSC	388	412	0.0	18	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2940	LNSC	399	426	0.0	9	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2941	LNSC	382	411	0.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2942	LNSC	395	425	0.0	9	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2943	LNSC	365	388	0.0	9	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2944	LNSC	392	413	0.0	9	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2945	MNWH	230	251	134.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2946	MNWH	222	242	151.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2947	MNWH	273	297	228.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2948	MNWH	218	242	123.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2949	MNWH	151	166	43.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
2950	MNWH	137	148	29.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2951	MNWH	260	284	220.0	0	0		ES	Y	12174	22	5	94	J05	1	1275.0	LUB	0	0	
2952	BLTR	316	337	333.0	0	0		ES	Y	12175	22	5	94	J05	1	1275.0	LUB	0	0	
2953	MNWH	270	291	203.0	0	0		ES	Y	12171	22	5	94	J05	1	1275.0	LUB	0	0	
2954	MNWH	276	316	271.0	0	0		ES	Y	12154	22	5	94	J05	1	1275.0	LUB	0	0	
2955	MNWH	240	258	148.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2956	MNWH	186	206	75.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2957	MNWH	211	232	107.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2958	MNWH	177	195	70.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2959	MNWH	187	202	67.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2960	MNWH	167	172	57.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2961	MNWH	154	167	46.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2962	MNWH	145	160	36.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2963	MNWH	125	135	22.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2964	MNWH	158	172	44.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2965	MNWH	132	147	31.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2966	MNWH	143	157	34.0	0	0		ES		0	22	5	94	J05	1	1275.0	LUB	0	0	
2967	MNWH	318	341	371.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2968	MNWH	304	328	0.0	0	0		ES	Y	12156	22	5	94	J05	2	1274.0	LUB	0	0	
2969	MNWH	272	297	258.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2970	MNWH	373	396	559.0	0	0		ES	Y	3619	22	5	94	J05	2	1274.0	LUB	2	0	
2971	MNWH	243	270	172.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2972	MNWH	310	335	341.0	0	0		ES	Y	12200	22	5	94	J05	2	1274.0	LUB	0	0	
2973	MNWH	350	380	480.0	0	0		ES	Y	12199	22	5	94	J05	2	1274.0	LUB	0	0	
2974	MNWH	275	295	226.0	0	0		ES	Y	12198	22	5	94	J05	2	1274.0	LUB	0	0	
2975	MNWH	252	272	190.0	0	0		ES	Y	12197	22	5	94	J05	2	1274.0	LUB	0	0	
2976	MNWH	285	310	303.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2977	MNWH	256	275	278.0	0	0		ES	Y	12195	22	5	94	J05	2	1274.0	LUB	0	0	
2978	MNWH	279	295	220.0	0	0		ES	Y	12194	22	5	94	J05	2	1274.0	LUB	0	0	
2979	MNWH	205	223	94.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2980	MNWH	185	200	75.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2981	MNWH	194	208	83.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2982	MNWH	194	206	80.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2983	MNWH	191	202	76.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2984	MNWH	180	196	63.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2985	MNWH	165	179	48.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2986	MNWH	147	160	36.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2987	MNWH	302	326	311.0	0	0		ES	Y	12193	22	5	94	J05	2	1274.0	LUB	0	0	
2988	MNWH	296	316	293.0	0	0		ES	Y	12192	22	5	94	J05	2	1274.0	LUB	0	0	
2989	MNWH	232	250	156.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2990	MNWH	212	232	106.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2991	MNWH	193	209	74.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2992	MNWH	245	265	153.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2993	MNWH	168	183	57.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2994	MNWH	154	166	41.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2995	MNWH	178	192	60.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2996	MNWH	145	160	31.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	1	0	
2997	MNWH	147	162	39.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2998	MNWH	130	141	27.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
2999	MNWH	160	175	52.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3000	MNWH	206	224	96.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
3001	MNWH	185	196	70.0	0	0		ES		0	22	5	94	J05	2	1274.0	LUB	0	0	
3002	LNSC	450	479	0.0	18	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3003	MNWH	419	450	854.0	0	0		ES	Y	12196	22	5	94	J05	8	1273.0	RUB	0	0	
3004	MNWH	317	339	349.0	0	0		ES	Y	12176	22	5	94	J05	8	1273.0	RUB	0	0	
3005	MNWH	411	446	854.0	0	0		ES	Y	12177	22	5	94	J05	8	1273.0	RUB	0	0	
3006	LNSC	390	416	0.0	9	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3007	LNSC	394	421	0.0	18	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3008	LNSC	425	456	0.0	18	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3009	LNSC	414	437	0.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3010	MNWH	200	221	115.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3011	MNWH	263	287	204.0	0	0		ES	Y	12178	22	5	94	J05	8	1273.0	RUB	0	0	
3012	MNWH	173	186	37.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3013	MNWH	167	182	39.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3014	MNWH	257	279	213.0	0	0		ES	Y	12179	22	5	94	J05	8	1273.0	RUB	0	0	
3015	MNWH	283	306	220.0	0	0		ES	Y	12180	22	5	94	J05	8	1273.0	RUB	0	0	
3016	MNWH	129	141	14.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3017	LNSC	360	382	0.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3018	MNWH	297	320	274.0	0	0		ES	Y	12181	22	5	94	J05	8	1273.0	RUB	0	0	
3019	MNWH	273	295	244.0	0	0		ES	Y	12182	22	5	94	J05	8	1273.0	RUB	0	0	
3020	MNWH	263	284	208.0	0	0		ES	Y	12183	22	5	94	J05	8	1273.0	RUB	0	0	
3021	MNWH	153	166	28.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3022	MNWH	167	184	34.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3023	MNWH	132	144	20.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3024	MNWH	104	112	15.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3025	MNWH	139	151	24.0	0	0		ES		0	22	5	94	J05	8	1273.0	RUB	0	0	
3026	MNWH	417	446	775.0	0	0		ES	Y	12184	22	5	94	J05	9	1272.0	RUB	0	0	
3027	MNWH	267	288	241.0	0	0		ES	Y	12185	22	5	94	J05	9	1272.0	RUB	0	0	
3028	MNWH	310	333	395.0	0	0		ES	Y	12186	22	5	94	J05	9	1272.0	RUB	0	0	
3029	MNWH	142	154	19.0	0	0		ES		0	22	5	94	J05	9	1272.0	RUB	0	0	
3030	BLTR	436	453	897.0	0	0		ES	Y	12187	22	5	94	J05	9	1272.0	RUB	0	0	
3031	MNWH	333	358	418.0	0	0		ES	Y	12188	22	5	94	J05	9	1272.0	RUB	0	0	
3032	MNWH	250	273	190.0	0	0		ES	Y	12189	22	5	94	J05	9	1272.0	RUB	0	0	
3033	MNWH	246	266	187.0	0	0		ES		0	22	5	94	J05	9	1272.0	RUB	0	0	
3034	MNWH	307	332	359.0	0	0		ES	Y	12190	22	5	94	J05	9	1272.0	RUB	0	0	
3035	MNWH	237	257	168.0	0	0		ES		0	22	5	94	J05	9	1272.0	RUB	0	0	
3036	MNWH	320	348	380.0	0	0		ES	Y	12191	22	5	94	J05	9	1272.0	RUB	0	0	
3037	MNWH	181	196	69.0	0	0		ES		0	22	5	94	J05	9	1272.0	RUB	0	0	
3038	MNWH	134	145	26.0	0	0		ES		0	22	5	94	J05	9	1272.0	RUB	0	0	
3039	MNWH	321	346	357.0	0	0		ES	Y	12101	22	5	94	J05	10	1271.0	RUB	0	0	
3040	MNWH	301	326	349.0	0	0		ES	Y	12102	22	5	94	J05	10	1271.0	RUB	0	0	
3041	MNWH	354	377	510.0	0	0		ES	Y	12103	22	5	94	J05	10	1271.0	RUB	0	0	
3042	MNWH	223	241	95.0	0	0		ES		0	22	5	94	J05	10	1271.0	RUB	0	0	
3043	MNWH	160	174	29.0	0	0		ES		0	22	5	94	J05	10	1271.0	RUB	0	0	
3044	MNWH	341	365	442.0	0	0		ES	Y	12104	22	5	94	J05	10	1271.0	RUB	0	0	
3045	MNWH	159	170	31.0	0	0		ES		0	22	5	94	J05	10	1271.0	RUB	0	0	
3046	MNWH	271	290	229.0	0	0		ES	Y	12105	22	5	94	J05	10	1271.0	RUB	0	0	
3047	MNWH	176	192	0.0	0	0		ES		0	22	5	94	J05	10	1271.0	RUB	0	0	
3048	MNWH	162	172	0.0	0	0		ES		0	22	5	94	J05	10	1271.0	RUB	0	0	
3049	MNWH	313	341	384.0	0	0		ES	Y	12106	22	5	94	J05	5	1271.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3050	MNWH	325	355	407.0	0	0		ES	Y	12107	22	5	94	J05	5	1271.0	LUB	0	0	
3051	MNWH	315	346	339.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3052	MNWH	288	0	239.0	0	0		ES	Y	12108	22	5	94	J05	5	1271.0	LUB	0	0	
3053	MNWH	183	202	65.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3054	MNWH	364	392	574.0	0	0		ES	Y	12109	22	5	94	J05	5	1271.0	LUB	0	0	
3055	MNWH	160	175	42.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3056	MNWH	136	149	22.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3057	MNWH	295	330	343.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3058	MNWH	150	162	32.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3059	MNWH	129	142	23.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3060	MNWH	260	285	228.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3061	MNWH	421	451	882.0	0	0		ES	Y	12110	22	5	94	J05	5	1271.0	LUB	0	0	
3062	MNWH	239	256	0.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3063	MNWH	135	146	28.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3064	MNWH	278	303	235.0	0	0		ES	Y	12111	22	5	94	J05	5	1271.0	LUB	0	0	
3065	MNWH	299	323	305.0	0	0		ES	Y	12112	22	5	94	J05	5	1271.0	LUB	0	0	
3066	MNWH	313	336	342.0	0	0		ES	Y	12113	22	5	94	J05	5	1271.0	LUB	0	0	
3067	MNWH	289	314	287.0	0	0		ES	Y	12114	22	5	94	J05	5	1271.0	LUB	0	0	
3068	MNWH	129	140	17.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3069	MNWH	132	145	27.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3070	MNWH	132	144	21.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3071	MNWH	143	153	33.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3072	MNWH	403	432	712.0	0	0		ES	Y	12115	22	5	94	J05	5	1271.0	LUB	0	0	
3073	MNWH	301	324	324.0	0	0		ES	Y	12116	22	5	94	J05	5	1271.0	LUB	0	0	
3074	MNWH	212	232	119.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3075	MNWH	134	147	26.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3076	LNSC	408	433	0.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3077	MNWH	185	205	71.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3078	MNWH	173	189	51.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3079	MNWH	152	162	37.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3080	MNWH	136	146	23.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3081	MNWH	141	155	35.0	0	0		ES		0	22	5	94	J05	5	1271.0	LUB	0	0	
3082	MNWH	274	297	235.0	0	0		ES	Y	12117	22	5	94	J05	5	1271.0	LUB	0	0	
3083	MNWH	293	315	0.0	0	0		ES	Y	11942	21	5	94	J02	3	1324.0	LUB	0	0	
3084	BKTR	232	289	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3085	MNWH	215	233	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3086	MNWH	238	257	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3087	MNWH	272	292	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3088	MNWH	258	276	0.0	0	0		ES	Y	11943	21	5	94	J02	3	1324.0	LUB	0	0	
3089	MNWH	193	207	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3090	MNWH	165	177	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3091	MNWH	167	184	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3092	MNWH	304	323	0.0	0	0		ES	Y	11944	21	5	94	J02	3	1324.0	LUB	0	0	
3093	MNWH	206	223	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3094	MNWH	230	250	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3095	MNWH	117	125	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3096	MNWH	160	171	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3097	MNWH	119	130	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3098	MNWH	135	150	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3099	MNWH	247	269	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3100	MNWH	233	251	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3101	MNWH	211	230	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3102	MNWH	115	126	0.0	0	0		ES		0	21	5	94	J02	3	1324.0	LUB	0	0	
3103	MNWH	250	266	0.0	0	0		ES	Y	11945	21	5	94	J02	4	1323.0	LUB	0	0	
3104	MNWH	201	220	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3105	MNWH	241	261	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3106	MNWH	204	220	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3107	MNWH	247	267	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3108	MNWH	212	229	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3109	MNWH	267	285	0.0	0	0		ES	Y	11946	21	5	94	J02	4	1323.0	LUB	0	0	
3110	MNWH	185	200	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3111	MNWH	142	155	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3112	MNWH	127	136	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3113	MNWH	143	156	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3114	MNWH	132	141	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3115	MNWH	129	140	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3116	MNWH	205	219	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3117	MNWH	166	177	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3118	MNWH	167	179	0.0	0	0		ES		0	21	5	94	J02	4	1323.0	LUB	0	0	
3119	MNWH	300	323	342.0	0	0		ES	Y	11947	21	5	94	J02	6	1326.0	RUB	0	0	
3120	MNWH	316	340	330.0	0	0		ES	Y	11948	21	5	94	J02	6	1326.0	RUB	0	0	
3121	MNWH	250	268	153.0	0	0		ES	Y	11949	21	5	94	J02	6	1326.0	RUB	0	0	
3122	MNWH	262	285	0.0	0	0		ES	Y	11950	21	5	94	J02	6	1326.0	RUB	0	0	
3123	MNWH	256	276	203.0	0	0		ES	Y	12501	21	5	94	J02	6	1326.0	RUB	0	0	
3124	MNWH	203	218	91.0	0	0		ES		0	21	5	94	J02	6	1326.0	RUB	0	0	
3125	MNWH	177	191	64.0	0	0		ES		0	21	5	94	J02	6	1326.0	RUB	0	0	
3126	MNWH	355	383	439.0	0	0		ES	Y	12502	21	5	94	J02	7	1325.0	RUB	0	0	
3127	MNWH	154	164	32.0	0	0		ES		0	21	5	94	J02	7	1325.0	RUB	0	0	
3128	MNWH	223	246	117.0	0	0		ES		0	21	5	94	J02	7	1325.0	RUB	0	0	
3129	MNWH	210	227	99.0	0	0		ES		0	21	5	94	J02	7	1325.0	RUB	0	0	
3130	MNWH	144	157	36.0	0	0		ES		0	21	5	94	J02	7	1325.0	RUB	0	0	
3131	MNWH	281	305	255.0	0	0		ES		0	21	5	94	J02	7	1325.0	RUB	0	0	
3132	MNWH	196	211	73.0	0	0		ES		0	21	5	94	J02	7	1325.0	RUB	0	0	
3133	MNWH	154	165	32.0	0	0		ES		0	21	5	94	J02	7	1325.0	RUB	0	0	
3134	MNWH	236	253	0.0	0	0		ES		0	21	5	94	J02	8	1324.0	RUB	0	0	
3135	MNWH	321	346	0.0	0	0		ES	Y	12503	21	5	94	J02	8	1324.0	RUB	0	0	
3136	MNWH	293	315	0.0	0	0		ES	Y	12504	21	5	94	J02	8	1324.0	RUB	0	0	
3137	MNWH	275	296	0.0	0	0		ES	Y	12505	21	5	94	J02	8	1324.0	RUB	0	0	
3138	MNWH	216	234	0.0	0	0		ES		0	21	5	94	J02	8	1324.0	RUB	0	0	
3139	MNWH	170	182	0.0	0	0		ES		0	21	5	94	J02	8	1324.0	RUB	0	0	
3140	RNTR	230	244	0.0	0	0		ES		0	21	5	94	J02	8	1324.0	RUB	0	0	
3141	MNWH	288	313	0.0	0	0		ES		0	21	5	94	J02	9	1323.0	RUB	0	0	
3142	MNWH	234	254	0.0	0	0		ES		0	21	5	94	J02	9	1323.0	RUB	0	0	
3143	MNWH	203	221	0.0	0	0		ES		0	21	5	94	J02	9	1323.0	RUB	0	0	
3144	MNWH	173	187	0.0	0	0		ES		0	21	5	94	J02	9	1323.0	RUB	0	0	
3145	MNWH	309	329	0.0	0	0		ES	Y	12506	21	5	94	J02	9	1323.0	RUB	0	0	
3146	MNWH	311	334	0.0	0	0		ES		0	21	5	94	J02	9	1323.0	RUB	0	0	
3147	MNWH	263	286	0.0	0	0		ES	Y	12507	21	5	94	J02	9	1323.0	RUB	0	0	
3148	MNWH	261	281	0.0	0	0		ES	Y	12508	21	5	94	J02	9	1323.0	RUB	0	0	
3149	MNWH	204	221	0.0	0	0		ES		0	21	5	94	J02	9	1323.0	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3150	MNWH	185	200	0.0	0	0		ES		0	21	5	94	J02	9	1323.0	RUB	0	0	
3151	MNWH	200	218	0.0	0	0		ES		0	21	5	94	J02	10	1322.0	RUB	0	0	
3152	MNWH	205	226	0.0	0	0		ES		0	21	5	94	J02	10	1322.0	RUB	0	0	
3153	MNWH	224	241	0.0	0	0		ES		0	21	5	94	J02	10	1322.0	RUB	0	0	
3154	MNWH	189	206	0.0	0	0		ES		0	21	5	94	J02	10	1322.0	RUB	0	0	
3155	MNWH	269	292	0.0	0	0		ES		0	21	5	94	J02	10	1322.0	RUB	0	0	
3156	MNWH	140	154	0.0	0	0		ES		0	21	5	94	J02	10	1322.0	RUB	0	0	
3157	MNWH	277	299	0.0	0	0		ES	Y	12509	21	5	94	J02	5	1322.0	LUB	0	0	
3158	MNWH	306	330	0.0	0	0		ES	Y	12510	21	5	94	J02	5	1322.0	LUB	0	0	
3159	MNWH	225	245	0.0	0	0		ES		0	21	5	94	J02	5	1322.0	LUB	0	0	
3160	MNWH	130	141	0.0	0	0		ES		0	21	5	94	J02	5	1322.0	LUB	0	0	
3161	MNWH	229	253	0.0	0	0		ES		0	21	5	94	J02	5	1322.0	LUB	0	0	
3162	MNWH	245	265	0.0	0	0		ES		0	21	5	94	J02	5	1322.0	LUB	0	0	
3163	MNWH	166	184	0.0	0	0		ES		0	21	5	94	J02	5	1322.0	LUB	0	0	
3164	MNWH	120	132	0.0	0	0		ES		0	21	5	94	J02	5	1322.0	LUB	0	0	
3165	MNWH	****	0	0.0	0	0		ES		0	21	5	94	J02	5	1322.0	LUB	0	0	
3166	LNSC	71	76	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3167	MNWH	84	88	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3168	MNWH	93	97	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3169	MNWH	91	97	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3170	MNWH	88	93	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3171	MNWH	94	99	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3172	MNWH	89	95	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3173	MNWH	84	88	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3174	MNWH	84	90	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3175	MNWH	82	88	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3176	MNWH	134	141	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3177	MNWH	98	107	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3178	MNWH	89	97	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3179	MNWH	91	98	0.0	0	0		BS		0	11	5	94	JASPER	1	1294.4	LUB	0	0	
3180	LNDC	54	57	1.9	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3181	MNWH	74	80	4.0	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3182	MNWH	76	83	4.9	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3183	LNDC	53	55	1.9	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3184	MNWH	179	197	74.8	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3185	MNWH	157	167	35.2	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3186	MNWH	129	140	19.6	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3187	MNWH	77	82	4.3	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3188	LNSC	114	120	13.8	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3189	MNWH	145	160	25.8	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3190	LNSC	109	115	12.9	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3191	LNSC	134	140	25.4	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3192	LNSC	85	86	6.0	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3193	MNWH	95	101	9.2	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3194	MNWH	85	92	6.6	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3195	MNWH	76	80	4.9	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3196	LNSC	63	67	3.3	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3197	MNWH	76	85	5.8	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3198	LNDC	53	57	2.9	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3199	WHSC	43	47	2.3	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3200	LNSC	214	228	105.5	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3201	MNWH	198	211	81.9	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3202	LNSC	151	161	37.6	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3203	MNWH	146	154	0.0	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3204	MNWH	148	160	34.1	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3205	MNWH	158	167	37.6	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3206	MNWH	123	131	19.9	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3207	LNSC	101	106	11.5	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3208	MNWH	66	73	1.6	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3209	LNSC	102	109	12.3	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3210	MNWH	78	87	4.4	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3211	MNWH	78	83	1.8	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3212	MNWH	74	81	3.9	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3213	LNSC	73	77	4.1	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3214	LNSC	47	49	0.8	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3215	LNSC	36	38	0.6	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3216	LNSC	34	36	0.4	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3217	LNSC	42	45	0.5	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3218	LNSC	59	62	1.3	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3219	LNSC	47	49	0.7	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3220	LNSC	49	51	1.2	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3221	LNSC	54	57	1.9	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3222	LNSC	34	36	1.0	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3223	LNSC	48	50	1.2	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3224	MNWH	73	79	5.8	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3225	MNWH	93	98	6.2	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3226	MNWH	81	86	4.6	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3227	MNWH	84	90	5.6	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3228	MNWH	78	84	5.1	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3229	MNWH	77	82	3.2	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3230	MNWH	67	72	2.2	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3231	MNWH	69	75	2.0	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3232	MNWH	78	85	4.4	0	0		BS		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3233	MNWH	149	160	31.8	0	0		EF		0	12	5	94	HINTON	1	1226.7	RUB	0	0	
3234	LNSC	45	47	1.1	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3235	LNSC	41	43	0.7	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3236	MNWH	121	133	20.5	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3237	MNWH	73	79	3.1	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3238	MNWH	79	85	4.6	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3239	MNWH	76	83	3.4	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3240	LNSC	40	44	1.1	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3241	LNSC	118	124	17.4	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3242	MNWH	76	85	4.0	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3243	LNSC	74	78	3.0	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3244	MNWH	80	87	6.5	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3245	MNWH	84	90	5.8	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3246	MNWH	89	97	7.1	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3247	LNSC	48	51	1.1	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3248	LNSC	47	50	1.6	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3249	MNWH	80	85	6.0	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3250	MNWH	70	76	2.1	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3251	MNWH	76	83	3.5	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3252	LNSC	47	49	0.8	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3253	LNSC	36	38	0.6	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3254	LNSC	31	33	0.4	0	0		BS		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3255	LNSC	42	45	0.9	0	0		DN		0	12	5	94	HINTON	2	1234.9	LUB	0	0	
3256	LKCH	86	93	3.2	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3257	LNDC	28	30	0.8	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3258	LNDC	71	77	1.7	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3259	LNSC	87	93	4.9	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3260	LNSC	62	65	2.2	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3261	LNSC	47	53	0.8	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3262	LKCH	119	125	16.1	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3263	LNSC	50	53	1.3	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3264	LNSC	39	42	0.5	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3265	LKCH	57	60	1.8	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3266	LKCH	88	95	7.2	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3267	LKCH	66	74	2.3	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3268	LKCH	90	98	7.6	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3269	LKCH	60	65	1.5	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3270	LKCH	74	81	4.8	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3271	LKCH	54	59	1.3	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3272	LKCH	94	104	8.9	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3273	LNSC	55	59	3.1	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3274	LKCH	86	95	7.5	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3275	LNSC	50	53	1.7	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3276	LNSC	47	51	1.7	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3277	LNSC	60	63	2.2	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3278	LKCH	70	76	4.6	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3279	LKCH	90	97	7.8	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3280	LNSC	64	66	2.6	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3281	LKCH	47	50	1.3	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3282	LKCH	57	62	2.5	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3283	LNSC	52	55	1.3	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3284	LNDC	26	27	0.8	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3285	LNDC	36	37	1.3	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3286	WHSC	37	39	0.5	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3287	LNDC	30	33	0.5	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3288	LKCH	29	31	0.6	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3289	LKCH	59	63	2.2	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3290	WHSC	425	446	0.0	20	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3291	LNSC	46	50	2.2	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3292	LNSC	84	90	4.8	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3293	LNDC	85	93	7.5	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3294	LKCH	100	107	8.9	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3295	LKCH	94	100	8.5	20	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3296	LNSC	100	105	11.3	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3297	LNDC	53	57	2.9	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3298	LNSC	88	84	7.9	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3299	LKCH	55	60	2.3	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3300	LNDC	27	30	0.4	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3301	LKCH	87	96	7.3	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3302	LNDC	44	46	1.0	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3303	LNDC	27	28	0.2	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3304	LNDC	40	42	0.9	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3305	LNDC	32	34	0.4	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3306	LNDC	43	45	0.9	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3307	LNDC	31	32	0.3	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3308	LNDC	30	33	0.2	0	0		BS		0	13	5	94	WHITE	1	1027.8	RUB	0	0	
3309	LNSC	59	64	2.1	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3310	MNWH	123	132	16.6	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3311	LNSC	40	42	0.5	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3312	LNDC	39	42	0.8	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3313	LKCH	56	60	1.9	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3314	LNSC	57	60	2.2	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3315	LKCH	50	55	1.4	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3316	LNSC	44	46	1.2	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3317	LNDC	64	71	3.9	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3318	LNDC	27	28	0.6	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3319	LNDC	34	35	0.3	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3320	LKCH	48	50	0.8	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3321	LKCH	29	33	0.4	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3322	LKCH	58	64	1.2	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3323	LKCH	47	50	0.6	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3324	LKCH	53	55	1.1	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3325	LNDC	39	40	0.6	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3326	LNDC	49	52	1.6	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3327	LNDC	28	30	0.4	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3328	LNSC	50	54	0.7	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3329	LKCH	27	28	0.4	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3330	LNDC	24	25	0.4	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3331	LKCH	27	28	0.4	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3332	LKCH	21	22	0.7	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3333	LKCH	37	38	0.4	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3334	LKCH	24	25	0.3	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3335	LKCH	24	25	0.3	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3336	LKCH	22	23	0.5	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3337	LKCH	22	23	0.4	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3338	LNDC	29	30	0.5	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3339	LKCH	24	25	0.5	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3340	LNDC	27	28	0.7	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3341	LKCH	21	22	0.3	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3342	LKCH	24	25	0.4	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3343	LKCH	47	48	1.5	0	0		BS		0	14	5	94	WHITE	2	1024.5	LUB	0	0	
3344	MNWH	103	111	11.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3345	MNWH	114	125	15.8	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3346	MNWH	95	104	9.6	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3347	MNWH	116	125	14.8	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3348	MNWH	101	112	11.5	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3349	MNWH	112	117	14.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3350	MNWH	99	107	9.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3351	MNWH	95	102	9.8	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3352	MNWH	178	195	69.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3353	MNWH	88	93	6.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3354	MNWH	89	101	7.6	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3355	LNSC	130	138	22.1	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3356	LNSC	100	106	11.8	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3357	LNSC	85	90	4.5	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3358	MNWH	100	108	9.5	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3359	LNSC	65	70	2.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3360	LNSC	93	100	9.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3361	SPSC	50	50	2.9	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	1	0	
3362	LNSC	83	89	6.9	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3363	LNSC	74	79	5.9	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3364	LNSC	102	109	13.1	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3365	LNSC	69	73	3.7	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3366	LNDC	33	34	0.6	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3367	LNSC	61	64	2.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3368	LNSC	48	49	1.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3369	LNSC	71	77	4.0	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3370	LNDC	27	29	0.0	0	0		EF		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3371	LNDC	29	31	0.0	0	0		EF		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3372	MNWH	288	316	273.6	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3373	LNSC	64	67	3.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3374	MNWH	110	118	13.0	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3375	LNSC	127	133	25.1	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3376	MNWH	98	106	6.9	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3377	LNSC	48	51	2.5	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3378	LNSC	118	125	18.6	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3379	MNWH	118	128	16.5	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3380	MNWH	103	111	11.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3381	MNWH	91	97	6.8	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3382	LNSC	30	31	0.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3383	LNSC	42	44	0.8	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3384	LNSC	43	45	1.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3385	LNSC	48	50	1.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3386	LNSC	49	51	1.7	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3387	LNDC	35	36	0.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3388	LNDC	28	29	0.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3389	LNDC	28	31	0.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3390	LNSC	73	75	4.0	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3391	LNDC	32	34	0.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3392	LNSC	41	43	0.7	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3393	LNDC	31	33	0.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3394	LNDC	30	32	0.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3395	LNSC	31	33	0.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3396	LNDC	30	32	0.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3397	MNWH	105	115	12.5	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3398	MNWH	119	129	16.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3399	MNWH	115	124	15.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3400	MNWH	102	113	10.9	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3401	MNWH	94	103	7.8	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3402	MNWH	93	102	7.9	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3403	MNWH	97	106	6.9	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3404	MNWH	103	113	11.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3405	MNWH	97	107	9.7	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3406	MNWH	94	100	8.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3407	LKCH	84	92	7.9	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3408	LNSC	91	96	7.1	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3409	LKCH	61	65	2.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3410	LKCH	98	105	9.7	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3411	LKCH	51	55	2.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3412	LNSC	38	39	0.5	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3413	LNDC	32	34	0.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3414	LKCH	78	83	4.6	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3415	LKCH	59	64	1.9	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3416	LKCH	55	60	1.5	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3417	LNSC	47	50	0.8	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3418	LNDC	29	31	0.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3419	LKCH	42	45	0.7	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3420	LNSC	51	54	1.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3421	LNSC	42	45	0.8	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3422	LKCH	52	61	1.9	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3423	LNSC	43	45	0.8	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3424	LNSC	38	41	0.7	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3425	LKCH	55	59	1.5	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3426	LNSC	32	33	0.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3427	LNSC	47	50	1.1	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3428	LNSC	29	31	0.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3429	LNDC	26	27	0.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3430	LKCH	49	56	2.1	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3431	LNSC	44	46	1.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3432	LNDC	32	35	0.7	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3433	LKCH	47	51	1.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3434	LNDC	29	31	0.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3435	LNDC	32	34	0.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3436	LNDC	33	35	0.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3437	LNDC	32	35	0.3	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3438	LNDC	29	32	0.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3439	LNDC	32	34	0.4	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3440	LNDC	32	34	0.2	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3441	LNDC	33	35	0.0	0	0		BS		0	14	5	94	KNIGHT	1	1107.5	LUB	0	0	
3442	LNDC	45	47	1.5	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3443	LNDC	43	45	1.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3444	MNWH	100	107	5.9	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3445	MNWH	107	112	5.6	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3446	MNWH	107	95	6.6	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3447	MNWH	91	100	4.6	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3448	MNWH	100	109	5.6	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3449	MNWH	102	112	9.8	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3450	MNWH	95	104	7.4	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3451	MNWH	107	117	11.2	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3452	MNWH	84	88	5.7	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3453	LNDC	27	28	0.5	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3454	LKCH	50	52	1.4	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3455	LNDC	41	44	1.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3456	LNDC	42	45	1.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3457	LNDC	38	40	1.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3458	LNDC	42	43	1.4	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3459	LNDC	44	46	1.2	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3460	LNDC	27	30	0.6	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3461	LNDC	25	26	0.4	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3462	LNDC	28	30	0.4	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3463	LNSC	37	38	0.5	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3464	WHSC	30	31	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3465	LNSC	44	45	0.9	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3466	LNSC	39	40	0.6	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3467	LNDC	27	28	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3468	WHSC	36	37	0.4	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3469	LNSC	39	40	0.4	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3470	LNDC	27	28	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3471	LKCH	38	40	0.4	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3472	WHSC	37	39	0.6	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3473	LNSC	35	36	0.4	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3474	LNSC	34	35	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3475	LNSC	41	42	0.8	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3476	WHSC	32	33	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3477	LNDC	29	30	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3478	WHSC	35	36	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3479	MNWH	90	99	6.3	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3480	LNSC	42	43	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3481	LNDC	28	29	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3482	LKCH	37	40	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3483	WHSC	31	34	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3484	LNSC	56	60	2.1	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3485	WHSC	31	33	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3486	LNDC	31	33	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3487	LKCH	24	25	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3488	LNSC	39	42	0.8	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3489	MNWH	93	102	6.5	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3490	LNSC	39	41	0.3	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3491	LNSC	45	50	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3492	LNSC	48	51	1.3	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3493	LNDC	29	30	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3494	LNSC	40	42	1.5	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3495	LNSC	38	40	1.2	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3496	LNSC	34	36	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3497	LKCH	25	26	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3498	LKCH	28	29	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3499	LNSC	42	44	3.1	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3500	LNSC	39	41	1.8	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3501	WHSC	53	55	1.8	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3502	WHSC	47	48	1.9	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3503	LNSC	38	40	1.1	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3504	WHSC	30	34	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3505	LNSC	32	33	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3506	LNSC	33	34	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3507	LNDC	29	30	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3508	WHSC	39	41	0.9	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3509	WHSC	24	25	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3510	LNSC	55	59	2.1	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3511	LNSC	45	47	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3512	WHSC	38	41	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3513	WHSC	41	44	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3514	WHSC	43	46	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3515	LNSC	47	49	2.3	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3516	LNDC	31	33	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3517	WHSC	42	45	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3518	WHSC	34	35	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3519	WHSC	43	45	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3520	LNDC	27	30	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3521	LKCH	28	30	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3522	LKCH	27	28	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3523	LKCH	47	52	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3524	LKCH	43	46	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3525	LNDC	37	40	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3526	LKCH	37	39	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3527	LKCH	32	34	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3528	LNDC	30	33	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3529	LNDC	31	34	0.0	0	0		BS		0	15	5	94	KNIGHT	2	1103.1	LUB	0	0	
3530	MNWH	104	112	9.2	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3531	MNWH	108	114	11.4	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3532	MNWH	109	118	13.5	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3533	WHSC	115	122	16.5	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3534	LNDC	45	47	0.7	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3535	LNDC	28	31	0.0	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3536	MNWH	107	116	11.2	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3537	MNWH	101	109	9.6	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3538	LNDC	23	24	0.0	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3539	MNWH	90	96	4.2	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3540	MNWH	88	95	8.0	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3541	MNWH	88	97	6.1	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3542	WHSC	43	45	0.0	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3543	WHSC	34	35	0.0	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3544	LKCH	34	35	0.0	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3545	MNWH	90	100	8.9	0	0		BS		0	15	5	94	KNIGHT	3	1102.5	LUB	0	0	
3546	MNWH	107	120	12.2	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3547	MNWH	110	120	12.1	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3548	MNWH	124	134	14.3	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3549	MNWH	119	126	14.5	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3550	MNWH	93	98	7.5	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3551	MNWH	104	112	10.8	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3552	MNWH	115	124	14.1	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3553	MNWH	93	100	9.3	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3554	LNDC	33	35	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3555	LNSC	80	84	5.6	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3556	LNDC	42	44	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3557	LNDC	43	45	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3558	TRPR	43	45	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3559	LNDC	27	28	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3560	MNWH	237	262	152.5	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3561	MNWH	120	130	15.6	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3562	WHSC	34	35	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3563	LNSC	105	113	12.3	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3564	LNSC	65	69	2.6	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3565	LNSC	95	100	4.8	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3566	LNDC	28	30	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3567	LKCH	35	37	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3568	LNDC	33	35	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3569	WHSC	32	34	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3570	LKCH	21	22	0.0	0	0		BS		0	16	5	94	WHITE	3	1027.1	LUB	0	0	
3571	MNWH	124	132	20.3	0	0		EF		0	17	5	94	HINTON	3	1218.5	RUB	0	0	
3572	MNWH	152	165	37.4	0	0		EF		0	17	5	94	HINTON	3	1218.5	RUB	0	0	
3573	LNSC	92	98	8.7	0	0		EF		0	17	5	94	HINTON	3	1218.5	RUB	0	0	
3574	MNWH	80	85	5.3	0	0		EF		0	17	5	94	HINTON	3	1218.5	RUB	0	0	
3575	MNWH	105	112	10.3	0	0		EF		0	17	5	94	HINTON	3	1218.5	RUB	0	0	
3576	MNWH	96	102	8.4	0	0		EF		0	17	5	94	HINTON	3	1218.5	RUB	0	0	
3577	LNDC	59	62	1.9	0	0		EF		0	17	5	94	HINTON	3	1218.5	RUB	0	0	
3578	MNWH	89	95	6.8	0	0		BS		0	17	5	94	HINTON	3	1218.5		0	0	
3579	WHSC	31	32	0.0	0	0		BS		0	17	5	94	HINTON	3	1218.5		0	0	
3580	WHSC	34	36	0.8	0	0		BS		0	17	5	94	HINTON	3	1218.5		0	0	
3581	SPSC	39	0	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3582	LKCH	51	55	1.1	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3583	LNDC	37	39	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3584	LNDC	51	55	1.1	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3585	LKCH	69	74	2.8	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3586	LKCH	54	58	1.5	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3587	LNDC	48	51	1.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3588	MNWH	120	131	15.3	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3589	LNDC	67	71	3.4	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3590	SPSC	47	0	0.6	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3591	SPSC	39	0	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3592	SPSC	35	0	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3593	SPSC	43	0	0.7	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3594	SPSC	36	0	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3595	LNDC	57	61	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3596	LNDC	42	45	0.7	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3597	LNDC	31	34	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3598	LNDC	63	68	2.5	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3599	LNDC	48	52	1.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3600	LNDC	50	53	0.7	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3601	LNDC	34	36	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3602	LNDC	50	54	1.1	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3603	SPSC	41	0	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3604	SPSC	41	0	0.8	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3605	SPSC	40	0	0.5	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3606	LNDC	41	0	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3607	LNDC	43	0	0.7	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3608	SPSC	37	0	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3609	LNDC	36	39	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3610	LNDC	35	37	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3611	LNDC	35	37	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3612	LNDC	34	36	0.0	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3613	LNSC	80	86	5.7	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	0	0	
3614	SPSC	41	0	0.3	0	0		EF		0	17	5	94	HINTON	2	1234.9	LUB	1	0	
3615	MNWH	78	86	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3616	WHSC	39	40	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3617	MNWH	99	106	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3618	MNWH	84	89	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3619	MNWH	81	86	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3620	MNWH	80	86	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3621	MNWH	75	80	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3622	MNWH	78	85	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3623	MNWH	74	78	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3624	MNWH	80	87	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3625	MNWH	81	88	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3626	MNWH	89	96	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3627	MNWH	79	86	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3628	MNWH	77	83	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3629	MNWH	85	93	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3630	MNWH	80	88	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3631	MNWH	67	71	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3632	MNWH	79	84	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3633	MNWH	67	75	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3634	MNWH	77	81	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3635	MNWH	75	81	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3636	LNSC	50	52	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3637	WHSC	48	51	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3638	WHSC	55	58	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3639	LNSC	84	89	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3640	LNDC	52	56	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3641	LNSC	43	45	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3642	LNDC	54	56	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3643	WHSC	38	40	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	0	0	
3644	SPSC	67	0	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	1	0	
3645	SPSC	46	0	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	1	0	
3646	SPSC	51	0	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	1	0	
3647	SPSC	47	0	0.0	0	0		EF		0	17	5	94	HINTON	1	1226.7	RUB	1	0	
3648	LNSC	45	48	1.1	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3649	LKCH	55	59	1.2	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	

SNUM	SPEC	FLEN	TLEN	WT	SE	AG	ME	CA	C	TAG_	DA	MO	YR	LOC	SITE	KM	BANK	C	P	COMMENT
3650	LKCH	52	55	0.7	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3651	SPSC	44	0	0.8	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	1	0	
3652	SPSC	77	0	7.8	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	1	0	
3653	MNWH	85	95	5.7	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3654	MNWH	92	100	7.7	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3655	MNWH	90	95	5.3	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3656	MNWH	91	100	6.7	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3657	MNWH	95	103	7.2	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3658	MNWH	85	92	6.3	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3659	MNWH	90	100	6.6	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3660	MNWH	84	91	5.1	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3661	MNWH	82	87	4.8	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3662	MNWH	92	101	6.8	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3663	MNWH	81	89	4.2	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	0	0	
3664	SPSC	66	0	3.1	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	1	0	
3665	SPSC	60	0	2.8	0	0		EF		0	18	5	94	JASPER	1	1294.4	LUB	1	0	
3666	MNWH	74	77	3.5	0	0		BS		0	18	5	94	JASPER	3	1316.2	LUB	0	0	
3667	MNWH	73	77	3.2	0	0		BS		0	18	5	94	JASPER	3	1316.2	LUB	0	0	
3668	MNWH	74	80	3.6	0	0		BS		0	18	5	94	JASPER	3	1316.2	LUB	0	0	
3669	MNWH	69	74	2.6	0	0		BS		0	18	5	94	JASPER	3	1316.2	LUB	0	0	
3670	SPSC	85	0	6.9	0	0		BS		0	18	5	94	JASPER	3	1316.2	LUB	1	0	
3671	SPSC	80	0	3.2	0	0		EF		0	18	5	94	JASPER	3	1316.2	LUB	1	0	
3672	SPSC	73	0	3.2	0	0		EF		0	18	5	94	JASPER	3	1316.2	LUB	1	0	
3673	SPSC	76	0	3.0	0	0		EF		0	18	5	94	JASPER	3	1316.2	LUB	1	0	
3674	LNSC	43	45	1.0	0	0		BS		0	19	5	94	JASPER	4	1297.6	RUB	0	0	
3675	LNSC	41	44	0.0	0	0		BS		0	19	5	94	JASPER	4	1297.6	RUB	0	0	
3676	RNTR	33	34	0.0	0	0		EF		0	20	5	94	JASPER	6	1311.2	RUB	0	0	
3677	LNSC	69	75	3.1	0	0		EF		0	20	5	94	JASPER	6	1311.2	RUB	0	0	
3678	MNWH	325	350	0.0	0	0		ES	Y	11936	20	5	94	SNARI	1			0	0	
3679	MNWH	264	290	216.0	0	0		ES	Y	11937	20	5	94	SNARI	1			0	0	
3680	MNWH	283	305	256.0	0	0		ES	Y	11938	20	5	94	SNARI	1			0	0	
3681	MNWH	246	268	179.0	0	0		ES		0	20	5	94	SNARI	1			0	0	
3682	MNWH	268	292	221.0	0	0		ES	Y	11939	20	5	94	SNARI	1			0	0	
3683	MNWH	273	296	254.0	0	0		ES	Y	11940	20	5	94	SNARI	1			0	0	
3684	MNWH	204	224	89.0	0	0		ES		0	20	5	94	SNARI	1			0	0	
3685	MNWH	221	241	134.0	0	0		ES		0	20	5	94	SNARI	1			0	0	
3686	MNWH	236	260	149.0	0	0		ES		0	20	5	94	SNARI	1			0	0	
3687	BLTR	214	226	93.0	0	0	SC	EF		0	20	5	94	SNARI	2			0	0	

SNUM SPEC FLEN TLEN WT SE AG ME CA C TAG_ DA MO YR LOC SITE KM BANK C P COMMENT

TOTALS:		
	SNUM_	6,798,828
	FLEN	763,279
	TLEN_	785,542
	WT	485,375.5
	SEX_	773
	AGE_	0
	TAG_	8,922,833
	DAY_	58,606
	MO_	18,435
	YR_	346,578
	SITE	53,862
	CAP	120
	PRES	0

Printed 3,687 of the 3,687 records.

PRIMARY SORT FIELD: SNUM_

SELECTION CRITERIA:
All records

APPENDIX C6

CATCH SUMMARY FOR FISH CAPTURED DURING BOAT ELECTROFISHING AT ATHABASCA AND SNARING RIVER SITES

Appendix C6 Effort and catch summary for boat electrofishing sections on the Athabasca and Snaring rivers, 10-22 May 1994.

Area and Section	Site*	Date	Sampling Effort		Species, Age-class, and Catch**																																			
			Distance (km)	Time (s)	MNWH			RNTR			LKWH			BKTR			LNSC			BLTR			ARGR			WHSC			NRPK			BURB			WALL			LKCH	TRPR	LNDC	PGWH
					1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3				
Jasper*** Section J1A	ES1	21 May 94	1.0	344		6	9															1																			
	ES2	21 May 94	1.0	364		7	13																																		
	ES3	21 May 94	1.0	382		9	3																																		
	ES4	21 May 94	1.0	321			1																																		
	ES5	21 May 94	1.0	278		5	2																																		
	ES6	21 May 94	1.0	394		8	4																																		
	ES7	21 May 94	1.0	313		3	6																																		
	ES8	21 May 94	1.0	348		7																																			
	ES9	21 May 94	1.0	362		1	11																																		
	ES10	21 May 94	1.0	336		6	2																																		
COMBINED						52	51															1																			
Jasper Section J2	ES1	21 May 94	1.0	347		2	4														1																				
	ES2	21 May 94	1.0	337		8	7														2	1																			
	ES3	21 May 94	1.0	410		9	10									1																									
	ES4	21 May 94	1.0	378		11	5																																		
	ES5	21 May 94	1.0	378		4	5																																		
	ES6	21 May 94	1.0	324		2	5																																		
	ES7	21 May 94	1.0	400		4	4																																		
	ES8	21 May 94	1.0	399		1	5			1																															
	ES9	21 May 94	1.0	239		4	6																																		
	ES10	21 May 94	1.0	266		4	2																																		
COMBINED						49	53			1						1					3	1																			
Jasper Section J3	ES1	20 May 94	1.0	489		14	2			1																															
	ES2	20 May 94	1.0	454		12	9														1																				
	ES3	20 May 94	1.0	427		23	19			1									3		1	1																			
	ES4	20 May 94	1.0	389		4	6																																		
	ES5	20 May 94	1.0	510		28	31															1																			
	ES6	20 May 94	1.0	441		9	5		4												1	1																			
	ES7	20 May 94	1.0	474		25	15			1						2																									
	ES8	20 May 94	1.0	381		2	8		1	1																															
	ES9	20 May 94	1.0	377		8	6																																		
	ES10	20 May 94	1.0	539		30	43			1					1																										
COMBINED						155	144		5	6					1	2			3		3	3																			
Jasper Section J4	ES1	19 May 94	1.0	550		17	29																																		
	ES2	19 May 94	1.0	774		38	8						3						11												2										
	ES3	19 May 94	1.0	624		2	1						2						1												2										
	ES4	19 May 94	1.0	601		10	3						3																		1										
	ES5	19 May 94	1.0	665		23	1									1																									1
	ES6	19 May 94	1.0	659		15	21																							1											
	ES7	19 May 94	1.0	699		4	10																																		
	ES8	19 May 94	1.0	679		4	1						2						2												1										
	ES9	19 May 94	1.0	475		3							6																												
	ES10	19 May 94	1.0	686		3	2						6																		2										
COMBINED						119	76						22			1			14											1	8										1
Jasper Section J5	ES1	22 May 94	1.0	403		15	6												12		1																				
	ES2	22 May 94	1.0	439		19	16																																		
	ES3	22 May 94	1.0	425		4	11												1																						
	ES4	22 May 94	1.0	481		27	12												4			1																			
	ES5	22 May 94	1.0	410		17	16												1																						
	ES6	22 May 94	1.0	416		6	12												1																						
	ES7	22 May 94	1.0	446		5	11																																		
	ES8	22 May 94	1.0	427		9	9												6																						
	ES9	22 May 94	1.0	436		3	9															1																			
	ES10	22 May 94	1.0	473		5	5																																		
COMBINED						110	107												25		1	2																			
Hinton Section	ES1	16 May 94	1.0	470		14																																			
	ES2	16 May 94	1.0	439			1												1																						
	ES3	16 May 94	1.0	529		6	1			1									5																						
	ES4	16 May 94	1.0	363		14																																			
	ES5	16 May 94	1.0	427		12	1			1																															
	ES6	16 May 94	1.0	451		9	3															1																			
	ES7	16 May 94	1.0	402		1	1															1																			
	ES8	16 May 94	1.0	596		11													4																						
	ES9	16 May 94	1.0	382		12	1																											2							
	ES10	16 May 94	1.0	557		6	2												6																						
	ES11	16 May 94	1.0	499		23	2			1									5																						
	ES12	16 May 94	1.0	504		8												1	5																						
	ES13	16 May 94	1.0	551		15	2												1																						
	ES14	16 May 94	1.0	389		7	1												1																						
	ES15	16 May 94	1.0	520		33	4												2																						
	ES16	16 May 94	1.0	600		23												2	8			1												2							
	ES17	16 May 94	1.0	375		13	4												2																						
	ES18	16 May 94	1.0	469		17	5												3																						

* Boat electrofishing site.
** For species code explanation see Mackay et al. 1990; catch separated by age-class (1-young-of-the-year, 2-juvenile, 3-adult).
*** Jasper represents Jasper National Park

Continued...

Appendix C6 Continued.

Area and Section	Site*	Date	Sampling Effort Distance (km)	Sampling Effort Time (s)	MNWH 1	MNWH 2	MNWH 3	RNTR 1	RNTR 2	RNTR 3	LKWH 1	LKWH 2	LKWH 3	BKTR 1	BKTR 2	BKTR 3	LNSC 1	LNSC 2	LNSC 3	BLTR 1	BLTR 2	BLTR 3	ARGR 1	ARGR 2	ARGR 3	WMSC 1	WMSC 2	WMSC 3	NRPK 1	NRPK 2	NRPK 3	BURB 1	BURB 2	BURB 3	WALL 1	WALL 2	WALL 3	LKCH	TRPR	LNDC	PGWH
Hinton Section	ES19	16 May 94	1.0	595		20	4												1																						
	ES20	16 May 94	1.0	425		19	6												2																						
	ES21	17 May 94	1.0	490		5	2												1		1																				
	ES22	17 May 94	1.0	473		15	5												1																						
	ES23	17 May 94	1.0	503		34	3								1				1																						
	ES24	17 May 94	1.0	480		7	5												2																						
	ES25	17 May 94	1.0	390		24	1															1																			
	ES26	17 May 94	1.0	429		16				2									1		1																				
	ES27	17 May 94	1.0	463		5	1												1																						
	ES28	17 May 94	1.0	566		16	2			1									5																						
	ES29	17 May 94	1.0	493		11	3																																		
	ES30	17 May 94	1.0	446		3																																			
	ES31	17 May 94	1.0	400		6	6												2																						
	ES32	17 May 94	1.0	381		12	5																																		
	ES33	17 May 94	1.0	546		20	1			2																															
	ES34	17 May 94	1.0	325		11	7												2																						
	ES35	17 May 94	1.0	396		7	2																																		
	ES36	17 May 94	1.0	414		21	12			2								1	2																						
	ES37	17 May 94	1.0	450		13	10			1									1		1																				
	ES38	17 May 94	1.0	506		6	2											2							1																
	ES39	17 May 94	1.0	350		3																1																			
	ES40	17 May 94	1.0	422		7	1		1													1																			
COMBINED						505	106		1	11					1			6	66		3	8			1									4							
Knight Section	ES1	14 May 94	1.0	241																																					
	ES2	14 May 94	1.0	405		12	4												1					2																	
	ES3	14 May 94	1.0	281		14	8																	3																	
	ES4	14 May 94	1.0	312		13	4																	2																	
	ES5	14 May 94	1.0	361		6	1												1					1																	
	ES6	14 May 94	1.0	510		11	2											1						2	3			2						1							
	ES7	14 May 94	1.0	305			1																																		
	ES8	14 May 94	1.0	337		5	6			1														3	2																
	ES9	14 May 94	1.0	384		7	3											1	1					2	1																
	ES10	14 May 94	1.0	338		21	10											1						2	2																
	ES11	15 May 94	1.0	740		14	1																	1	2		1														
	ES12	15 May 94	1.0	321		12	7												1					4	4																
	ES13	15 May 94	1.0	394		4	2											1						2	3																
	ES14	15 May 94	1.0	335		1	2												1					5	1			2													
	ES15	15 May 94	1.0	416		2	3																	1	4																
	ES16	15 May 94	1.0	416		14	3												2					9	8																
	ES17	15 May 94	1.0	510		41												1						4	1			1													
	ES18	15 May 94	1.0	528		2	1												1																						
	ES19	15 May 94	1.0	354		3																			1		1														
	ES20	15 May 94	1.0	317		3	1												1					1	4															1	
COMBINED						185	59			1								5	9					44	36		2	5						1						1	
Whitecourt Section	ES1	11 May 94	1.0	504		5												1	2									4													
	ES2	11 May 94	1.0	468		11													1									1													
	ES3	11 May 94	1.0	391		3																																1			
	ES4	11 May 94	1.0	367		3													1																						
	ES5	11 May 94	1.0	501		2	1												2									1												1	
	ES6	11 May 94	1.0	498		14	1												2																				1		
	ES7	11 May 94	1.0	397		5																					1	5													
	ES8	11 May 94	1.0	414		3	1												3																					1	
	ES9	11 May 94	1.0	601		13	2											4	2																					1	
	ES10	11 May 94	1.0	523		10	2											1	2								1										1			1	
	ES11	11 May 94	1.0	430		15	1											1	5																					1	
	ES12	11 May 94	1.0	466		20	1												3									2												1	
	ES13	11 May 94	1.0	530		7	2												2																						
	ES14	11 May 94	1.0	506		14	3											3	6									1												1	
	ES15	11 May 94	1.0	421		11													7																			1			
	ES16	11 May 94	1.0	398		9	1												3																						
	ES17	12 May 94	1.0	428		1	7											1	14																		1				
	ES18	12 May 94	1.0	376		16	4											1	6															1							
	ES19	12 May 94	1.0	654		13	2																					1													
	ES20	12 May 94	1.0	480		1												1	5																						
	ES21	12 May 94	1.0	453		15												5	7																						
	ES22	12 May 94	1.0	397		14	3											5	4															1							
	ES23	12 May 94	1.0	417		4	1												2									1													
	ES24	12 May 94	1.0	533		15	2																					1									1				
	ES25	12 May 94	1.0	324		6	3											8	3																						
	ES26	12 May 94	1.0	661		14	4												1								1	1									1		2		
	ES27	12 May 94	1.0	401		7	1																																		
	ES28	12 May 94	1.0	386		16	2																																		
	ES29	12 May 94	1.0	481		15	4											1	1																						

* Boat electrofishing site.
** For species code explanation see Mackay et al. 1990; catch separated by age-class (1-young-of-the-year, 2-juvenile, 3-adult).

Continued

Appendix C6 Concluded.

Area and Section	Site*	Date	Sampling Effort Distance (km)	Sampling Effort Time (s)	MNWH 1	MNWH 2	MNWH 3	RNTR 1	RNTR 2	RNTR 3	LKWH 1	LKWH 2	LKWH 3	BKTR 1	BKTR 2	BKTR 3	LNSC 1	LNSC 2	LNSC 3	BLTR 1	BLTR 2	BLTR 3	ARGR 1	ARGR 2	ARGR 3	WMSC 1	WMSC 2	WMSC 3	RRFK 1	RRFK 2	RRFK 3	BURB 1	BURB 2	BURB 3	WALL 1	WALL 2	WALL 3	LKCH	TRPR	LNDC	PGWH
Whitecourt Section	ES30	12 May 94	1.0	336																																					
	ES31	12 May 94	1.0	436		7	4											1	1																						
	ES32	12 May 94	1.0	491		7													1															1							
	ES33	12 May 94	1.0	398		13												2	1																						
	ES34	12 May 94	1.0	326		5	3											1	4																						
	ES35	12 May 94	1.0	421		11	3												2																						
	ES36	12 May 94	1.0	386		2	2																													1					
	ES37	13 May 94	1.0	345		15	2											1																							
	ES38	13 May 94	1.0	366		7	2												6															1							
	ES39	13 May 94	1.0	291		2	3											2	5									1								3	1				
	ES40	13 May 94	1.0	394		14	1												1									1													
	ES41	13 May 94	1.0	317		21	4												2																						
	ES42	13 May 94	1.0	377		4	4												1									1													
	ES43	13 May 94	1.0	420		10	7												4									1						1							
	ES44	13 May 94	1.0	438		14	2											2	6									1													
	ES45	13 May 94	1.0	395		2																						1													
	ES46	13 May 94	1.0	570		21	6											4	6																			1			
	ES47	13 May 94	1.0	520		4	11												2									1													
	ES48	13 May 94	1.0	524		10	3											1	1								1	1						1							
	ES49	13 May 94	1.0	489		6	2												1												1			1							
	ES50	13 May 94	1.0	544		11	3											1	2																						
	ES51	13 May 94	1.0	483		16	3																																		
	ES52	13 May 94	1.0	356		1	3																							1	1										
	ES53	14 May 94	1.0	520		4																																			
	ES54	14 May 94	1.0	397		9																																			
	ES55	14 May 94	1.0	447		9	3																																		
	ES56	14 May 94	1.0	358		2																																			
	ES57	14 May 94	1.0	398		9	2																																	1	
	ES58	14 May 94	1.0	351		1																																			
	ES59	14 May 94	1.0	389		7																																			
	ES60	14 May 94	1.0	376		3													6																		1				
COMBINED						526	121											48	138								4	26		1	2			7		4	6	3	3	7	
McLeod R.	ES1	14 May 94	0.5	426		7	4											1	6																	4					
	ES2	14 May 94	0.5	532		12	1											2									1			1						3					
COMBINED						19	5											3	6								1			1						7					
Snaring R.	ES1	20 May 94	1.5	474		9																																			
COMBINED						9																																			
Smith Section	ES1	10 May 94	1.0	1320		8	4																																		
	ES2	10 May 94	1.0	963		9																																			
	ES3	10 May 94	1.0	744		12	1																																		
	ES4	10 May 94	1.0	1210		53	4																																		
	ES5	10 May 94	1.0	1338		60	2																																		
COMBINED						142	11																																		

* Boat electrofishing site.

** For species code explanation see Mackay et al. 1990; catch separated by age-class (1-young-of-the-year, 2-juvenile, 3-adult).

APPENDIX C7

CPUE VALUES - MEAN, STANDARD DEVIATION, RANGE

Appendix C7 Summary values for catch-per-unit data (No. fish/km) for sport and non-sportfish captured during boat electrofishing on the Athabasca River, 10-22 May 1994.

Area and Section	Species	Age-Class*	Number of 1 km sampling sections	Total Number Captured	Catch-per-unit effort (No. fish/km) Mean	Standard Deviation	Minimum	Maximum
Jasper ** Section J1A	Arctic grayling	1	10	0	0.00	0.00	0	0
	Arctic grayling	2	10	0	0.00	0.00	0	0
	Arctic grayling	3	10	0	0.00	0.00	0	0
	Brook trout	1	10	0	0.00	0.00	0	0
	Brook trout	2	10	0	0.00	0.00	0	0
	Brook trout	3	10	0	0.00	0.00	0	0
	Bull trout	1	10	0	0.00	0.00	0	0
	Bull trout	2	10	0	0.00	0.00	0	0
	Bull trout	3	10	1	0.10	0.32	0	1
	Burbot	1	10	0	0.00	0.00	0	0
	Burbot	2	10	0	0.00	0.00	0	0
	Burbot	3	10	0	0.00	0.00	0	0
	Lake whitefish	1	10	0	0.00	0.00	0	0
	Lake whitefish	2	10	0	0.00	0.00	0	0
	Lake whitefish	3	10	0	0.00	0.00	0	0
	Longnose sucker	1	10	0	0.00	0.00	0	0
	Longnose sucker	2	10	0	0.00	0.00	0	0
	Longnose sucker	3	10	0	0.00	0.00	0	0
	Mountain whitefish	1	10	0	0.00	0.00	0	0
	Mountain whitefish	2	10	52	5.20	2.97	0	9
	Mountain whitefish	3	10	51	5.10	4.48	0	13
	Northern pike	1	10	0	0.00	0.00	0	0
	Northern pike	2	10	0	0.00	0.00	0	0
	Northern pike	3	10	0	0.00	0.00	0	0
	Rainbow trout	1	10	0	0.00	0.00	0	0
	Rainbow trout	2	10	0	0.00	0.00	0	0
	Rainbow trout	3	10	0	0.00	0.00	0	0
	Walleye	1	10	0	0.00	0.00	0	0
	Walleye	2	10	0	0.00	0.00	0	0
	Walleye	3	10	0	0.00	0.00	0	0
	White sucker	1	10	0	0.00	0.00	0	0
	White sucker	2	10	0	0.00	0.00	0	0
	White sucker	3	10	0	0.00	0.00	0	0
Jasper Section J2	Arctic grayling	1	10	0	0.00	0.00	0	0
	Arctic grayling	2	10	0	0.00	0.00	0	0
	Arctic grayling	3	10	0	0.00	0.00	0	0
	Brook trout	1	10	0	0.00	0.00	0	0
	Brook trout	2	10	0	0.00	0.00	0	0
	Brook trout	3	10	1	0.10	0.32	0	1
	Bull trout	1	10	0	0.00	0.00	0	0
	Bull trout	2	10	3	0.30	0.67	0	2
	Bull trout	3	10	1	0.10	0.32	0	1
	Burbot	1	10	0	0.00	0.00	0	0
	Burbot	2	10	0	0.00	0.00	0	0
	Burbot	3	10	0	0.00	0.00	0	0
	Lake whitefish	1	10	0	0.00	0.00	0	0
	Lake whitefish	2	10	0	0.00	0.00	0	0
	Lake whitefish	3	10	0	0.00	0.00	0	0
	Longnose sucker	1	10	0	0.00	0.00	0	0
	Longnose sucker	2	10	0	0.00	0.00	0	0
	Longnose sucker	3	10	0	0.00	0.00	0	0
	Mountain whitefish	1	10	0	0.00	0.00	0	0
	Mountain whitefish	2	10	48	4.80	3.36	1	11
	Mountain whitefish	3	10	53	5.30	2.11	2	10
	Northern pike	1	10	0	0.00	0.00	0	0
	Northern pike	2	10	0	0.00	0.00	0	0
	Northern pike	3	10	0	0.00	0.00	0	0
	Rainbow trout	1	10	0	0.00	0.00	0	0
	Rainbow trout	2	10	0	0.00	0.00	0	0
	Rainbow trout	3	10	1	0.10	0.32	0	1
	Walleye	1	10	0	0.00	0.00	0	0
	Walleye	2	10	0	0.00	0.00	0	0
	Walleye	3	10	0	0.00	0.00	0	0
	White sucker	1	10	0	0.00	0.00	0	0
	White sucker	2	10	0	0.00	0.00	0	0
	White sucker	3	10	0	0.00	0.00	0	0

* Age-class designations: 1-young-of-the-year, 2-juveniles, 3-adults

** Jasper represents Jasper National Park

Continued ...

Appendix C7 Continued.

Area and Section	Species	Age-Class*	Number of 1 km sampling sections	Total Number Captured	Catch-per-unit effort (No. fish/km) Mean	Standard Deviation	Minimum	Maximum
Jasper ** Section J3	Arctic grayling	1	10	0	0.00	0.00	0	0
	Arctic grayling	2	10	0	0.00	0.00	0	0
	Arctic grayling	3	10	0	0.00	0.00	0	0
	Brook trout	1	10	0	0.00	0.00	0	0
	Brook trout	2	10	1	0.10	0.32	0	1
	Bull trout	3	10	2	0.20	0.63	0	2
	Bull trout	1	10	0	0.00	0.00	0	0
	Bull trout	2	10	3	0.30	0.48	0	1
	Bull trout	3	10	3	0.30	0.48	0	1
	Burbot	1	10	0	0.00	0.00	0	0
	Burbot	2	10	0	0.00	0.00	0	0
	Burbot	3	10	0	0.00	0.00	0	0
	Lake whitefish	1	10	0	0.00	0.00	0	0
	Lake whitefish	2	10	0	0.00	0.00	0	0
	Lake whitefish	3	10	0	0.00	0.00	0	0
	Longnose sucker	1	10	0	0.00	0.00	0	0
	Longnose sucker	2	10	0	0.00	0.00	0	0
	Longnose sucker	3	10	3	0.30	0.95	0	3
	Mountain whitefish	1	10	0	0.00	0.00	0	0
	Mountain whitefish	2	10	155	15.50	10.22	2	30
	Mountain whitefish	3	10	144	14.40	13.20	2	43
	Northern pike	1	10	0	0.00	0.00	0	0
	Northern pike	2	10	0	0.00	0.00	0	0
	Northern pike	3	10	0	0.00	0.00	0	0
	Rainbow trout	1	10	0	0.00	0.00	0	0
	Rainbow trout	2	10	5	0.50	1.27	0	4
	Rainbow trout	3	10	5	0.50	0.53	0	1
	Walleye	1	10	0	0.00	0.00	0	0
	Walleye	2	10	0	0.00	0.00	0	0
	Walleye	3	10	0	0.00	0.00	0	0
	White sucker	1	10	0	0.00	0.00	0	0
	White sucker	2	10	0	0.00	0.00	0	0
	White sucker	3	10	0	0.00	0.00	0	0
Jasper Section J4	Arctic grayling	1	10	0	0.00	0.00	0	0
	Arctic grayling	2	10	0	0.00	0.00	0	0
	Arctic grayling	3	10	0	0.00	0.00	0	0
	Brook trout	1	10	0	0.00	0.00	0	0
	Brook trout	2	10	0	0.00	0.00	0	0
	Brook trout	3	10	1	0.10	0.32	0	1
	Bull trout	1	10	0	0.00	0.00	0	0
	Bull trout	2	10	0	0.00	0.00	0	0
	Bull trout	3	10	0	0.00	0.00	0	0
	Burbot	1	10	0	0.00	0.00	0	0
	Burbot	2	10	0	0.00	0.00	0	0
	Burbot	3	10	0	0.00	0.00	0	0
	Lake whitefish	1	10	0	0.00	0.00	0	0
	Lake whitefish	2	10	0	0.00	0.00	0	0
	Lake whitefish	3	10	22	2.20	2.35	0	6
	Longnose sucker	1	10	0	0.00	0.00	0	0
	Longnose sucker	2	10	0	0.00	0.00	0	0
	Longnose sucker	3	10	14	1.40	3.44	0	11
	Mountain whitefish	1	10	0	0.00	0.00	0	0
	Mountain whitefish	2	10	119	11.90	11.67	2	38
	Mountain whitefish	3	10	76	7.60	9.91	0	29
	Northern pike	1	10	0	0.00	0.00	0	0
	Northern pike	2	10	1	0.10	0.32	0	1
	Northern pike	3	10	8	0.80	0.92	0	2
	Rainbow trout	1	10	0	0.00	0.00	0	0
	Rainbow trout	2	10	0	0.00	0.00	0	0
	Rainbow trout	3	10	0	0.00	0.00	0	0
	Walleye	1	10	0	0.00	0.00	0	0
	Walleye	2	10	0	0.00	0.00	0	0
	Walleye	3	10	0	0.00	0.00	0	0
	White sucker	1	10	0	0.00	0.00	0	0
	White sucker	2	10	0	0.00	0.00	0	0
	White sucker	3	10	0	0.00	0.00	0	0

* Age-class designations: 1-young-of-the-year, 2-juveniles, 3-adults

** Jasper represents Jasper National Park

Continued ...

Appendix C7 Continued.

Area and Section	Species	Age-Class*	Number of 1 km sampling sections	Total Number Captured	Catch-per-unit effort (No. fish/km) Mean	Standard Deviation	Minimum	Maximum
Jasper ** Section J5	Arctic grayling	1	10	0	0.00	0.00	0	0
	Arctic grayling	2	10	0	0.00	0.00	0	0
	Arctic grayling	3	10	0	0.00	0.00	0	0
	Brook trout	1	10	0	0.00	0.00	0	0
	Brook trout	2	10	0	0.00	0.00	0	0
	Brook trout	3	10	0	0.00	0.00	0	0
	Bull trout	1	10	0	0.00	0.00	0	0
	Bull trout	2	10	1	0.10	0.32	0	1
	Bull trout	3	10	2	0.20	0.42	0	1
	Burbot	1	10	0	0.00	0.00	0	0
	Burbot	2	10	0	0.00	0.00	0	0
	Burbot	3	10	0	0.00	0.00	0	0
	Lake whitefish	1	10	0	0.00	0.00	0	0
	Lake whitefish	2	10	0	0.00	0.00	0	0
	Lake whitefish	3	10	0	0.00	0.00	0	0
	Longnose sucker	1	10	0	0.00	0.00	0	0
	Longnose sucker	2	10	0	0.00	0.00	0	0
	Longnose sucker	3	10	25	2.50	3.89	0	12
	Mountain whitefish	1	10	0	0.00	0.00	0	0
	Mountain whitefish	2	10	110	11.00	8.07	3	27
	Mountain whitefish	3	10	107	10.70	3.65	5	16
	Northern pike	1	10	0	0.00	0.00	0	0
	Northern pike	2	10	0	0.00	0.00	0	0
	Northern pike	3	10	0	0.00	0.00	0	0
	Rainbow trout	1	10	0	0.00	0.00	0	0
	Rainbow trout	2	10	0	0.00	0.00	0	0
	Rainbow trout	3	10	0	0.00	0.00	0	0
	Walleye	1	10	0	0.00	0.00	0	0
	Walleye	2	10	0	0.00	0.00	0	0
	Walleye	3	10	0	0.00	0.00	0	0
	White sucker	1	10	0	0.00	0.00	0	0
	White sucker	2	10	0	0.00	0.00	0	0
	White sucker	3	10	0	0.00	0.00	0	0
Hinton Section	Arctic grayling	1	40	0	0.00	0.00	0	0
	Arctic grayling	2	40	0	0.00	0.00	0	0
	Arctic grayling	3	40	1	0.03	0.16	0	1
	Brook trout	1	40	0	0.00	0.00	0	0
	Brook trout	2	40	1	0.03	0.16	0	1
	Brook trout	3	40	0	0.00	0.00	0	0
	Bull trout	1	40	0	0.00	0.00	0	0
	Bull trout	2	40	3	0.07	0.27	0	1
	Bull trout	3	40	6	0.15	0.36	0	1
	Burbot	1	40	0	0.00	0.00	0	0
	Burbot	2	40	0	0.00	0.00	0	0
	Burbot	3	40	4	0.10	0.44	0	2
	Lake whitefish	1	40	0	0.00	0.00	0	0
	Lake whitefish	2	40	0	0.00	0.00	0	0
	Lake whitefish	3	40	0	0.00	0.00	0	0
	Longnose sucker	1	40	0	0.00	0.00	0	0
	Longnose sucker	2	40	6	0.15	0.48	0	2
	Longnose sucker	3	40	65	1.63	2.01	0	8
	Mountain whitefish	1	40	0	0.00	0.00	0	0
	Mountain whitefish	2	40	505	12.63	7.90	0	34
	Mountain whitefish	3	40	106	2.65	2.76	0	12
	Northern pike	1	40	0	0.00	0.00	0	0
	Northern pike	2	40	0	0.00	0.00	0	0
	Northern pike	3	40	0	0.00	0.00	0	0
	Rainbow trout	1	40	0	0.00	0.00	0	0
	Rainbow trout	2	40	1	0.03	0.16	0	1
	Rainbow trout	3	40	11	0.28	0.60	0	2
	Walleye	1	40	0	0.00	0.00	0	0
	Walleye	2	40	0	0.00	0.00	0	0
	Walleye	3	40	0	0.00	0.00	0	0
	White sucker	1	40	0	0.00	0.00	0	0
	White sucker	2	40	0	0.00	0.00	0	0
	White sucker	3	40	0	0.00	0.00	0	0

* Age-class designations: 1-young-of-the-year, 2-juveniles, 3-adults

** Jasper represents Jasper National Park

Continued ...

Appendix C7 Continued.

Area and Section	Species	Age-Class*	Number of 1 km sampling sections	Total Number Captured	Catch-per-unit effort (No. fish/km)			
					Mean	Standard Deviation	Minimum	Maximum
Knight Section	Arctic grayling	1	20	0	0.00	0.00	0	0
	Arctic grayling	2	20	46	2.32	2.14	0	9
	Arctic grayling	3	20	38	1.89	2.08	0	8
	Brook trout	1	20	0	0.00	0.00	0	0
	Brook trout	2	20	0	0.00	0.00	0	0
	Brook trout	3	20	0	0.00	0.00	0	0
	Bull trout	1	20	0	0.00	0.00	0	0
	Bull trout	2	20	0	0.00	0.00	0	0
	Bull trout	3	20	0	0.00	0.00	0	0
	Burbot	1	20	0	0.00	0.00	0	0
	Burbot	2	20	0	0.00	0.00	0	0
	Burbot	3	20	1	0.05	0.22	0	1
	Lake whitefish	1	20	0	0.00	0.00	0	0
	Lake whitefish	2	20	0	0.00	0.00	0	0
	Lake whitefish	3	20	0	0.00	0.00	0	0
	Longnose sucker	1	20	0	0.00	0.00	0	0
	Longnose sucker	2	20	5	0.25	0.44	0	1
	Longnose sucker	3	20	9	0.45	0.60	0	2
	Mountain whitefish	1	20	0	0.00	0.00	0	0
	Mountain whitefish	2	20	185	9.25	9.54	0	41
	Mountain whitefish	3	20	59	2.95	2.82	0	10
	Northern pike	1	20	0	0.00	0.00	0	0
	Northern pike	2	20	0	0.00	0.00	0	0
	Northern pike	3	20	0	0.00	0.00	0	0
	Rainbow trout	1	20	0	0.00	0.00	0	0
	Rainbow trout	2	20	0	0.00	0.00	0	0
	Rainbow trout	3	20	1	0.05	0.22	0	1
	Walleye	1	20	0	0.00	0.00	0	0
	Walleye	2	20	0	0.00	0.00	0	0
	Walleye	3	20	0	0.00	0.00	0	0
	White sucker	1	20	0	0.00	0.00	0	0
	White sucker	2	20	2	0.10	0.31	0	1
	White sucker	3	20	5	0.25	0.64	0	2
Whitecourt Section	Arctic grayling	1	60	0	0.00	0.00	0	0
	Arctic grayling	2	60	0	0.00	0.00	0	0
	Arctic grayling	3	60	0	0.00	0.00	0	0
	Brook trout	1	60	0	0.00	0.00	0	0
	Brook trout	2	60	0	0.00	0.00	0	0
	Brook trout	3	60	0	0.00	0.00	0	0
	Bull trout	1	60	0	0.00	0.00	0	0
	Bull trout	2	60	0	0.00	0.00	0	0
	Bull trout	3	60	0	0.00	0.00	0	0
	Burbot	1	60	0	0.00	0.00	0	0
	Burbot	2	60	0	0.00	0.00	0	0
	Burbot	3	60	7	0.12	0.32	0	1
	Lake whitefish	1	60	0	0.00	0.00	0	0
	Lake whitefish	2	60	0	0.00	0.00	0	0
	Lake whitefish	3	60	0	0.00	0.00	0	0
	Longnose sucker	1	60	0	0.00	0.00	0	0
	Longnose sucker	2	60	45	0.75	1.41	0	6
	Longnose sucker	3	60	136	2.27	2.65	0	14
	Mountain whitefish	1	60	0	0.00	0.00	0	0
	Mountain whitefish	2	60	528	8.80	5.61	0	21
	Mountain whitefish	3	60	121	2.02	2.11	0	11
	Northern pike	1	60	0	0.00	0.00	0	0
	Northern pike	2	60	1	0.02	0.13	0	1
	Northern pike	3	60	2	0.03	0.18	0	1
	Rainbow trout	1	60	0	0.00	0.00	0	0
	Rainbow trout	2	60	0	0.00	0.00	0	0
	Rainbow trout	3	60	0	0.00	0.00	0	0
	Walleye	1	60	0	0.00	0.00	0	0
	Walleye	2	60	4	0.07	0.41	0	3
	Walleye	3	60	6	0.10	0.30	0	1
	White sucker	1	60	0	0.00	0.00	0	0
	White sucker	2	60	4	0.07	0.25	0	1
	White sucker	3	60	26	0.43	0.91	0	5

* Age-class designations: 1-young-of-the-year, 2-juveniles, 3-adults

Continued ...

Appendix C7 Concluded.

Area and Section	Species	Age-Class*	Number of 1 km sampling sections	Total Number Captured	Catch-per-unit effort (No. fish/km) Mean	Standard Deviation	Minimum	Maximum
McLeod R.	Arctic grayling	1	2	0	0.00	0.00	0	0
	Arctic grayling	2	2	0	0.00	0.00	0	0
	Arctic grayling	3	2	0	0.00	0.00	0	0
	Brook trout	1	2	0	0.00	0.00	0	0
	Brook trout	2	2	0	0.00	0.00	0	0
	Brook trout	3	2	0	0.00	0.00	0	0
	Bull trout	1	2	0	0.00	0.00	0	0
	Bull trout	2	2	0	0.00	0.00	0	0
	Bull trout	3	2	0	0.00	0.00	0	0
	Burbot	1	2	0	0.00	0.00	0	0
	Burbot	2	2	0	0.00	0.00	0	0
	Burbot	3	2	0	0.00	0.00	0	0
	Lake whitefish	1	2	0	0.00	0.00	0	0
	Lake whitefish	2	2	0	0.00	0.00	0	0
	Lake whitefish	3	2	0	0.00	0.00	0	0
	Longnose sucker	1	2	0	0.00	0.00	0	0
	Longnose sucker	2	2	3	1.50	0.71	1	2
	Longnose sucker	3	2	6	3.00	4.24	0	6
	Mountain whitefish	1	2	0	0.00	0.00	0	0
	Mountain whitefish	2	2	19	9.50	3.54	7	12
	Mountain whitefish	3	2	5	2.50	2.12	1	4
	Northern pike	1	2	0	0.00	0.00	0	0
	Northern pike	2	2	1	0.50	0.71	0	1
	Northern pike	3	2	0	0.00	0.00	0	0
	Rainbow trout	1	2	0	0.00	0.00	0	0
	Rainbow trout	2	2	0	0.00	0.00	0	0
	Rainbow trout	3	2	0	0.00	0.00	0	0
	Walleye	1	2	0	0.00	0.00	0	0
	Walleye	2	2	7	3.50	0.71	3	4
	Walleye	3	2	0	0.00	0.00	0	0
	White sucker	1	2	0	0.00	0.00	0	0
	White sucker	2	2	1	0.50	0.71	0	1
	White sucker	3	2	0	0.00	0.00	0	0

* Age-class designations: 1-young-of-the-year, 2-juveniles, 3-adults

APPENDIX C8

CATCH SUMMARY FOR FISH CAPTURED DURING BEACH SEINING AT ATHABASCA RIVER SITES

Appendix C8 Effort and catch summary for beach seining on the Athabasca River, 11-20 May 1994.

Area	Site	Location (km)	Date	Haul No.	Haul Area	Species *															
						MNWH Larval		MNWH Juvenile		LNSC		WHSC		TRPR		LNDC		LKCH		SPSC	
						No.	CPUE (#/100m²)	No.	CPUE (#/100m²)	No.	CPUE (#/100m²)	No.	CPUE (#/100m²)	No.	CPUE (#/100m²)	No.	CPUE (#/100m²)	No.	CPUE (#/100m²)	No.	CPUE (#/100m²)
Jasper **	J1	1333.3	20-May-94	1	100.0	226	226.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	J1	1333.3	20-May-94	2	87.5	26	29.7		0.0		0.0		0.0		0.0		0.0		0.0		0.0
				OVERALL CPUE	187.5	252	134.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Jasper	J2	1316.2	18-May-94	1	124.0	6	4.8		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	J2	1316.2	18-May-94	2	126.0	0	0.0	4	3.2		0.0		0.0		0.0		0.0		0.0		0.0
	J2	1316.2	18-May-94	3	84.0	0	0.0		0.0		0.0		0.0		0.0		0.0		0.0	1	1.2
	J2	1316.2	18-May-94	4	66.0	0	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
				OVERALL CPUE	400.0	6	1.5	4	1.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3
Jasper	J4	1308.3	19-May-94	1	140.0	104	74.3		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	J4	1308.3	19-May-94	2	140.0	365	260.7		0.0		0.0		0.0		0.0		0.0		0.0		0.0
				OVERALL CPUE	280.0	469	167.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Jasper	J5	1297.6	19-May-94	1	122.5	35	28.6		0.0	1	0.8		0.0		0.0		0.0		0.0		0.0
	J5	1297.6	19-May-94	2	122.5	0	0.0		0.0	1	0.8		0.0		0.0		0.0		0.0		0.0
	J5	1297.6	19-May-94	3	157.5	516	327.6		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	J5	1297.6	19-May-94	4	157.5	1112	706.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
				OVERALL CPUE	560.0	1663	297.0	0	0.0	2	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Jasper	J6	1294.3	11-May-94	1	105.0	0	0.0		0.0	1	1.0		0.0		0.0		0.0		0.0		0.0
	J6	1294.3	11-May-94	2	70.0	0	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	J6	1294.3	11-May-94	3	105.0	0	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	J6	1294.3	11-May-94	4	98.0	0	0.0	2	2.0		0.0		0.0		0.0		0.0		0.0		0.0
	J6	1294.3	11-May-94	5	98.0	0	0.0	7	7.1		0.0		0.0		0.0		0.0		0.0		0.0
	J6	1294.3	11-May-94	6	77.0	0	0.0	4	5.2		0.0		0.0		0.0		0.0		0.0		0.0
				OVERALL CPUE	553.0	0	0.0	13	2.4	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Jasper	J7	1287.5	18-May-94	1	270.0	46	17.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	J7	1287.5	18-May-94	2	135.0	478	354.1		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	J7	1287.5	18-May-94	3	202.5	33	16.3		0.0		0.0		0.0		0.0		0.0		0.0		0.0
				OVERALL CPUE	607.5	557	[illegible]	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hinton	H1	1234.9	12-May-94	1	105.0	2	1.9		0.0	2	1.9		0.0		0.0		0.0		0.0		0.0
	H1	1234.9	12-May-94	2	105.0	2	1.9	4	3.8	1	1.0		0.0		0.0		0.0		0.0		0.0
	H1	1234.9	12-May-94	3	105.0	10	9.5	14	13.3	24	22.9		0.0		0.0		0.0		0.0		0.0
				OVERALL CPUE	315.0	14	4.4	18	5.7	27	8.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hinton	H2	1226.7	12-May-94	1	185.5	0	0.0	1	0.5		0.0		0.0		0.0	1	0.5		0.0		0.0
	H2	1226.7	12-May-94	2	196.0	0	0.0	1	0.5		0.0		0.0		0.0	1	0.5		0.0		0.0
	H2	1226.7	12-May-94	3	129.5	0	0.0	9	6.9	6	4.6		0.0		0.0	1	0.8		0.0		0.0
	H2	1226.7	12-May-94	4	84.0	15	17.9	18	21.4	13	15.5		0.0		0.0		0.0		0.0		0.0
				OVERALL CPUE	595.0	15	2.5	29	4.9	19	3.2	0	0.0	0	0.0	3	0.5	0	0.0	0	0.0
Hinton	H3	1218.5	17-May-94	1	90.0	2	2.2	1	1.1		0.0	1	1.1		0.0		0.0		0.0		0.0
	H3	1218.5	17-May-94	2	180.0	37	20.6		0.0	1	0.6	1	0.6		0.0		0.0		0.0		0.0
	H3	1218.5	17-May-94	3	180.0	0	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
				OVERALL CPUE	450.0	39	8.7	1	0.2	1	0.2	2	0.4	0	0.0	0	0.0	0	0.0	0	0.0
Knight	K1	1107.5	14-May-94	1	105.0	1	1.0	12	11.4	12	11.4		0.0		0.0	1	1.0		0.0	1	1.0
	K1	1107.5	14-May-94	2	105.0	0	0.0	6	5.7	11	10.5		0.0		0.0	7	6.7		0.0		0.0
	K1	1107.5	14-May-94	3	225.0	73	32.4	10	4.4	11	4.9		0.0		0.0	12	5.3	12	5.3		0.0
				OVERALL CPUE	435.0	74	17.0	28	6.4	34	7.8	0	0.0	0	0.0	20	4.6	12	2.8	1	0.2
Knight	K2	1103.1	15-May-94	1	140.0	0	0.0		0.0		0.0		0.0		0.0	2	1.4		0.0		0.0
	K2	1103.1	15-May-94	2	140.0	0	0.0	10	7.1	9	6.4	7	5.0		0.0	14	10.0	3	2.1		0.0
	K2	1103.1	15-May-94	3	340.0	11	3.2	1	0.3	15	4.4	11	3.2		0.0	7	2.1	9	2.6		0.0
				OVERALL CPUE	620.0	11	1.8	11	1.8	24	3.9	18	2.9	0	0.0	23	3.7	12	1.9	0	0.0
Knight	K3	1102.5	15-May-94	1	200.0	0	0.0	3	1.5		0.0	1	0.5		0.0	2	1.0		0.0		0.0
	K3	1102.5	15-May-94	2	120.0	66	55.0	5	4.2		0.0	1	0.8		0.0	1	0.8		0.0		0.0
	K3	1102.5	15-May-94	3	54.0	27	50.0	1	1.9		0.0	1	1.9		0.0		0.0	1	1.9		0.0
				OVERALL CPUE	374.0	93	24.9	9	2.4	0	0.0	3	0.8	0	0.0	3	0.8	1	0.3	0	0.0
Whitecourt	W1	1027.8	13-May-94	1	105.0	0	0.0		0.0		0.0		0.0		0.0	2	1.9	1	1.0		0.0
	W1	1027.8	13-May-94	2	105.0	18	17.1		0.0	11	10.5	1	1.0		0.0	3	2.9	16	15.2		0.0
	W1	1027.8	13-May-94	3	105.0	7	6.7		0.0	4	3.8	1	1.0		0.0	10	9.5	4	3.8		0.0
	W1	1027.8	13-May-94	4	35.0	493	1408.6		0.0		0.0		0.0		0.0	3	8.6	3	8.6		0.0
				OVERALL CPUE	350.0	518	148.0	0	0.0	15	4.3	2	0.6	0	0.0	18	5.1	24	6.9	0	0.0
Whitecourt	W2	1027.1	16-May-94	1	180.0	0	0.0	8	4.4	1	0.6		0.0	1	0.6	3	1.7		0.0		0.0
	W2	1027.1	16-May-94	2	180.0	1	0.6	2	1.1		0.0		0.0		0.0	1	0.6		0.0		0.0
	W2	1027.1	16-May-94	3	220.0	15	6.8		0.0	3	1.4		0.0		0.0	2	0.9		0.0		0.0
	W2	1027.1	16-May-94	4	90.0	1	1.1		0.0		0.0	1	1.1		0.0		0.0	1	1.1		0.0
	W2	1027.1	16-May-94	5	112.5	60	53.3		0.0		0.0	1	0.9		0.0		0.0	1	0.9		0.0
				OVERALL CPUE	782.5	77	9.8	10	1.3	4	0.5	2	0.3	1	0.1	6	0.8	2	0.3	0	0.0
Whitecourt	W3	1024.5	14-May-94	1	105.0	0	0.0		0.0	1	1.0		0.0		0.0		0.0		0.0		0.0
	W3	1024.5	14-May-94	2	105.0	0	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	W3	1024.5	14-May-94	3	105.0	0	0.0	1	1.0	3	2.9		0.0		0.0	4	3.8	3	2.9		0.0
	W3	1024.5	14-May-94	4	96.0	0	0.0		0.0		0.0		0.0		0.0		0.0	1	1.0		0.0
	W3	1024.5	14-May-94	5	133.0	57	42.9		0.0		0.0		0.0		0.0	3	2.3	2	1.5		0.0
	W3	1024.5	14-May-94	6	91.0	3	3.3		0.0	1	1.1		0.0		0.0	1	1.1	10	11.0		0.0
	W3	1024.5	14-May-94	7	49.0	32	65.3		0.0	4	8.2		0.0		0.0		0.0	9	18.4		0.0
				OVERALL CPUE	684.0	92	13.5	1	0.1	9	1.3	0	0.0	0	0.0	8	1.2	25	3.7	0	0.0

* For species codes explanations see Mackay et al. (1990)

** Jasper represents Jasper National Park

APPENDIX C9

CATCH SUMMARY FOR FISH CAPTURED DURING BACKPACK ELECTROFISHING AT ATHABASCA AND SNARING RIVER SITES

Appendix C9 Effort and catch summary for backpack electrofishing on the Athabasca and Snaring rivers, 14-20 May 1994.

Area	Site	Location (km)	Date	Area Sampled (m²)	Time Sampled (min)	Species *											
						RNTR			BLTR			MNWH			LNSC		
						Caught	Observed	CPUE (No./min)	Caught	Observed	CPUE (No./min)	Caught	Observed	CPUE (No./min)	Caught	Observed	CPUE (No./min)
Jasper **	J2	1316.2	18 May 1994	120	16.8								1	0.06		1	0.06
	J3	1311.2	20 May 1994	240	18.0	1		0.06							1		0.06
	J4	1308.3	19 May 1994	140	12.6												
	J5	1297.6	19 May 1994	189	24.5												
	J6	1294.3	18 May 1994	104	25.0							11		0.44			
Hinton	H1	1234.9	17 May 1994	115	32.5							1		0.03	34		1.05
	H2	1226.7	17 May 1994	220	24.2							20		0.83	3		0.12
	H3	1218.5	17 May 1994	417	21.4							5		0.23	1		0.05
Knight	K1	1107.5	14 May 1994	188	14.9												
	K2	1103.1	15 May 1994	204	9.4												
	K3	1102.5	15 May 1994	200	9.4												
Whitecourt	W1	1027.8	16 May 1994	131	7.9												
	W2	1027.1	16 May 1994	175	10.7												
	W3	1024.5	16 May 1994	175	14.1												
Snaring River	1	2.0	20 May 1994		8.3												
	2	2.0	20 May 1994		16.6				1		0.06						

* For species code explanation see Mackay et al. 1990

** Jasper respresents Jasper National Park

Continued ...

Appendix C9 Concluded.

Area	Site	Location (km)	Date	Area Sampled (m^2)	Time Sampled (min)	Species * WHSC Caught	WHSC Observed	WHSC CPUE (No./min)	LKCH Caught	LKCH Observed	LKCH CPUE (No./min)	LNDC Caught	LNDC Observed	LNDC CPUE (No./min)	SPSC Caught	SPSC Observed	SPSC CPUE (No./min)
Jasper **	J2	1316.2	18 May 1994	120	16.8										3	1	0.18
	J3	1311.2	20 May 1994	240	18.0												
	J4	1308.3	19 May 1994	140	12.6												
	J5	1297.6	19 May 1994	189	24.5												
	J6	1294.3	18 May 1994	104	25.0				2		0.08				4		0.16
Hinton	H1	1234.9	17 May 1994	115	32.5	31		0.95	3		0.09	18		0.55	11		0.34
	H2	1226.7	17 May 1994	220	24.2	4		0.17				2		0.08	4		0.17
	H3	1218.5	17 May 1994	417	21.4							1		0.05			
Knight	K1	1107.5	14 May 1994	188	14.9							1		0.07			
	K2	1103.1	15 May 1994	204	9.4							1		0.11			
	K3	1102.5	15 May 1994	200	9.4												
Whitecourt	W1	1027.8	16 May 1994	131	7.9												
	W2	1027.1	16 May 1994	175	10.7												
	W3	1024.5	16 May 1994	175	14.1												
Snaring River	1	2.0	20 May 1994		8.3												
	2	2.0	20 May 1994		16.6												

* For species code explanation see Mackay et al. 1990

** Jasper respresents Jasper National Park

APPENDIX D1

LENGTH FREQUENCY DISTRIBUTION OF MOUNTAIN WHITEFISH COLLECTED FROM THREE AREAS OF THE ATHABASCA RIVER DURING FALL 1993 AND SPRING 1994

Appendix D1 Size distributions of mountain whitefish captured from three areas of the Athabasca River during large fish inventories, fall 1993 and spring 1994.

Frequency Interval	Fall 1993 Inventory						Sping 1994 Inventory					
	Jasper *		Hinton		Smith		Jasper		Hinton		Smith	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
60	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
70	3	0.2	2	0.4	0	0.0	1	0.2	12	2.0	0	0.0
80	4	0.3	5	1.1	0	0.0	0	0.0	23	3.8	0	0.0
90	1	0.1	0	0.0	0	0.0	0	0.0	33	5.4	0	0.0
100	5	0.4	2	0.4	5	1.2	1	0.2	11	1.8	2	1.3
110	13	0.9	8	1.8	11	2.7	5	1.0	6	1.0	7	4.6
120	70	4.9	39	8.7	17	4.2	19	3.8	15	2.5	24	15.7
130	107	7.6	61	13.6	10	2.5	28	5.6	27	4.4	19	12.4
140	69	4.9	35	7.8	4	1.0	30	6.0	29	4.7	8	5.2
150	59	4.2	26	5.8	4	1.0	35	6.9	57	9.3	2	1.3
160	59	4.2	39	8.7	10	2.5	31	6.2	78	12.8	7	4.6
170	79	5.6	53	11.8	19	4.7	27	5.4	78	12.8	7	4.6
180	63	4.4	35	7.8	25	6.2	32	6.3	58	9.5	12	7.8
190	47	3.3	23	5.1	42	10.3	23	4.6	23	3.8	13	8.5
200	44	3.1	15	3.3	36	8.9	24	4.8	18	2.9	15	9.8
210	56	4.0	12	2.7	19	4.7	44	8.7	20	3.3	5	3.3
220	55	3.9	20	4.5	20	4.9	31	6.2	16	2.6	6	3.9
230	41	2.9	9	2.0	7	1.7	30	6.0	13	2.1	1	0.7
240	38	2.7	10	2.2	5	1.2	18	3.6	14	2.3	1	0.7
250	45	3.2	5	1.1	13	3.2	19	3.8	8	1.3	1	0.7
260	50	3.5	9	2.0	13	3.2	21	4.2	6	1.0	3	2.0
270	53	3.7	5	1.1	19	4.7	16	3.2	8	1.3	1	0.7
280	29	2.0	6	1.3	21	5.2	14	2.8	8	1.3	3	2.0
290	65	4.6	1	0.2	10	2.5	16	3.2	10	1.6	2	1.3
300	46	3.2	9	2.0	11	2.7	12	2.4	8	1.3	1	0.7
310	73	5.2	4	0.9	12	3.0	11	2.2	7	1.1	2	1.3
320	48	3.4	2	0.4	9	2.2	5	1.0	6	1.0	0	0.0
330	48	3.4	3	0.7	7	1.7	3	0.6	4	0.7	3	2.0
340	35	2.5	2	0.4	7	1.7	2	0.4	0	0.0	0	0.0
350	30	2.1	1	0.2	8	2.0	3	0.6	2	0.3	1	0.7
360	21	1.5	0	0.0	8	2.0	1	0.2	4	0.7	2	1.3
370	8	0.6	2	0.4	3	0.7	1	0.2	2	0.3	0	0.0
380	16	1.1	0	0.0	8	2.0	0	0.0	1	0.2	1	0.7
390	9	0.6	0	0.0	5	1.2	0	0.0	1	0.2	3	2.0
400	8	0.6	1	0.2	5	1.2	1	0.2	0	0.0	0	0.0
410	6	0.4	1	0.2	5	1.2	0	0.0	1	0.2	1	0.7
420	7	0.5	2	0.4	3	0.7	0	0.0	0	0.0	0	0.0
430	3	0.2	1	0.2	2	0.5	0	0.0	1	0.2	0	0.0
440	3	0.2	0	0.0	2	0.5	0	0.0	1	0.2	0	0.0
450	0	0.0	0	0.0	1	0.2	0	0.0	1	0.2	0	0.0
460	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	1417	100	448	100	406	100	504	100	611	100	153	100

* Jasper represents sections J1, J2, and J3 in Jasper National Park

APPENDIX D2

LIST OF FISH TAGGED DURING SAMPLING OF THE ATHABASCA AND SNARING RIVERS

Appendix D2. Preliminary data of fish tagged in Athabasca River study area, spring 1994.

Sample Number	Species Code	F. Length (mm)	T. Length (mm)	Weight	Colour	Tag No.	Day	Mo	Yr	Location	Site	Km	UTM Coordinates
4	MNWH	392		871	Y	11393	10	5	94	SMITH	1	790.0	11U 687700E 6117100N
9	MNWH	413		1043	Y	11394	10	5	94	SMITH	1	790.0	11U 687700E 6117100N
8	MNWH	392		914	Y	11395	10	5	94	SMITH	1	790.0	11U 687700E 6117100N
11	MNWH	369		722	Y	11396	10	5	94	SMITH	1	790.0	11U 687700E 6117100N
13	MNWH	368		655	Y	11397	10	5	94	SMITH	3	784.0	12U 311350E 6117400N
46	MNWH	391	427	758	Y	11399	10	5	94	SMITH	4	778.0	12U 316250E 6119300N
47	MNWH	278	303	248	Y	11400	10	5	94	SMITH	4	778.0	12U 316250E 6119300N
48	MNWH	332	358	450	Y	11401	10	5	94	SMITH	4	778.0	12U 316250E 6119300N
59	MNWH	330	356	461	Y	11402	10	5	94	SMITH	4	778.0	12U 316250E 6119300N
65	MNWH	264	286	232	Y	11403	10	5	94	SMITH	4	778.0	12U 316250E 6119300N
84	MNWH	250	270	176	Y	11404	10	5	94	SMITH	4	778.0	12U 316250E 6119300N
101	MNWH	290	309	323	Y	11405	10	5	94	SMITH	5	778.0	12U 316450E 6119150N
104	MNWH	315	338	438	Y	11406	10	5	94	SMITH	5	778.0	12U 316450E 6119150N
105	MNWH	285	307	304	Y	11407	10	5	94	SMITH	5	778.0	12U 316450E 6119150N
117	MNWH	389		723	Y	11408	10	5	94	SMITH	5	778.0	12U 316450E 6119150N
126	MNWH	266	288	231	Y	11409	10	5	94	SMITH	5	778.0	12U 316450E 6119150N
229	MNWH	251	277	203	Y	11410	11	5	94	WHITE	7	1037.0	11U 578050E 6003750N
127	MNWH	312	335	377	Y	11411	10	5	94	SMITH	5	778.0	12U 316450E 6119150N
128	MNWH	281	304	267	Y	11412	10	5	94	SMITH	5	778.0	12U 316450E 6119150N
135	MNWH	350	379	568	Y	11413	10	5	94	SMITH	5	778.0	12U 316450E 6119150N
136	MNWH	287	311	295	Y	11414	10	5	94	SMITH	5	778.0	12U 316450E 6119150N
141	MNWH	294	319	317	Y	11415	10	5	94	SMITH	5	778.0	12U 316450E 6119150N
167	MNWH	270	296	214	Y	11416	11	5	94	WHITE	2	1042.0	11U 573350E 6004400N
176	MNWH	263	286	207	Y	11417	11	5	94	WHITE	2	1042.0	11U 573350E 6004400N
179	MNWH	270	290	220	Y	11418	11	5	94	WHITE	3	1041.0	11U 574400E 6004600N
180	MNWH	272	294	236	Y	11419	11	5	94	WHITE	3	1041.0	11U 574400E 6004600N
181	MNWH	264	290	215	Y	11420	11	5	94	WHITE	3	1041.0	11U 574400E 6004600N
188	MNWH	297	322	370	Y	11421	11	5	94	WHITE	5	1040.0	11U 575350E 6004150N
189	MNWH	372	403	773	Y	11422	11	5	94	WHITE	5	1040.0	11U 575350E 6004150N
198	MNWH	360	389	623	Y	11423	11	5	94	WHITE	6	1039.0	11U 576350E 6004250N
207	MNWH	270	294	263	Y	11424	11	5	94	WHITE	6	1039.0	11U 576350E 6004250N
225	MNWH	348	377	561	Y	11425	11	5	94	WHITE	8	1036.0	11U 578200E 6002400N
359	MNWH	267	293	224	Y	11426	11	5	94	WHITE	15	1029.5N	11U 582200E 6000450N
349	MNWH	293	317	342	Y	11427	11	5	94	WHITE	14	1031.5N	11U 581850E 6001000N
344	MNWH	261	280	214	Y	11428	11	5	94	WHITE	14	1031.5N	11U 581850E 6001000N
343	MNWH	363	394	686	Y	11429	11	5	94	WHITE	14	1031.5N	11U 581850E 6001000N
333	MNWH	263	285	263	Y	11430	11	5	94	WHITE	14	1031.5N	11U 581850E 6001000N
332	MNWH	346	373	585	Y	11431	11	5	94	WHITE	14	1031.5N	11U 581850E 6001000N
326	MNWH	371	395	761	Y	11432	11	5	94	WHITE	13	1031.5N	11U 581400E 6001750N
307	MNWH	296	317	345	Y	11433	11	5	94	WHITE	12	1032.5N	11U 580400E 6002000N
301	MNWH	290	311	299	Y	11434	11	5	94	WHITE	12	1032.5N	11U 580400E 6002000N
300	MNWH	304	322	322	Y	11435	11	5	94	WHITE	12	1032.5N	11U 580400E 6002000N
299	MNWH	317	341	405	Y	11436	11	5	94	WHITE	12	1032.5N	11U 580400E 6002000N
298	MNWH	264	285	231	Y	11437	11	5	94	WHITE	12	1032.5N	11U 580400E 6002000N
297	MNWH	303	330	357	Y	11438	11	5	94	WHITE	12	1032.5N	11U 580400E 6002000N
296	MNWH	314	341	442	Y	11439	11	5	94	WHITE	12	1032.5N	11U 580400E 6002000N
293	MNWH	392	416	NA	Y	11440	11	5	94	WHITE	12	1032.5N	11U 580400E 6002000N
284	MNWH	282	302	298	Y	11441	11	5	94	WHITE	11	1033.5N	11U 579450E 6002500N
273	MNWH	313	337	388	Y	11442	11	5	94	WHITE	11	1033.5N	11U 579450E 6002500N
272	MNWH	329	348	487	Y	11443	11	5	94	WHITE	11	1033.5N	11U 579450E 6002500N
263	MNWH	330	352	464	Y	11444	11	5	94	WHITE	10	1034.0	11U 578450E 6001300N
262	MNWH	259	279	233	Y	11445	11	5	94	WHITE	10	1034.0	11U 578450E 6001300N
253	MNWH	389	420	863	Y	11446	11	5	94	WHITE	10	1034.0	11U 578450E 6001300N
252	WALL	520	545	1512	Y	11447	11	5	94	WHITE	10	1034.0	11U 578450E 6001300N
251	MNWH	265	284	267	Y	11448	11	5	94	WHITE	10	1034.0	11U 578450E 6001300N
240	MNWH	336	363	605	Y	11449	11	5	94	WHITE	9	1035.0	11U 578200E 6001600N
234	MNWH	313	336	495	Y	11450	11	5	94	WHITE	9	1035.0	11U 578200E 6001600N
363	MNWH	289	315	297	Y	11451	11	5	94	WHITE	15	1029.5N	11U 582200E 6000450N
365	MNWH	283	299	273	Y	11452	11	5	94	WHITE	15	1029.5N	11U 582200E 6000450N
366	MNWH	261	289	185	Y	11453	11	5	94	WHITE	15	1029.5N	11U 582200E 6000450N
370	MNWH	265	291	261	Y	11454	11	5	94	WHITE	15	1029.5N	11U 582200E 6000450N
383	MNWH	350	379	548	Y	11455	11	5	94	WHITE	16	1028.5	11U 582800E 6000425N
391	MNWH	397	425	820	Y	11456	12	5	94	WHITE	17	1018.0	11U 592200R 6002000N
392	MNWH	431	455	1165	Y	11457	12	5	94	WHITE	17	1018.0	11U 592200R 6002000N
393	MNWH	337	363	552	Y	11458	12	5	94	WHITE	17	1018.0	11U 592200R 6002000N
396	WALL	581	608	1880	Y	11459	12	5	94	WHITE	17	1018.0	11U 592200R 6002000N
397	MNWH	324	351	427	Y	11460	12	5	94	WHITE	17	1018.0	11U 592200R 6002000N
400	MNWH	332	363	551	Y	11461	12	5	94	WHITE	17	1018.0	11U 592200R 6002000N
402	MNWH	399	430	819	Y	11462	12	5	94	WHITE	17	1018.0	11U 592200R 6002000N
406	MNWH	335	361	514	Y	11463	12	5	94	WHITE	17	1018.0	11U 592200R 6002000N
416	MNWH	259	284	232	Y	11464	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
418	MNWH	272	295	280	Y	11465	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
419	MNWH	312	341	354	Y	11466	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
420	MNWH	360	388	551	Y	11467	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
423	MNWH	216	339	NA	Y	11468	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
424	MNWH	296	317	291	Y	11469	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
426	MNWH	259	282	227	Y	11470	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
428	MNWH	298	321	343	Y	11471	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
429	MNWH	263	286	245	Y	11472	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
432	MNWH	321	346	443	Y	11473	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
433	MNWH	257	274	230	Y	11474	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
434	MNWH	345	367	481	Y	11475	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
435	MNWH	273	292	291	Y	11476	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
438	MNWH	325	346	472	Y	11477	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
439	BURB	608		1198	Y	11478	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
441	MNWH	276	295	251	Y	11479	12	5	94	WHITE	18	1017.0	11U 593150E 6001700N
442	MNWH	276	307	268	Y	11480	12	5	94	WHITE	19	1016.0	11U 594100E 6002050N

continued ...

Appendix D2 Continued.

Sample Number	Species Code	F. Length (mm)	T. Length (mm)	Weight	Colour	Tag No.	Day	Mo	Yr	Location	Site	Km	UTM Coordinates
444	MNWH	365	398	583	Y	11481	12	5	94	WHITE	19	1016.0	11U 594100E 6002050N
445	MNWH	279	307	278	Y	11482	12	5	94	WHITE	19	1016.0	11U 594100E 6002050N
446	MNWH	314	347	414	Y	11483	12	5	94	WHITE	19	1016.0	11U 594100E 6002050N
449	MNWH	286	315	276	Y	11484	12	5	94	WHITE	19	1016.0	11U 594100E 6002050N
454	MNWH	356	398	718	Y	11485	12	5	94	WHITE	19	1016.0	11U 594100E 6002050N
464	MNWH	316	348	418	Y	11486	12	5	94	WHITE	20	1015.0	11U 595100E 6002300N
467	MNWH	304	327	335	Y	11487	12	5	94	WHITE	21	1014.0	11U 596050E 6002350N
468	MNWH	318	341	394	Y	11488	12	5	94	WHITE	21	1014.0	11U 596050E 6002350N
469	MNWH	315	343	393	Y	11489	12	5	94	WHITE	21	1014.0	11U 596050E 6002350N
481	MNWH	259	282	239	Y	11490	12	5	94	WHITE	21	1014.0	11U 596050E 6002350N
482	MNWH	284	308	290	Y	11491	12	5	94	WHITE	21	1014.0	11U 596050E 6002350N
484	MNWH	255	276	238	Y	11492	12	5	94	WHITE	21	1014.0	11U 596050E 6002350N
492	BURB	854		3438	Y	11493	12	5	94	WHITE	22	1013.0	11U 596950E 6002100N
495	MNWH	298	325	335	Y	11494	12	5	94	WHITE	22	1013.0	11U 596950E 6002100N
497	MNWH	250	271	207	Y	11495	12	5	94	WHITE	22	1013.0	11U 596950E 6002100N
500	MNWH	336	361	510	Y	11496	12	5	94	WHITE	22	1013.0	11U 596950E 6002100N
506	MNWH	320	344	403	Y	11497	12	5	94	WHITE	22	1013.0	11U 596950E 6002100N
507	MNWH	267	291	220	Y	11498	12	5	94	WHITE	22	1013.0	11U 596950E 6002100N
516	MNWH	449	491	1131	Y	11499	12	5	94	WHITE	22	1013.0	11U 596950E 6002100N
524	MNWH	452	477	1253	Y	11500	12	5	94	WHITE	23	1012.0	11U 598900E 6002550N
745	MNWH	355	388	538	Y	11501	13	5	94	WHITE	39	1025.5	11U 585550E 6001100N
747	MNWH	343	375	605	Y	11502	13	5	94	WHITE	39	1025.5	11U 585550E 6001100N
749	WALL	274	288	218	Y	11503	13	5	94	WHITE	39	1025.5	11U 585550E 6001100N
750	WALL	250	261	154	Y	11504	13	5	94	WHITE	39	1025.5	11U 585550E 6001100N
754	WALL	411	435	703	Y	11505	13	5	94	WHITE	39	1025.5	11U 585550E 6001100N
757	MNWH	341	373	502	Y	11506	13	5	94	WHITE	39	1025.5	11U 585550E 6001100N
762	MNWH	321	331	419	Y	11507	13	5	94	WHITE	40	1024.5	11U 586250E 6001300N
769	MNWH	262	287	206	Y	11508	13	5	94	WHITE	40	1024.5	11U 586250E 6001300N
775	MNWH	318	343	391	Y	11509	13	5	94	WHITE	41	1023.5	11U 586900E 6002350N
779	MNWH	372	398	693	Y	11510	13	5	94	WHITE	41	1023.5	11U 586900E 6002350N
788	MNWH	371	393	687	Y	11511	13	5	94	WHITE	41	1023.5	11U 586900E 6002350N
795	MNWH	331	353	490	Y	11512	13	5	94	WHITE	41	1023.5	11U 586900E 6002350N
798	MNWH	255	274	223	Y	11513	13	5	94	WHITE	41	1023.5	11U 586900E 6002350N
799	MNWH	377	407	673	Y	11514	13	5	94	WHITE	41	1023.5	11U 586900E 6002350N
802	MNWH	423	454	1102	Y	11515	13	5	94	WHITE	42	1022.5	11U 587750E 6002250N
803	MNWH	365	394	666	Y	11516	13	5	94	WHITE	42	1022.5	11U 587750E 6002250N
805	MNWH	408	436	1054	Y	11517	13	5	94	WHITE	42	1022.5	11U 587750E 6002250N
809	MNWH	358	382	613	Y	11518	13	5	94	WHITE	42	1022.5	11U 587750E 6002250N
812	MNWH	340	365	544	Y	11519	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
813	MNWH	326	352	436	Y	11520	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
814	MNWH	260	282	219	Y	11521	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
817	MNWH	284	312	270	Y	11522	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
818	MNWH	343	367	516	Y	11523	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
819	MNWH	252	273	199	Y	11524	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
820	MNWH	259	281	212	Y	11525	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
735	BURB	868		3654	Y	11526	13	5	94	WHITE	38	1026.5	11U 584650E 6000900N
733	MNWH	251	272	207	Y	11527	13	5	94	WHITE	38	1026.5	11U 584650E 6000900N
732	MNWH	260	288	214	Y	11528	13	5	94	WHITE	38	1026.5	11U 584650E 6000900N
731	MNWH	300	327	361	Y	11529	13	5	94	WHITE	38	1026.5	11U 584650E 6000900N
730	MNWH	354	379	595	Y	11530	13	5	94	WHITE	38	1026.5	11U 584650E 6000900N
729	MNWH	331	356	480	Y	11531	13	5	94	WHITE	38	1026.5	11U 584650E 6000900N
725	MNWH	275	299	248	Y	11532	13	5	94	WHITE	38	1026.5	11U 584650E 6000900N
719	MNWH	362	388	675	Y	11533	13	5	94	WHITE	37	1027.5	11U 583500E 6000950N
707	MNWH	350	380	482	Y	11534	13	5	94	WHITE	37	1027.5	11U 583500E 6000950N
706	WALL	311	329	301	Y	11535	12	5	94	WHITE	36	998.0	11U 608300E 6002400N
705	MNWH	267	289	235	Y	11536	12	5	94	WHITE	36	998.0	11U 608300E 6002400N
704	MNWH	380	421	743	Y	11537	12	5	94	WHITE	36	998.0	11U 608300E 6002400N
703	MNWH	266	283	201	Y	11538	12	5	94	WHITE	36	998.0	11U 608300E 6002400N
702	MNWH	424	452	1054	Y	11539	12	5	94	WHITE	36	998.0	11U 608300E 6002400N
700	MNWH	315	334	391	Y	11540	12	5	94	WHITE	35	999.0	11U 608250E 6002450N
699	MNWH	315	336	370	Y	11541	12	5	94	WHITE	35	999.0	11U 608250E 6002450N
698	MNWH	344	363	543	Y	11542	12	5	94	WHITE	35	999.0	11U 608250E 6002450N
693	MNWH	386	409	774	Y	11543	12	5	94	WHITE	35	999.0	11U 608250E 6002450N
690	MNWH	355	382	553	Y	11544	12	5	94	WHITE	35	999.0	11U 608250E 6002450N
688	MNWH	297	325	322	Y	11545	12	5	94	WHITE	35	999.0	11U 608250E 6002450N
683	MNWH	331	365	448	Y	11546	12	5	94	WHITE	34	1000.0	11U 607700E 6002650N
681	MNWH	345	367	471	Y	11547	12	5	94	WHITE	34	1000.0	11U 607700E 6002650N
675	MNWH	325	359	479	Y	11548	12	5	94	WHITE	34	1000.0	11U 607700E 6002650N
674	MNWH	288	314	346	Y	11549	12	5	94	WHITE	34	1000.0	11U 607700E 6002650N
671	MNWH	269	299	251	Y	11550	12	5	94	WHITE	34	1000.0	11U 607700E 6002650N
547	MNWH	445	488	1085	Y	11551	12	5	94	WHITE	25	1009.0	11U 600550E 6001800N
525	MNWH	304	321	363	Y	11552	12	5	94	WHITE	23	1012.0	11U 598900E 6002550N
527	WALL	435	461	863	Y	11553	12	5	94	WHITE	24	1011.0	11U 599950E 6002500N
529	MNWH	251	270	281	Y	11554	12	5	94	WHITE	24	1011.0	11U 599950E 6002500N
534	MNWH	359	390	585	Y	11555	12	5	94	WHITE	24	1011.0	11U 599950E 6002500N
536	MNWH	374	397	662	Y	11556	12	5	94	WHITE	24	1011.0	11U 599950E 6002500N
537	MNWH	287	309	287	Y	11557	12	5	94	WHITE	24	1011.0	11U 599950E 6002500N
538	MNWH	316	330	351	Y	11558	12	5	94	WHITE	24	1011.0	11U 599950E 6002500N
554	MNWH	339	371	523	Y	11559	12	5	94	WHITE	25	1009.0	11U 600550E 6001800N
555	MNWH	255	280	206	Y	11560	12	5	94	WHITE	25	1009.0	11U 600550E 6001800N
557	MNWH	436	471	1112	Y	11561	12	5	94	WHITE	25	1009.0	11U 600550E 6001800N
564	WALL	425	459	841	Y	11562	12	5	94	WHITE	26	1008.0	11U 600800E 6000800N
565	MNWH	479	521	1589	Y	11563	12	5	94	WHITE	26	1008.0	11U 600800E 6000800N
568	MNWH	267	286	229	Y	11564	12	5	94	WHITE	26	1008.0	11U 600800E 6000800N
571	MNWH	368	410	736	Y	11565	12	5	94	WHITE	26	1008.0	11U 600800E 6000800N
573	MNWH	345	380	543	Y	11566	12	5	94	WHITE	26	1008.0	11U 600800E 6000800N
574	MNWH	427	462	1158	Y	11567	12	5	94	WHITE	26	1008.0	11U 600800E 6000800N

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Appendix D2 Continued.

Sample Number	Species Code	F. Length (mm)	T. Length (mm)	Weight	Colour	Tag No.	Day	Mo	Yr	Location	Site	Km	UTM Coordinates
588	MNWH	321	344	408	Y	11568	12	5	94	WHITE	27	1007.0	11U 601700E 6000200N
590	MNWH	302	324	335	Y	11569	12	5	94	WHITE	27	1007.0	11U 601700E 6000200N
596	MNWH	390	418	832	Y	11570	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
597	MNWH	272	294	257	Y	11571	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
598	MNWH	294	316	341	Y	11572	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
599	MNWH	293	320	355	Y	11573	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
600	MNWH	313	336	447	Y	11574	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
601	MNWH	308	337	417	Y	11575	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
604	MNWH	306	331	363	Y	11576	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
607	MNWH	382	409	705	Y	11577	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
608	MNWH	311	339	403	Y	11578	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
610	MNWH	318	348	457	Y	11579	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
612	MNWH	271	297	251	Y	11580	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
613	MNWH	274	299	251	Y	11581	12	5	94	WHITE	28	1006.0	11U 602600E 6000600N
614	MNWH	394	424	741	Y	11582	12	5	94	WHITE	29	1005.0	11U 602500E 6001000N
615	MNWH	329	354	403	Y	11583	12	5	94	WHITE	29	1005.0	11U 602500E 6001000N
616	MNWH	441	486	1197	Y	11584	12	5	94	WHITE	29	1005.0	11U 602500E 6001000N
617	MNWH	315	336	386	Y	11585	12	5	94	WHITE	29	1005.0	11U 602500E 6001000N
622	MNWH	293	311	287	Y	11586	12	5	94	WHITE	29	1005.0	11U 602500E 6001000N
618	MNWH	266	286	236	Y	11587	12	5	94	WHITE	29	1005.0	11U 602500E 6001000N
619	MNWH	315	335	365	Y	11588	12	5	94	WHITE	29	1005.0	11U 602500E 6001000N
650	MNWH	312	337	404	Y	11589	12	5	94	WHITE	32	1002.0	11U 605750E 6005900N
626	MNWH	300	317	335	Y	11590	12	5	94	WHITE	29	1005.0	11U 602500E 6001000N
627	MNWH	334		485	Y	11591	12	5	94	WHITE	29	1005.0	11U 602500E 6001000N
635	MNWH	345	373	597	Y	11592	12	5	94	WHITE	31	1003.0	11U 605100E 6002150N
636	MNWH	353	380	655	Y	11593	12	5	94	WHITE	31	1003.0	11U 605100E 6002150N
637	MNWH	404	430	909	Y	11594	12	5	94	WHITE	31	1003.0	11U 605100E 6002150N
638	MNWH	288	310	336	Y	11595	12	5	94	WHITE	31	1003.0	11U 605100E 6002150N
644	MNWH	345	369	571	Y	11596	12	5	94	WHITE	31	1003.0	11U 605100E 6002150N
649	MNWH	290	311	204	Y	11597	12	5	94	WHITE	32	1002.0	11U 605750E 6005900N
656	BURB	484		545	Y	11598	12	5	94	WHITE	32	1002.0	11U 605750E 6005900N
662	MNWH	254	278	170	Y	11599	12	5	94	WHITE	33	1001.0	11U 606700E 6002650N
664	MNWH	270	296	271	Y	11600	12	5	94	WHITE	33	1001.0	11U 606700E 6002650N
821	MNWH	252	268	193	Y	11601	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
823	BURB	472	472	599	Y	11602	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
825	MNWH	331	358	449	Y	11603	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
826	MNWH	323	347	414	Y	11604	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
828	MNWH	417	447	1141	Y	11605	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
834	MNWH	304	330	348	Y	11606	13	5	94	WHITE	43	1021.5	11U 588650E 6002100N
838	MNWH	409	438	959	Y	11607	13	5	94	WHITE	44	1020.5	11U 589800E 6002000N
840	MNWH	260	281	203	Y	11608	13	5	94	WHITE	44	1020.5	11U 589800E 6002000N
847	MNWH	270	291	248	Y	11609	13	5	94	WHITE	44	1020.5	11U 589800E 6002000N
848	MNWH	287	312	308	Y	11610	13	5	94	WHITE	44	1020.5	11U 589800E 6002000N
853	MNWH	292	320	276	Y	11611	13	5	94	WHITE	44	1020.5	11U 589800E 6002000N
856	MNWH	326	357	428	Y	11612	13	5	94	WHITE	44	1020.5	11U 589800E 6002000N
864	MNWH	373	411	685	Y	11613	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
866	MNWH	354	388	548	Y	11614	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
870	MNWH	267	295	267	Y	11615	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
873	MNWH	313	342	342	Y	11616	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
875	MNWH	304	330	364	Y	11617	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
879	MNWH	296	324	360	Y	11618	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
881	MNWH	379	412	743	Y	11619	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
884	MNWH	333	365	567	Y	11620	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
891	MNWH	283	311	299	Y	11621	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
893	MNWH	395	432	732	Y	11622	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
892	MNWH	385	425	757	Y	11623	13	5	94	WHITE	46	1018.0	11U 592200E 6002000N
901	MNWH	454	487	1004	Y	11624	13	5	94	WHITE	47	1016.0	11U 594300E 6001500N
903	MNWH	475		1515	Y	11625	13	5	94	WHITE	47	1016.0	11U 594300E 6001500N
904	MNWH	370	395	667	Y	11626	13	5	94	WHITE	47	1016.0	11U 594300E 6001500N
905	MNWH	418	453	1033	Y	11627	13	5	94	WHITE	47	1016.0	11U 594300E 6001500N
906	MNWH	268	292	234	Y	11628	13	5	94	WHITE	47	1016.0	11U 594300E 6001500N
915	MNWH	404	431	876	Y	11629	13	5	94	WHITE	47	1016.0	11U 594300E 6001500N
916	MNWH	255	277	195	Y	11630	13	5	94	WHITE	47	1016.0	11U 594300E 6001500N
917	MNWH	383	414	841	Y	11631	13	5	94	WHITE	47	1016.0	11U 594300E 6001500N
920	MNWH	303	333	369	Y	11632	13	5	94	WHITE	48	1015.0	11U 595150E 6002150N
923	MNWH	325	351	453	Y	11633	13	5	94	WHITE	48	1015.0	11U 595150E 6002150N
927	MNWH	335	360	465	Y	11634	13	5	94	WHITE	48	1015.0	11U 595150E 6002150N
928	MNWH	271	295	295	Y	11635	13	5	94	WHITE	48	1015.0	11U 595150E 6002150N
931	BURB	454		NA	Y	11636	13	5	94	WHITE	48	1015.0	11U 595150E 6002150N
938	MNWH	332	359	477	Y	11637	13	5	94	WHITE	49	1014.0	11U 596050E 6002600N
940	MNWH	318	345	405	Y	11638	13	5	94	WHITE	49	1014.0	11U 596050E 6002600N
945	BURB	554		933	Y	11639	13	5	94	WHITE	49	1014.0	11U 596050E 6002600N
946	MNWH	390	422	674	Y	11640	13	5	94	WHITE	49	1014.0	11U 596050E 6002600N
950	MNWH	287	314	291	Y	11641	13	5	94	WHITE	50	1013.0	11U 596950E 6002450N
953	MNWH	340	366	536	Y	11642	13	5	94	WHITE	50	1013.0	11U 596950E 6002450N
954	MNWH	274	295	277	Y	11643	13	5	94	WHITE	50	1013.0	11U 596950E 6002450N
956	MNWH	260	282	192	Y	11644	13	5	94	WHITE	50	1013.0	11U 596950E 6002450N
960	MNWH	332	356	506	Y	11645	13	5	94	WHITE	50	1013.0	11U 596950E 6002450N
964	MNWH	282	310	303	Y	11646	13	5	94	WHITE	50	1013.0	11U 596950E 6002450N
965	MNWH	348	376	639	Y	11647	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
967	MNWH	395	426	803	Y	11648	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
968	MNWH	306	332	402	Y	11649	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
969	MNWH	271	295	243	Y	11650	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
970	MNWH	327	351	414	Y	11651	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
971	MNWH	314	341	418	Y	11652	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
973	MNWH	289	309	302	Y	11653	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
974	MNWH	287	312	268	Y	11654	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N

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Appendix D2 Continued

Sample Number	Species Code	F. Length (mm)	T. Length (mm)	Weight	Colour	Tag No.	Day	Mo	Yr	Location	Site	Km	UTM Cooridnates
976	MNWH	317	342	389	Y	11655	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
979	MNWH	318	341	405	Y	11656	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
980	MNWH	262	285	223	Y	11657	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
982	MNWH	300	325	353	Y	11658	13	5	94	WHITE	51	1012.0	11U 598400E 6002100N
983	NRPK	872		4538	Y	11659	13	5	94	WHITE	52	1011.0	11U 598925E 6001150N
984	MNWH	452	488	1158	Y	11660	13	5	94	WHITE	52	1011.0	11U 598925E 6001150N
985	NRPK	377	402	378	Y	11661	13	5	94	WHITE	52	1011.0	11U 598925E 6001150N
986	MNWH	339	419	815	Y	11662	13	5	94	WHITE	52	1011.0	11U 598925E 6001150N
987	MNWH	456	487	1342	Y	11663	13	5	94	WHITE	52	1011.0	11U 598925E 6001150N
999	MNWH	265	291	230	Y	11664	14	5	94	WHITE	54	1032.0	11U 580100E 6000750N
1003	MNWH	434	465	1048	Y	11665	14	5	94	WHITE	55	1031.0	11U 580850E 6000650N
1005	MNWH	327	352	462	Y	11666	14	5	94	WHITE	55	1031.0	11U 580850E 6000650N
1007	MNWH	324	348	443	Y	11667	14	5	94	WHITE	55	1031.0	11U 580850E 6000650N
1012	MNWH	298	327	323	Y	11668	14	5	94	WHITE	55	1031.0	11U 580850E 6000650N
1015	MNWH	314	337	384	Y	11669	14	5	94	WHITE	56	1030.0	11U 581550E 6000000N
1017	MNWH	358	388	601	Y	11670	14	5	94	WHITE	57	1029.0	11U 582500E 6000250N
1018	MNWH	331	355	424	Y	11671	14	5	94	WHITE	57	1029.0	11U 582500E 6000250N
1019	MNWH	281	304	248	Y	11672	14	5	94	WHITE	57	1029.0	11U 582500E 6000250N
1028	MNWH	290	315	317	Y	11673	14	5	94	WHITE	58	1028.0	11U 583500E 6000500N
1030	MNWH	302	332	413	Y	11674	14	5	94	WHITE	59	1027.0	11U 584250E 6000800N
1037	WALL	425	452	805	Y	11675	14	5	94	WHITE	60	1026.0	11U 585250E 6001000N
1049	MNWH	342	367	605	Y	11676	14	5	94	MCLEOD	61	0.5	11U 584800E 6000425N
1052	MNWH	343	370	614	Y	11677	14	5	94	MCLEOD	61	0.5	11U 584800E 6000425N
1053	MNWH	294	318	309	Y	11678	14	5	94	MCLEOD	61	0.5	11U 584800E 6000425N
1055	WALL	250	265	155	Y	11679	14	5	94	MCLEOD	61	0.5	11U 584800E 6000425N
1062	MNWH	365	395	591	Y	11680	14	5	94	MCLEOD	61	0.5	11U 584800E 6000425N
1063	WALL	255	272	156	Y	11681	14	5	94	MCLEOD	61	0.5	11U 584800E 6000425N
1069	MNWH	409	442	865	Y	11682	14	5	94	MCLEOD	62	0.5	11U 585050E 6000450N
1070	WALL	253	270	175	Y	11683	14	5	94	MCLEOD	62	0.5	11U 585050E 6000450N
1079	WALL	250	266	150	Y	11684	14	5	94	MCLEOD	62	0.5	11U 585050E 6000450N
1080	NRPK	304	322	230	Y	11685	14	5	94	MCLEOD	62	0.5	11U 585050E 6000450N
1088	WALL	257	275	183	Y	11686	14	5	94	MCLEOD	62	0.5	11U 585050E 6000450N
1089	MNWH	354	378	567	Y	11687	14	5	94	KNIGHT	2	1106.0	11U 523600E 5998600N
1091	MNWH	307	331	422	Y	11688	14	5	94	KNIGHT	2	1106.0	11U 523600E 5998600N
1102	MNWH	325	351	439	Y	11689	14	5	94	KNIGHT	2	1106.0	11U 523600E 5998600N
1169	BURB	393		402	Y	11690	14	5	94	KNIGHT	6	1102.0	11U 527050E 6000800N
1111	MNWH	304	328	324	Y	11691	14	5	94	KNIGHT	3	1105.0	11U 524700E 5999200N
1112	MNWH	290	314	276	Y	11692	14	5	94	KNIGHT	3	1105.0	11U 524700E 5999200N
1113	MNWH	328	355	416	Y	11693	14	5	94	KNIGHT	3	1105.0	11U 524700E 5999200N
1125	MNWH	356	390	571	Y	11694	14	5	94	KNIGHT	3	1105.0	11U 524700E 5999200N
1128	MNWH	295	320	320	Y	11695	14	5	94	KNIGHT	3	1105.0	11U 524700E 5999200N
1129	MNWH	300	326	364	Y	11696	14	5	94	KNIGHT	3	1105.0	11U 524700E 5999200N
1142	MNWH	304	329	375	Y	11697	14	5	94	KNIGHT	4	1104.0	11U 525450E 5999750N
1143	MNWH	323	347	435	Y	11698	14	5	94	KNIGHT	4	1104.0	11U 525450E 5999750N
1161	ARGR	262	285	235	Y	11699	14	5	94	KNIGHT	6	1102.0	11U 527050E 6000800N
1162	ARGR	264	290	234	Y	11700	14	5	94	KNIGHT	6	1102.0	11U 527050E 6000800N
1170	ARGR	260	281	214	Y	11701	14	5	94	KNIGHT	6	1102.0	11U 527050E 6000800N
1171	MNWH	322	349	442	Y	11702	14	5	94	KNIGHT	6	1102.0	11U 527050E 6000800N
1172	MNWH	332	356	450	Y	11703	14	5	94	KNIGHT	6	1102.0	11U 527050E 6000800N
1183	MNWH	378	404	713	Y	11704	14	5	94	KNIGHT	7	1112.0	11U 518750E 5996400N
1184	ARGR	343	374	475	Y	11705	14	5	94	KNIGHT	8	1111.0	11U 519575E 5996900N
1191	RNTR	320	340	418	Y	11706	14	5	94	KNIGHT	8	1111.0	11U 519575E 5996900N
1340	ARGR	278	301	248	Y	11707	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1193	ARGR	274	301	259	Y	11708	14	5	94	KNIGHT	8	1111.0	11U 519575E 5996900N
1347	ARGR	313	348	347	Y	11709	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1205	MNWH	482	520	1493	Y	11710	15	5	94	KNIGHT	9	1110.0	11U 520700E 5996250N
1210	MNWH	294	315	289	Y	11711	15	5	94	KNIGHT	9	1110.0	11U 520700E 5996250N
1212	MNWH	99	110	NA	Y	11712	15	5	94	KNIGHT	9	1110.0	11U 520700E 5996250N
1215	ARGR	274	295	276	Y	11713	15	5	94	KNIGHT	9	1110.0	11U 520700E 5996250N
1216	MNWH	302	328	320	Y	11714	15	5	94	KNIGHT	10	1109.0	11U 521550E 5997100N
1218	MNWH	235	262	NA	Y	11715	15	5	94	KNIGHT	10	1109.0	11U 521550E 5997100N
1225	MNWH	277	301	256	Y	11716	15	5	94	KNIGHT	10	1109.0	11U 521550E 5997100N
1226	MNWH	311	335	442	Y	11717	15	5	94	KNIGHT	10	1109.0	11U 521550E 5997100N
1229	MNWH	272	296	206	Y	11718	15	5	94	KNIGHT	10	1109.0	11U 521550E 5997100N
1230	MNWH	264	284	235	Y	11719	15	5	94	KNIGHT	10	1109.0	11U 521550E 5997100N
1234	ARGR	270	294	215	Y	11720	15	5	94	KNIGHT	10	1109.0	11U 521550E 5997100N
1236	MNWH	325	346	431	Y	11721	15	5	94	KNIGHT	10	1109.0	11U 521550E 5997100N
1239	ARGR	324	351	384	Y	11722	15	5	94	KNIGHT	10	1109.0	11U 521550E 5997100N
1242	ARGR	217	236	104	Y	11723	15	5	94	KNIGHT	10	1109.0	11U 521550E 5997100N
1255	ARGR	296	325	298	Y	11724	15	5	94	KNIGHT	11	1103.0	11U 526450E 6000150N
1263	ARGR	324	357	426	Y	11725	15	5	94	KNIGHT	11	1103.0	11U 526450E 6000150N
1272	MNWH	280	300	255	Y	11726	15	5	94	KNIGHT	12	1102.0	11U 527050E 6000800N
1273	ARGR	251	275	218	Y	11727	15	5	94	KNIGHT	12	1102.0	11U 527050E 6000800N
1276	MNWH	254	274	198	Y	11728	15	5	94	KNIGHT	12	1102.0	11U 527050E 6000800N
1277	ARGR	270	290	202	Y	11729	15	5	94	KNIGHT	12	1102.0	11U 527050E 6000800N
1282	ARGR	363	388	543	Y	11730	15	5	94	KNIGHT	12	1102.0	11U 527050E 6000800N
1284	ARGR	265	285	237	Y	11731	15	5	94	KNIGHT	12	1102.0	11U 527050E 6000800N
1290	MNWH	252	270	187	Y	11732	15	5	94	KNIGHT	12	1102.0	11U 527050E 6000800N
1294	ARGR	269	290	244	Y	11733	15	5	94	KNIGHT	12	1102.0	11U 527050E 6000800N
1296	MNWH	285	306	271	Y	11734	15	5	94	KNIGHT	12	1102.0	11U 527050E 6000800N
1297	MNWH	263	295	228	Y	11735	15	5	94	KNIGHT	12	1102.0	11U 527050E 6000800N
1300	MNWH	438	469	994	Y	11736	15	5	94	KNIGHT	13	1101.0	11U 528000E 6000750N
1303	ARGR	285	306	303	Y	11737	15	5	94	KNIGHT	13	1101.0	11U 528000E 6000750N
1307	ARGR	313	340	348	Y	11738	15	5	94	KNIGHT	13	1101.0	11U 528000E 6000750N
1308	ARGR	325	357	376	Y	11739	15	5	94	KNIGHT	13	1101.0	11U 528000E 6000750N
1314	MNWH	380	409	882	Y	11740	15	5	94	KNIGHT	14	1100.0	11U 528850E 6001200N
1317	ARGR	285	310	277	Y	11741	15	5	94	KNIGHT	14	1100.0	11U 528850E 6001200N

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Appendix D2 Continued.

Sample Number	Species Code	F. Length (mm)	T. Length (mm)	Weight	Colour	Tag No.	Day	Mo	Yr	Location	Site	Km	UTM Coordinates
1323	MNWH	292	320	308	Y	11742	15	5	94	KNIGHT	15	1099.0	11U 529650E 6001850N
1324	ARGR	267	292	234	Y	11743	15	5	94	KNIGHT	15	1099.0	11U 529650E 6001850N
1325	ARGR	275	298	264	Y	11744	15	5	94	KNIGHT	15	1099.0	11U 529650E 6001850N
1326	ARGR	316	343	375	Y	11745	15	5	94	KNIGHT	15	1099.0	11U 529650E 6001850N
1330	ARGR	312	340	367	Y	11746	15	5	94	KNIGHT	15	1099.0	11U 529650E 6001850N
1333	ARGR	279	299	200	Y	11747	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1334	MNWH	345	374	431	Y	11748	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1336	MNWH	359	390	591	Y	11749	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1338	MNWH	364	391	589	Y	11750	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1348	ARGR	280	307	252	Y	11751	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1349	ARGR	262	283	239	Y	11752	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1352	ARGR	280	308	262	Y	11753	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1353	ARGR	328	352	412	Y	11754	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1356	ARGR	270	298	228	Y	11755	15	5	94	KNIGHT	16	1098.0	11U 530700E 6002050N
1395	ARGR	273	295	210	Y	11756	15	5	94	KNIGHT	17	1097.0	11U 531350E 6002650N
1417	MNWH	352	382	536	Y	11757	15	5	94	KNIGHT	18	1096.0	11U 531950E 6003450N
1424	ARGR	297	327	340	Y	11758	15	5	94	KNIGHT	19	1095.0	11U 532900E 6003800N
1426	ARGR	345	373	445	Y	11759	15	5	94	KNIGHT	20	1094.0	11U 533350E 6004750N
1428	ARGR	261	285	230	Y	11760	15	5	94	KNIGHT	20	1094.0	11U 533350E 6004750N
1431	ARGR	275	298	273	Y	11761	15	5	94	KNIGHT	20	1094.0	11U 533350E 6004750N
1432	ARGR	330	355	439	Y	11762	15	5	94	KNIGHT	20	1094.0	11U 533350E 6004750N
1453	RNTR	262	277	218	Y	11763	16	5	94	HINTON	3	1235.0	11U 456550E 5914550N
1479	MNWH	74	80	2	Y	11764	16	5	94	HINTON	4	1234.0	11U 457350E 5915200N
1494	BLTR	390	414	587	Y	11765	16	5	94	HINTON	6	1232.0	11U 458900E 5916400N
1495	MNWH	454	487	1091	Y	11766	16	5	94	HINTON	6	1232.0	11U 458900E 5916400N
1498	MNWH	256	275	196	Y	11767	16	5	94	HINTON	6	1232.0	11U 458900E 5916400N
1507	BLTR	652	662	2801	Y	11768	16	5	94	HINTON	7	1231.0	11U 459700E 5916950N
1526	BURB	800		3430	Y	11769	16	5	94	HINTON	9	1229.0	11U 461050E 5918400N
1527	BURB	620		1416	Y	11770	16	5	94	HINTON	9	1229.0	11U 461050E 5918400N
1529	MNWH	292	318	304	Y	11771	16	5	94	HINTON	9	1229.0	11U 461050E 5918400N
1543	MNWH	291	311	335	Y	11772	16	5	94	HINTON	10	1228.0	11U 461750E 5919150N
1559	MNWH	271	293	237	Y	11773	16	5	94	HINTON	11	1226.0	11U 463500E 5920050N
1570	RNTR	283	302	260	Y	11774	16	5	94	HINTON	11	1226.0	11U 463500E 5920050N
1572	MNWH	306	331	473	Y	11775	16	5	94	HINTON	11	1226.0	11U 463500E 5920050N
1599	MNWH	373	401	741	Y	11776	16	5	94	HINTON	13	1224.0	11U 465100E 5921300N
1611	MNWH	310	344	432	Y	11777	16	5	94	HINTON	13	1224.0	11U 465100E 5921300N
1665	BLTR	362	382	468	Y	11778	16	5	94	HINTON	16	1221.0	11U 467500E 5922900N
1670	BURB	777		2246	Y	11779	16	5	94	HINTON	16	1221.0	11U 467500E 5922900N
1673	BURB	582		964	Y	11780	16	5	94	HINTON	16	1221.0	11U 467500E 5922900N
1703	MNWH	281	305	290	Y	11781	16	5	94	HINTON	17	1220.0	11U 468350E 5923300N
1704	MNWH	363	391	730	Y	11782	16	5	94	HINTON	17	1220.0	11U 468350E 5923300N
1705	MNWH	302	325	381	Y	11783	16	5	94	HINTON	17	1220.0	11U 468350E 5923300N
1706	MNWH	258	280	211	Y	11784	16	5	94	HINTON	17	1220.0	11U 468350E 5923300N
1721	MNWH	269	292	275	Y	11785	16	5	94	HINTON	18	1219.0	11U 469000E 5923950N
1723	MNWH	327	350	510	Y	11786	16	5	94	HINTON	18	1219.0	11U 469000E 5923950N
1727	MNWH	274	294	293	Y	11787	16	5	94	HINTON	18	1219.0	11U 469000E 5923950N
1745	MNWH	307	332	451	Y	11788	16	5	94	HINTON	19	1218.0	11U 469450E 5924750N
1746	MNWH	261	283	270	Y	11789	16	5	94	HINTON	19	1218.0	11U 469450E 5924750N
1758	MNWH	289	314	346	Y	11790	16	5	94	HINTON	19	1218.0	11U 469450E 5924750N
1770	MNWH	432	464	1204	Y	11791	16	5	94	HINTON	20	1217.0	11U 469200E 5925700N
1771	MNWH	320	346	492	Y	11792	16	5	94	HINTON	20	1217.0	11U 469200E 5925700N
1773	MNWH	276	300	333	Y	11793	16	5	94	HINTON	20	1217.0	11U 469200E 5925700N
1774	MNWH	320	343	467	Y	11794	16	5	94	HINTON	20	1217.0	11U 469200E 5925700N
1778	MNWH	338	369	547	Y	11795	16	5	94	HINTON	20	1217.0	11U 469200E 5925700N
1800	MNWH	356	375	632	Y	11796	17	5	94	HINTON	21	1216.0	11U 469450E 5926700N
1808	MNWH	283	308	305	Y	11797	17	5	94	HINTON	22	1215.0	11U 470400E 5927250N
1816	MNWH	289	316	330	Y	11798	17	5	94	HINTON	22	1215.0	11U 470400E 5927250N
1842	MNWH	314	334	385	Y	11799	18	5	94	HINTON	23	1214.0	11U 471400E 5927450N
1843	MNWH	275	298	264	Y	11800	18	5	94	HINTON	23	1214.0	11U 471400E 5927450N
1867	MNWH	324	351	480	Y	11802	18	5	94	HINTON	24	1213.0	11U 472500E 5927750N
1868	MNWH	380	415	791	Y	11803	18	5	94	HINTON	24	1213.0	11U 472500E 5927750N
1869	MNWH	323	344	513	Y	11805	18	5	94	HINTON	24	1213.0	11U 472500E 5927750N
1871	MNWH	282	301	354	Y	11806	18	5	94	HINTON	24	1213.0	11U 472500E 5927750N
1874	MNWH	315	331	410	Y	11807	18	5	94	HINTON	24	1213.0	11U 472500E 5927750N
1880	BLTR	400	421	640	Y	11808	18	5	94	HINTON	25	1212.0	11U 473400E 5928050N
1892	MNWH	363	391	685	Y	11809	18	5	94	HINTON	25	1212.0	11U 473400E 5928050N
1911	RNTR	288	303	256	Y	11810	18	5	94	HINTON	26	1211.0	11U 474200E 5928550N
1912	RNTR	282	295	268	Y	11811	18	5	94	HINTON	26	1211.0	11U 474200E 5928550N
2314	MNWH	372	397	600	Y	11812	19	5	94	J04	6	1293.0	11U 426700E 5878200N
1926	MNWH	364	398	736	Y	11813	18	5	94	HINTON	27	1210.0	11U 475150E 5928950N
1933	MNWH	294	322	384	Y	11814	18	5	94	HINTON	28	1209.0	11U 475800E 5929850N
1935	MNWH	256	277	215	Y	11815	18	5	94	HINTON	28	1209.0	11U 475800E 5929850N
1959	MNWH	278	300	248	Y	11816	18	5	94	HINTON	29	1208.0	11U 476125E 5930750N
1962	MNWH	312	337	422	Y	11817	18	5	94	HINTON	29	1208.0	11U 476125E 5930750N
1975	MNWH	294	325	420	Y	11818	18	5	94	HINTON	31	1206.0	11U 477600E 5932150N
1976	MNWH	256	271	218	Y	11819	18	5	94	HINTON	31	1206.0	11U 477600E 5932150N
1979	MNWH	292	309	345	Y	11820	18	5	94	HINTON	31	1206.0	11U 477600E 5932150N
1980	MNWH	302	325	381	Y	11821	18	5	94	HINTON	31	1206.0	11U 477600E 5932150N
1985	MNWH	307	329	412	Y	11822	18	5	94	HINTON	31	1206.0	11U 477600E 5932150N
1988	MNWH	369	395	714	Y	11823	18	5	94	HINTON	32	1205.0	11U 477900E 5933000N
1991	MNWH	283	300	334	Y	11824	18	5	94	HINTON	32	1205.0	11U 477900E 5933000N
1992	MNWH	299	322	386	Y	11825	18	5	94	HINTON	32	1205.0	11U 477900E 5933000N
1993	MNWH	262	286	253	Y	11826	18	5	94	HINTON	32	1205.0	11U 477900E 5933000N
1994	MNWH	277	300	307	Y	11827	18	5	94	HINTON	32	1205.0	11U 477900E 5933000N
2005	RNTR	352	374	559	Y	11828	18	5	94	HINTON	33	1204.0	11U 478450E 5933800N
2029	MNWH	398	429	1006	Y	11829	18	5	94	HINTON	34	1203.0	11U 479225E 5934150N
2030	MNWH	319	343	442	Y	11830	18	5	94	HINTON	34	1203.0	11U 479225E 5934150N

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Appendix D2 Continued.

Sample Number	Species Code	F. Length (mm)	T. Length (mm)	Weight	Colour	Tag No.	Day	Mo	Yr	Location	Site	Km	UTM Coordinates
2031	MNWH	283	308	312	Y	11831	18	5	94	HINTON	34	1203.0	11U 479225E 5934150N
2052	MNWH	256	272	180	Y	11832	18	5	94	HINTON	35	1202.0	11U 480500E 5934250N
2053	MNWH	295	324	369	Y	11833	18	5	94	HINTON	35	1202.0	11U 480500E 5934250N
2058	MNWH	308	330	419	Y	11834	18	5	94	HINTON	36	1201.0	11U 481100E 5935100N
2059	MNWH	324	346	493	Y	11835	18	5	94	HINTON	36	1201.0	11U 481100E 5935100N
2064	MNWH	337	368	600	Y	11836	18	5	94	HINTON	36	1201.0	11U 481100E 5935100N
2067	RNTR	353	370	460	Y	11837	18	5	94	HINTON	36	1201.0	11U 481100E 5935100N
2068	RNTR	342	357	472	Y	11838	18	5	94	HINTON	36	1201.0	11U 481100E 5935100N
2069	MNWH	306	329	400	Y	11839	18	5	94	HINTON	36	1201.0	11U 481100E 5935100N
2075	MNWH	357	381	620	Y	11840	18	5	94	HINTON	36	1201.0	11U 481100E 5935100N
2077	MNWH	290	313	342	Y	11841	18	5	94	HINTON	36	1201.0	11U 481100E 5935100N
2078	MNWH	287	314	359	Y	11842	18	5	94	HINTON	36	1201.0	11U 481100E 5935100N
2095	MNWH	311	334	421	Y	11843	18	5	94	HINTON	37	1200.0	11U 480875E 5936100N
2096	MNWH	336	359	498	Y	11844	18	5	94	HINTON	37	1200.0	11U 480875E 5936100N
2097	MNWH	263	284	280	Y	11845	18	5	94	HINTON	37	1200.0	11U 480875E 5936100N
2098	MNWH	276	297	203	Y	11846	18	5	94	HINTON	37	1200.0	11U 480875E 5936100N
2102	MNWH	334	356	490	Y	11847	18	5	94	HINTON	37	1200.0	11U 480875E 5936100N
2103	MNWH	277	299	326	Y	11848	18	5	94	HINTON	37	1200.0	11U 480875E 5936100N
2105	MNWH	253	275	201	Y	11849	18	5	94	HINTON	37	1200.0	11U 480875E 5936100N
2108	MNWH	297	320	348	Y	11850	18	5	94	HINTON	37	1200.0	11U 480875E 5936100N
2121	MNWH	304	327	445	Y	11851	18	5	94	HINTON	38	1199.0	11U 481225E 5937100N
2125	ARGR	356	386	593	Y	11852	18	5	94	HINTON	38	1199.0	11U 481225E 5937100N
2132	BLTR	368	390	512	Y	11853	18	5	94	HINTON	39	1198.0	11U 481850E 5937850N
2136	MNWH	313	336	502	Y	11854	18	5	94	HINTON	40	1197.0	11U 482500E 5937850N
2145	BLTR	552	572	1921	Y	11855	18	5	94	HINTON	40	1197.0	11U 482500E 5937850N
2146	MNWH	441	472	1115	Y	11856	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2148	MNWH	424	455	853	Y	11857	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2149	MNWH	355	381	507	Y	11858	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2150	MNWH	400	425	671	Y	11859	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2151	MNWH	423	445	753	Y	11860	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2153	MNWH	270	295	244	Y	11861	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2154	MNWH	383	411	571	Y	11862	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2155	MNWH	359	385	473	Y	11863	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2156	MNWH	318	342	392	Y	11864	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2166	MNWH	442	466	908	Y	11865	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2167	MNWH	296	325	341	Y	11866	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2168	MNWH	365	393	530	Y	11867	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2169	MNWH	314	340	360	Y	11868	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2170	MNWH	263	281	174	Y	11869	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2171	MNWH	264	286	212	Y	11870	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2174	MNWH	413	435	645	Y	11871	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2175	MNWH	295	318	305	Y	11872	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2177	MNWH	410	437	759	Y	11873	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2178	MNWH	315	335	337	Y	11874	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2179	MNWH	309	333	350	Y	11875	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2313	MNWH	292	315	266	Y	11876	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2181	MNWH	275	300	210	Y	11877	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2183	MNWH	275	299	240	Y	11878	19	5	94	J04	1	1293.0	11U 426700E 5878200N
2201	LKWH	470	521	1305	Y	11879	19	5	94	J04	2	1292.0	11U 427300E 5879000N
2203	LKWH	450	504	1111	Y	11880	19	5	94	J04	2	1292.0	11U 427300E 5879000N
2202	LKWH	494	532	1400	Y	11881	19	5	94	J04	2	1292.0	11U 427300E 5879000N
2205	NRPK	511	544	868	Y	11882	19	5	94	J04	2	1292.0	11U 427300E 5879000N
2204	NRPK	527	566	1000	Y	11883	19	5	94	J04	2	1292.0	11U 427300E 5879000N
2255	LKWH	464	517	1232	Y	11884	19	5	94	J04	3	1291.0	11U 427930E 5879750N
2256	MNWH	403	430	920	Y	11885	19	5	94	J04	3	1291.0	11U 427930E 5879750N
2257	LKWH	465	522	1219	Y	11886	19	5	94	J04	3	1291.0	11U 427930E 5879750N
2260	NRPK	510	541	1042	Y	11887	19	5	94	J04	3	1291.0	11U 427930E 5879750N
2261	NRPK	443	473	613	Y	11888	19	5	94	J04	3	1291.0	11U 427930E 5879750N
2262	LKWH	433	485	1151	Y	11889	19	5	94	J04	4	1290.0	11U 428350E 5880700N
2263	LKWH	429	483	957	Y	11890	19	5	94	J04	4	1290.0	11U 428350E 5880700N
2264	LKWH	471	526	1355	Y	11891	19	5	94	J04	4	1290.0	11U 428350E 5880700N
2265	NRPK	498	537	770	Y	11892	19	5	94	J04	4	1290.0	11U 428350E 5880700N
2266	MNWH	274	299	276	Y	11893	19	5	94	J04	4	1290.0	11U 428350E 5880700N
2267	MNWH	256	288	216	Y	11894	19	5	94	J04	4	1290.0	11U 428350E 5880700N
2280	MNWH	267	287	200	Y	11895	19	5	94	J04	5	1289.0	11U 429120E 5881150N
2305	MNWH	255	274	229	Y	11896	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2307	MNWH	434	462	831	Y	11897	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2308	MNWH	454	482	1169	Y	11898	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2309	MNWH	429	453	766	Y	11899	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2310	MNWH	496	435	1355	Y	11900	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2316	MNWH	426	455	794	Y	11901	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2317	MNWH	257	278	209	Y	11902	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2319	MNWH	419	452	741	Y	11903	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2320	MNWH	345	373	437	Y	11904	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2321	MNWH	363	391	524	Y	11905	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2322	MNWH	443	476	825	Y	11906	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2323	MNWH	363	391	473	Y	11907	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2324	MNWH	275	298	270	Y	11908	19	5	94	J04	6	1293.0	11U 426700E 5878200N
2342	MNWH	406	439	711	Y	11909	19	5	94	J04	7	1292.0	11U 427300E 5879000N
2343	MNWH	355	380	571	Y	11910	19	5	94	J04	7	1292.0	11U 427300E 5879000N
2344	MNWH	451	482	912	Y	11911	19	5	94	J04	7	1292.0	11U 427300E 5879000N
2345	MNWH	427	461	742	Y	11912	19	5	94	J04	7	1292.0	11U 427300E 5879000N
2346	MNWH	412	438	794	Y	11913	19	5	94	J04	7	1292.0	11U 427300E 5879000N
2347	MNWH	278	304	237	Y	11914	19	5	94	J04	7	1292.0	11U 427300E 5879000N
2348	MNWH	495	548	1540	Y	11915	19	5	94	J04	7	1292.0	11U 427300E 5879000N
2349	MNWH	348	375	481	Y	11916	19	5	94	J04	7	1292.0	11U 427300E 5879000N
2351	MNWH	294	317	254	Y	11917	19	5	94	J04	7	1292.0	11U 427300E 5879000N

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Appendix D2 Contintued.

Sample Number	Species Code	F. Length (mm)	T. Length (mm)	Weight	Colour	Tag No.	Day	Mo	Yr	Location	Site	Km	UTM Cooridnates
2356	LKWH	500	562	1494	Y	11918	19	5	94	J04	8	1291.0	11U 427930E 5879750N
2357	NRPK	575	613	1427	Y	11919	19	5	94	J04	8	1291.0	11U 427930E 5879750N
2359	LKWH	445	502	1033	Y	11920	19	5	94	J04	8	1291.0	11U 427930E 5879750N
2366	LKWH	474	536	1568	Y	11921	19	5	94	J04	9	1290.0	11U 428350E 5880700N
2367	LKWH	451	504	1200	Y	11922	19	5	94	J04	9	1290.0	11U 428350E 5880700N
2368	LKWH	448	506	1120	Y	11923	19	5	94	J04	9	1290.0	11U 428350E 5880700N
2369	LKWH	448	508	1223	Y	11924	19	5	94	J04	9	1290.0	11U 428350E 5880700N
2370	LKWH	444	505	1124	Y	11925	19	5	94	J04	9	1290.0	11U 428350E 5880700N
2371	LKWH	442	499	1005	Y	11926	19	5	94	J04	9	1290.0	11U 428350E 5880700N
2375	LKWH	434	486	1085	Y	11927	19	5	94	J04	10	1289.0	11U 429120E 5881150N
2376	LKWH	473	528	1502	Y	11928	19	5	94	J04	10	1289.0	11U 429120E 5881150N
2377	LKWH	491	550	1476	Y	11929	19	5	94	J04	10	1289.0	11U 429120E 5881150N
2378	LKWH	472	526	1158	Y	11930	19	5	94	J04	10	1289.0	11U 429120E 5881150N
2379	LKWH	473	528	1329	Y	11931	19	5	94	J04	10	1289.0	11U 429120E 5881150N
2380	LKWH	461	514	1265	Y	11932	19	5	94	J04	10	1289.0	11U 429120E 5881150N
2383	MNWH	293	316	278	Y	11933	19	5	94	J04	10	1289.0	11U 429120E 5881150N
2385	MNWH	305	328	312	Y	11934	19	5	94	J04	10	1289.0	11U 429120E 5881150N
2387	NRPK	631	668	2130	Y	11935	19	5	94	J04	10	1289.0	11U 429120E 5881150N
2826	MNWH	291	316	270	Y	11941	21	5	94	J02	2	1325.0	11U 430350R 5851150N
3083	MNWH	293	315	NA	Y	11942	21	5	94	J02	3	1324.0	11U 429850R 5851950N
3088	MNWH	258	276	NA	Y	11943	21	5	94	J02	3	1324.0	11U 429850R 5851950N
3092	MNWH	304	323	NA	Y	11944	21	5	94	J02	3	1324.0	11U 429850R 5851950N
3103	MNWH	250	266	NA	Y	11945	21	5	94	J02	4	1323.0	11U 429320R 5852800N
3109	MNWH	267	285	NA	Y	11946	21	5	94	J02	4	1323.0	11U 429320R 5852800N
3119	MNWH	300	323	342	Y	11947	21	5	94	J02	6	1326.0	11U 431150R 5850550N
3120	MNWH	316	340	330	Y	11948	21	5	94	J02	6	1326.0	11U 431150R 5850550N
3121	MNWH	250	268	153	Y	11949	21	5	94	J02	6	1326.0	11U 431150R 5850550N
3122	MNWH	262	285	NA	Y	11950	21	5	94	J02	6	1326.0	11U 431150R 5850550N
2388	BLTR	431	453	741	Y	12001	20	5	94	J03	6	1315.0	11U 427920E 5859300N
2390	MNWH	265	289	222	Y	12002	20	5	94	J03	6	1315.0	11U 427920E 5859300N
2415	MNWH	296	324	363	Y	12003	20	5	94	J03	7	1314.0	11U 428320E 5860150N
2418	MNWH	263	289	211	Y	12004	20	5	94	J03	7	1314.0	11U 428320E 5860150N
2419	MNWH	319	347	423	Y	12005	20	5	94	J03	7	1314.0	11U 428320E 5860150N
2422	MNWH	277	304	253	Y	12006	20	5	94	J03	7	1314.0	11U 428320E 5860150N
2562	MNWH	328	355	422	Y	12007	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2423	MNWH	258	283	206	Y	12008	20	5	94	J03	7	1314.0	11U 428320E 5860150N
2431	MNWH	279	304	299	Y	12009	20	5	94	J03	7	1314.0	11U 428320E 5860150N
2433	BRTR	252	263	142	Y	12010	20	5	94	J03	7	1314.0	11U 428320E 5860150N
2437	MNWH	268	295	234	Y	12011	20	5	94	J03	7	1314.0	11U 428320E 5860150N
2451	MNWH	341	362	396	Y	12012	20	5	94	J03	3	1313.0	11U 428800E 5861000N
2462	MNWH	286	310	283	Y	12013	20	5	94	J03	3	1313.0	11U 428800E 5861000N
2468	MNWH	271	295	207	Y	12014	20	5	94	J03	3	1313.0	11U 428800E 5861000N
2473	MNWH	271	294	231	Y	12015	20	5	94	J03	3	1313.0	11U 428800E 5861000N
2474	MNWH	253	276	187	Y	12016	20	5	94	J03	3	1313.0	11U 428800E 5861000N
2480	MNWH	312	336	344	Y	12017	20	5	94	J03	3	1313.0	11U 428800E 5861000N
2490	BLTR	360	381	510	Y	12018	20	5	94	J03	3	1313.0	11U 428800E 5861000N
2492	MNWH	258	278	177	Y	12019	20	5	94	J03	3	1313.0	11U 428800E 5861000N
2509	MNWH	316	338	314	Y	12020	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2510	MNWH	299	344	305	Y	12021	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2512	MNWH	260	282	245	Y	12022	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2513	MNWH	307	333	344	Y	12023	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2514	MNWH	315	339	329	Y	12024	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2515	MNWH	342	368	464	Y	12025	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2516	MNWH	339	364	456	Y	12026	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2517	MNWH	309	336	347	Y	12027	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2518	MNWH	351	378	449	Y	12028	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2520	MNWH	261	279	225	Y	12029	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2522	MNWH	284	308	293	Y	12030	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2524	MNWH	256	278	150	Y	12031	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2525	MNWH	322	346	368	Y	12032	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2526	MNWH	301	330	381	Y	12033	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2527	MNWH	292	317	351	Y	12034	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2528	MNWH	287	312	325	Y	12035	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2529	MNWH	339	366	444	Y	12036	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2538	MNWH	270	292	271	Y	12037	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2539	MNWH	293	318	278	Y	12038	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2540	MNWH	301	327	361	Y	12039	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2541	MNWH	268	290	264	Y	12040	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2542	MNWH	311	335	358	Y	12041	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2543	MNWH	286	307	302	Y	12042	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2546	MNWH	276	300	303	Y	12043	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2547	MNWH	265	286	222	Y	12044	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2548	MNWH	255	278	235	Y	12045	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2549	MNWH	275	298	276	Y	12046	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2563	MNWH	289	314	298	Y	12047	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2564	MNWH	268	292	230	Y	12048	20	5	94	J03	10	1311.0	11U 429000E 5862900N
2596	RNTR	251	265	132	Y	12049	20	5	94	J03	1	1315.0	11U 427920E 5859300N
2610	MNWH	259	284	213	Y	12050	20	5	94	J03	2	1314.0	11U 428320E 5860150N
2685	MNWH	304	331	325	Y	12051	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2613	BLTR	251	268	168	Y	12052	20	5	94	J03	2	1314.0	11U 428320E 5860150N
2624	MNWH	325	349	347	Y	12053	20	5	94	J03	8	1313.0	11U 428800E 5861000N
2635	MNWH	253	276	232	Y	12054	20	5	94	J03	9	1312.0	11U 428650E 5861950N
2636	MNWH	293	317	284	Y	12055	20	5	94	J03	9	1312.0	11U 428650E 5861950N
2650	MNWH	288	311	295	Y	12056	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2651	MNWH	280	306	282	Y	12057	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2652	MNWH	408	437	661	Y	12058	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2653	MNWH	317	343	398	Y	12059	20	5	94	J03	5	1311.0	11U 429000E 5862900N

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Appendix D2 Continued.

Sample Number	Species Code	F. Length (mm)	T. Length (mm)	Weight	Colour	Tag No.	Day	Mo	Yr	Location	Site	Km	UTM Coordinates
2654	MNWH	312	337	357	Y	12060	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2655	MNWH	315	344	446	Y	12061	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2656	MNWH	297	323	355	Y	12062	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2657	MNWH	284	308	290	Y	12063	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2658	MNWH	265	286	248	Y	12064	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2659	MNWH	325	357	443	Y	12065	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2660	MNWH	275	300	291	Y	12066	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2661	MNWH	254	276	230	Y	12067	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2662	MNWH	290	310	284	Y	12068	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2671	MNWH	360	393	590	Y	12069	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2672	MNWH	250	274	183	Y	12070	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2673	MNWH	265	284	212	Y	12071	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2675	MNWH	351	381	481	Y	12072	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2708	BLTR	631	662	3133	Y	12073	20	5	94	J03	5	1311.0	11U 429000E 5862900N
2710	MNWH	295	317	293	Y	12074	21	5	94	J01A	1	1339.0	11U 438500E 5842700N
2712	MNWH	252	272	161	Y	12075	21	5	94	J01A	1	1339.0	11U 438500E 5842700N
2719	MNWH	254	272	169	Y	12076	21	5	94	J01A	1	1339.0	11U 438500E 5842700N
2724	BLTR	467	492	1103	Y	12077	21	5	94	J01A	1	1339.0	11U 438500E 5842700N
2725	MNWH	260	282	163	Y	12078	21	5	94	J01A	2	1338.0	11U 437550E 5842900N
2726	MNWH	295	319	284	Y	12079	21	5	94	J01A	2	1338.0	11U 437550E 5842900N
2757	MNWH	305	325	314	Y	12080	21	5	94	J01A	4	1336.0	11U 435550E 5843100N
2727	MNWH	336	359	NA	Y	12081	21	5	94	J01A	2	1338.0	11U 437550E 5842900N
2728	MNWH	299	326	343	Y	12082	21	5	94	J01A	2	1338.0	11U 437550E 5842900N
2729	MNWH	275	298	236	Y	12083	21	5	94	J01A	2	1338.0	11U 437550E 5842900N
2745	MNWH	285	306	246	Y	12084	21	5	94	J01A	3	1337.0	11U 436550E 5842900N
2746	MNWH	260	280	200	Y	12085	21	5	94	J01A	3	1337.0	11U 436550E 5842900N
2765	MNWH	253	275	227	Y	12086	21	5	94	J01A	6	1339.0	11U 438500E 5842700N
2778	MNWH	273	295	244	Y	12087	21	5	94	J01A	7	1338.0	11U 437550E 5842900N
2794	MNWH	272	300	207	Y	12088	21	5	94	J01A	9	1336.0	11U 435550E 5843100N
2795	MNWH	290	314	290	Y	12089	21	5	94	J01A	9	1336.0	11U 435550E 5843100N
2799	MNWH	284	302	245	Y	12090	21	5	94	J01A	9	1336.0	11U 435550E 5843100N
2800	MNWH	284	307	268	Y	12091	21	5	94	J01A	9	1336.0	11U 435550E 5843100N
2802	MNWH	252	275	180	Y	12092	21	5	94	J01A	9	1336.0	11U 435550E 5843100N
2806	MNWH	268	290	182	Y	12093	21	5	94	J01A	10	1335.0	11U 434900E 5843850N
2813	BLTR	334	355	393	Y	12094	21	5	94	J02	1	1326.0	11U 431150R 5850550N
2816	MNWH	275	300	254	Y	12095	21	5	94	J02	1	1326.0	11U 431150R 5850550N
2817	MNWH	259	279	202	Y	12096	21	5	94	J02	1	1326.0	11U 431150R 5850550N
2821	BLTR	369	387	499	Y	12097	21	5	94	J02	2	1325.0	11U 430350R 5851150N
2822	BLTR	300	316	243	Y	12098	21	5	94	J02	2	1325.0	11U 430350R 5851150N
2823	MNWH	263	288	196	Y	12099	21	5	94	J02	2	1325.0	11U 430350R 5851150N
2825	MNWH	308	328	274	Y	12100	21	5	94	J02	2	1325.0	11U 430350R 5851150N
3039	MNWH	321	346	357	Y	12101	22	5	94	J05	10	1271.0	11U 434600E 5894700N
3040	MNWH	301	326	349	Y	12102	22	5	94	J05	10	1271.0	11U 434600E 5894700N
3041	MNWH	354	377	510	Y	12103	22	5	94	J05	10	1271.0	11U 434600E 5894700N
3044	MNWH	341	365	442	Y	12104	22	5	94	J05	10	1271.0	11U 434600E 5894700N
3046	MNWH	271	290	229	Y	12105	22	5	94	J05	10	1271.0	11U 434600E 5894700N
3049	MNWH	313	341	384	Y	12106	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3050	MNWH	325	355	407	Y	12107	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3052	MNWH	288		239	Y	12108	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3054	MNWH	364	392	574	Y	12109	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3061	MNWH	421	451	882	Y	12110	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3064	MNWH	278	303	235	Y	12111	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3065	MNWH	299	323	305	Y	12112	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3066	MNWH	313	336	342	Y	12113	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3067	MNWH	289	314	287	Y	12114	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3072	MNWH	403	432	712	Y	12115	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3073	MNWH	301	324	324	Y	12116	22	5	94	J05	5	1271.0	11U 434600E 5894700N
3082	MNWH	274	297	235	Y	12117	22	5	94	J05	5	1271.0	11U 434600E 5894700N
2873	MNWH	440	471	1121	Y	12151	22	5	94	J05	3	1273.0	11U 434730E 5892900N
2874	MNWH	324	346	352	Y	12152	22	5	94	J05	3	1273.0	11U 434730E 5892900N
2875	MNWH	403	431	642	Y	12153	22	5	94	J05	3	1273.0	11U 434730E 5892900N
2954	MNWH	278	316	271	Y	12154	22	5	94	J05	1	1275.0	11U 434900E 5890850N
2876	MNWH	322	345	388	Y	12155	22	5	94	J05	3	1273.0	11U 434730E 5892900N
2968	MNWH	304	328	NA	Y	12156	22	5	94	J05	2	1274.0	11U 434750E 5891830N
2879	MNWH	266	287	239	Y	12157	22	5	94	J05	3	1273.0	11U 434730E 5892900N
2880	MNWH	307	330	367	Y	12158	22	5	94	J05	3	1273.0	11U 434730E 5892900N
2881	MNWH	325	349	420	Y	12159	22	5	94	J05	3	1273.0	11U 434730E 5892900N
2882	MNWH	327	347	425	Y	12160	22	5	94	J05	3	1273.0	11U 434730E 5892900N
2883	MNWH	263	284	246	Y	12161	22	5	94	J05	3	1273.0	11U 434730E 5892900N
2884	MNWH	305	330	291	Y	12162	22	5	94	J05	3	1273.0	11U 434730E 5892900N
2889	MNWH	271	293	254	Y	12163	22	5	94	J05	4	1272.0	11U 434400E 5893800N
2894	MNWH	349	374	468	Y	12164	22	5	94	J05	4	1272.0	11U 434400E 5893800N
2900	MNWH	327	350	434	Y	12165	22	5	94	J05	4	1272.0	11U 434400E 5893800N
2904	MNWH	433	464	873	Y	12166	22	5	94	J05	4	1272.0	11U 434400E 5893800N
2905	MNWH	367	392	541	Y	12167	22	5	94	J05	4	1272.0	11U 434400E 5893800N
2908	MNWH	267	285	212	Y	12168	22	5	94	J05	4	1272.0	11U 434400E 5893800N
2916	MNWH	391	421	625	Y	12169	22	5	94	J05	4	1272.0	11U 434400E 5893800N
2917	MNWH	334	359	390	Y	12170	22	5	94	J05	4	1272.0	11U 434400E 5893800N
2953	MNWH	270	291	203	Y	12171	22	5	94	J05	1	1275.0	11U 434900E 5890850N
2919	MNWH	314	336	366	Y	12172	22	5	94	J05	4	1272.0	11U 434400E 5893800N
2926	BLTR	560	585	1833	Y	12173	22	5	94	J05	4	1272.0	11U 434400E 5893800N
2951	MNWH	260	284	220	Y	12174	22	5	94	J05	1	1275.0	11U 434900E 5890850N
2952	BLTR	316	337	333	Y	12175	22	5	94	J05	1	1275.0	11U 434900E 5890850N
3004	MNWH	317	339	349	Y	12176	22	5	94	J05	8	1273.0	11U 434730E 5892900N
3005	MNWH	411	446	854	Y	12177	22	5	94	J05	8	1273.0	11U 434730E 5892900N
3011	MNWH	263	287	204	Y	12178	22	5	94	J05	8	1273.0	11U 434730E 5892900N
3014	MNWH	257	279	213	Y	12179	22	5	94	J05	8	1273.0	11U 434730E 5892900N

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Appendix D2 Concluded.

Sample Number	Species Code	F. Length (mm)	T. Length (mm)	Weight	Colour	Tag No.	Day	Mo	Yr	Location	Site	Km	UTM Coordinates
3015	MNWH	283	306	220	Y	12180	22	5	94	J05	8	1273.0	11U 434730E 5892900N
3018	MNWH	297	320	274	Y	12181	22	5	94	J05	8	1273.0	11U 434730E 5892900N
3019	MNWH	273	295	244	Y	12182	22	5	94	J05	8	1273.0	11U 434730E 5892900N
3020	MNWH	263	284	208	Y	12183	22	5	94	J05	8	1273.0	11U 434730E 5892900N
3026	MNWH	417	446	775	Y	12184	22	5	94	J05	9	1272.0	11U 434400E 5893800N
3027	MNWH	267	288	241	Y	12185	22	5	94	J05	9	1272.0	11U 434400E 5893800N
3028	MNWH	310	333	395	Y	12186	22	5	94	J05	9	1272.0	11U 434400E 5893800N
3030	BLTR	436	453	897	Y	12187	22	5	94	J05	9	1272.0	11U 434400E 5893800N
3031	MNWH	333	358	418	Y	12188	22	5	94	J05	9	1272.0	11U 434400E 5893800N
3032	MNWH	250	273	190	Y	12189	22	5	94	J05	9	1272.0	11U 434400E 5893800N
3034	MNWH	307	332	359	Y	12190	22	5	94	J05	9	1272.0	11U 434400E 5893800N
3036	MNWH	320	348	380	Y	12191	22	5	94	J05	9	1272.0	11U 434400E 5893800N
2988	MNWH	296	316	293	Y	12192	22	5	94	J05	2	1274.0	11U 434750E 5891830N
2987	MNWH	302	326	311	Y	12193	22	5	94	J05	2	1274.0	11U 434750E 5891830N
2978	MNWH	279	295	220	Y	12194	22	5	94	J05	2	1274.0	11U 434750E 5891830N
2977	MNWH	256	275	278	Y	12195	22	5	94	J05	2	1274.0	11U 434750E 5891830N
3003	MNWH	419	450	854	Y	12196	22	5	94	J05	8	1273.0	11U 434730E 5892900N
2975	MNWH	252	272	190	Y	12197	22	5	94	J05	2	1274.0	11U 434750E 5891830N
2974	MNWH	275	295	226	Y	12198	22	5	94	J05	2	1274.0	11U 434750E 5891830N
2973	MNWH	350	380	480	Y	12199	22	5	94	J05	2	1274.0	11U 434750E 5891830N
2972	MNWH	310	335	341	Y	12200	22	5	94	J05	2	1274.0	11U 434750E 5891830N
3123	MNWH	256	276	203	Y	12501	21	5	94	J02	6	1326.0	11U 431150R 5850550N
3126	MNWH	355	383	439	Y	12502	21	5	94	J02	7	1325.0	11U 430350R 5851150N
3135	MNWH	321	346	NA	Y	12503	21	5	94	J02	8	1324.0	11U 429850R 5851950N
3136	MNWH	293	315	NA	Y	12504	21	5	94	J02	8	1324.0	11U 429850R 5851950N
3137	MNWH	275	296	NA	Y	12505	21	5	94	J02	8	1324.0	11U 429850R 5851950N
3145	MNWH	309	329	NA	Y	12506	21	5	94	J02	9	1323.0	11U 429320R 5852800N
3147	MNWH	263	286	NA	Y	12507	21	5	94	J02	9	1323.0	11U 429320R 5852800N
3148	MNWH	261	281	NA	Y	12508	21	5	94	J02	9	1323.0	11U 429320R 5852800N
3157	MNWH	277	299	NA	Y	12509	21	5	94	J02	5	1322.0	11U 428850R 5853500N
3158	MNWH	306	330	NA	Y	12510	21	5	94	J02	5	1322.0	11U 428850R 5853500N
2840	MNWH	318	344	460	Y	12511	22	5	94	J05	6	1275.0	11U 434900E 5890850N
2841	MNWH	355	382	571	Y	12512	22	5	94	J05	6	1275.0	11U 434900E 5890850N
2843	MNWH	314	336	329	Y	12513	22	5	94	J05	6	1275.0	11U 434900E 5890850N
2845	MNWH	283	306	300	Y	12514	22	5	94	J05	6	1275.0	11U 434900E 5890850N
2846	MNWH	278	301	237	Y	12515	22	5	94	J05	6	1275.0	11U 434900E 5890850N
2847	MNWH	267	290	254	Y	12516	22	5	94	J05	6	1275.0	11U 434900E 5890850N
2853	MNWH	256	280	197	Y	12517	22	5	94	J05	6	1275.0	11U 434900E 5890850N
2854	MNWH	285	311	179	Y	12518	22	5	94	J05	6	1275.0	11U 434900E 5890850N
2858	MNWH	433	466	1029	Y	12519	22	5	94	J05	7	1274.0	11U 434750E 5891830N
2859	MNWH	270	294	238	Y	12520	22	5	94	J05	7	1274.0	11U 434750E 5891830N
2860	MNWH	254	279	206	Y	12521	22	5	94	J05	7	1274.0	11U 434750E 5891830N
2864	MNWH	334	358	417	Y	12522	22	5	94	J05	7	1274.0	11U 434750E 5891830N
2865	MNWH	339	365	440	Y	12523	22	5	94	J05	7	1274.0	11U 434750E 5891830N
2866	MNWH	290	316	291	Y	12524	22	5	94	J05	7	1274.0	11U 434750E 5891830N
2867	MNWH	343	370	433	Y	12525	22	5	94	J05	7	1274.0	11U 434750E 5891830N

APPENDIX E1

RAW DATA OF MYOMERE COUNTS FROM A SAMPLE OF LARVAL MOUNTAIN WHITEFISH CAPTURED FROM THE ATHABASCA RIVER

Appendix E1 Total length measurements from a sample of larval mountain whitefish captured from the Athabasca River, spring 1994.

Area	Site	Haul *	Date	Length (mm)	Section	Site	Haul *	Date	Length (mm)
Jasper	J1	1&2	20 May 94	16.0	Jasper	J4		19 May 94	23.0
Jasper	J1	1&2	20 May 94	20.0	Jasper	J4		19 May 94	17.0
Jasper	J1	1&2	20 May 94	19.5	Jasper	J4		19 May 94	24.0
Jasper	J1	1&2	20 May 94	17.0	Jasper	J4		19 May 94	24.5
Jasper	J1	1&2	20 May 94	16.5	Jasper	J4		19 May 94	19.5
Jasper	J1	1&2	20 May 94	18.0	Jasper	J4		19 May 94	16.5
Jasper	J1	1&2	20 May 94	17.5	Jasper	J4		19 May 94	24.5
Jasper	J1	1&2	20 May 94	20.0	Jasper	J4		19 May 94	22.5
Jasper	J1	1&2	20 May 94	17.0	Jasper	J4		19 May 94	21.0
Jasper	J1	1&2	20 May 94	17.0	Jasper	J4		19 May 94	20.0
Jasper	J1	1&2	20 May 94	19.5	Jasper	J4		19 May 94	17.0
Jasper	J1	1&2	20 May 94	17.0	Jasper	J4		19 May 94	17.5
Jasper	J1	1&2	20 May 94	19.0	Jasper	J4		19 May 94	22.5
Jasper	J1	1&2	20 May 94	20.0	Jasper	J4		19 May 94	16.5
Jasper	J1	1&2	20 May 94	16.0	Jasper	J4		19 May 94	25.5
Jasper	J1	1&2	20 May 94	21.5	Jasper	J4		19 May 94	22.0
Jasper	J1	1&2	20 May 94	18.0	Jasper	J4		19 May 94	24.0
Jasper	J1	1&2	20 May 94	19.5	Jasper	J4		19 May 94	16.0
Jasper	J1	1&2	20 May 94	20.0	Jasper	J4		19 May 94	16.0
Jasper	J1	1&2	20 May 94	20.0	Jasper	J4		19 May 94	18.0
Jasper	J1	1&2	20 May 94	20.0	Jasper	J4		19 May 94	17.0
Jasper	J1	1&2	20 May 94	16.0	Jasper	J4		19 May 94	22.5
Jasper	J1	1&2	20 May 94	19.0	Jasper	J4		19 May 94	18.0
Jasper	J1	1&2	20 May 94	16.0	Jasper	J4		19 May 94	20.0
Jasper	J1	1&2	20 May 94	19.5	Jasper	J4		19 May 94	19.0
Jasper	J1	1&2	20 May 94	17.5	Jasper	J4		19 May 94	18.0
Jasper	J1	1&2	20 May 94	16.5	Jasper	J4		19 May 94	18.5
Jasper	J1	1&2	20 May 94	18.5	Jasper	J4		19 May 94	24.5
Jasper	J1	1&2	20 May 94	16.5	Jasper	J4		19 May 94	19.0
Jasper	J1	1&2	20 May 94	16.5	Jasper	J4		19 May 94	24.5
Jasper	J1	1&2	20 May 94	16.0	Jasper	J4		19 May 94	25.0
Jasper	J1	1&2	20 May 94	17.0	Jasper	J4		19 May 94	17.0
Jasper	J1	1&2	20 May 94	17.5	Jasper	J4		19 May 94	18.5
Jasper	J1	1&2	20 May 94	17.5	Jasper	J4		19 May 94	20.0
Jasper	J1	1&2	20 May 94	16.0	Jasper	J4		19 May 94	24.5
Jasper	J1	1&2	20 May 94	16.5	Jasper	J4		19 May 94	17.0
Jasper	J1	1&2	20 May 94	18.0	Jasper	J4		19 May 94	20.5
Jasper	J1	1&2	20 May 94	20.0	Jasper	J4		19 May 94	21.5
Jasper	J1	1&2	20 May 94	17.0	Jasper	J4		19 May 94	25.0
Jasper	J1	1&2	20 May 94	18.5	Jasper	J4		19 May 94	22.0
Jasper	J1	1&2	20 May 94	16.5	Jasper	J4		19 May 94	23.5
Jasper	J1	1&2	20 May 94	17.5	Jasper	J4		19 May 94	22.5
Jasper	J1	1&2	20 May 94	19.5	Jasper	J4		19 May 94	21.0
Jasper	J1	1&2	20 May 94	17.5	Jasper	J4		19 May 94	21.0
Jasper	J1	1&2	20 May 94	17.5	Jasper	J4		19 May 94	19.0
Jasper	J1	1&2	20 May 94	18.5	Jasper	J4		19 May 94	16.5
Jasper	J1	1&2	20 May 94	17.0	Jasper	J4		19 May 94	22.5
Jasper	J1	1&2	20 May 94	15.0	Jasper	J4		19 May 94	20.0
Jasper	J1	1&2	20 May 94	17.5	Jasper	J4		19 May 94	23.0
Jasper	J1	1&2	20 May 94	17.0	Jasper	J4		19 May 94	17.0
Jasper	J2	1	18 May 94	18.0	Jasper	J5	1	19 May 94	18.0
Jasper	J2	1	18 May 94	17.5	Jasper	J5	1	19 May 94	17.5
Jasper	J2	1	18 May 94	15.5	Jasper	J5	1	19 May 94	18.5
Jasper	J2	1	18 May 94	20.0	Jasper	J5	1	19 May 94	18.0
Jasper	J2	1	18 May 94	20.0	Jasper	J5	1	19 May 94	27.5

* Hauls without numbers indicate grouped data; DN indicates dip net captures

Continued ...

Appendix E1 Continued.

Section	Site	Haul *	Date	Length (mm)	Section	Site	Haul *	Date	Length (mm)
Jasper	J5	1	19 May 94	22.0	Jasper	J5	3	19 May 94	26.0
Jasper	J5	1	19 May 94	27.0	Jasper	J5	3	19 May 94	30.0
Jasper	J5	1	19 May 94	17.0	Jasper	J5	3	19 May 94	19.5
Jasper	J5	1	19 May 94	17.0	Jasper	J5	3	19 May 94	30.0
Jasper	J5	1	19 May 94	18.0	Jasper	J5	3	19 May 94	26.5
Jasper	J5	1	19 May 94	19.5	Jasper	J5	3	19 May 94	25.0
Jasper	J5	1	19 May 94	17.0	Jasper	J5	3	19 May 94	21.0
Jasper	J5	1	19 May 94	18.0	Jasper	J5	3	19 May 94	28.0
Jasper	J5	1	19 May 94	18.5	Jasper	J5	3	19 May 94	28.0
Jasper	J5	1	19 May 94	16.0	Jasper	J5	3	19 May 94	26.0
Jasper	J5	1	19 May 94	17.5	Jasper	J5	3	19 May 94	22.0
Jasper	J5	1	19 May 94	19.0	Jasper	J5	3	19 May 94	19.0
Jasper	J5	1	19 May 94	19.0	Jasper	J5	3	19 May 94	32.0
Jasper	J5	1	19 May 94	17.0	Jasper	J5	3	19 May 94	21.0
Jasper	J5	1	19 May 94	18.5	Jasper	J5	3	19 May 94	26.0
Jasper	J5	1	19 May 94	26.0	Jasper	J5	3	19 May 94	22.0
Jasper	J5	1	19 May 94	17.0	Jasper	J5	3	19 May 94	23.0
Jasper	J5	1	19 May 94	17.0	Jasper	J5	3	19 May 94	29.0
Jasper	J5	1	19 May 94	19.0	Jasper	J5	3	19 May 94	26.0
Jasper	J5	1	19 May 94	17.5	Jasper	J5	3	19 May 94	19.5
Jasper	J5	1	19 May 94	19.0	Jasper	J5	3	19 May 94	16.0
Jasper	J5	1	19 May 94	24.5	Jasper	J5	3	19 May 94	20.0
Jasper	J5	1	19 May 94	29.0	Jasper	J5	3	19 May 94	22.0
Jasper	J5	1	19 May 94	26.0	Jasper	J5	3	19 May 94	22.0
Jasper	J5	1	19 May 94	17.0	Jasper	J5	3	19 May 94	17.0
Jasper	J5	1	19 May 94	19.0	Jasper	J5	3	19 May 94	22.0
Jasper	J5	1	19 May 94	19.0	Jasper	J5	4	19 May 94	17.5
Jasper	J5	1	19 May 94	16.5	Jasper	J5	4	19 May 94	17.5
Jasper	J5	1	19 May 94	18.0	Jasper	J5	4	19 May 94	31.5
Jasper	J5	1	19 May 94	17.5	Jasper	J5	4	19 May 94	18.5
Jasper	J5	1	19 May 94	27.5	Jasper	J5	4	19 May 94	27.0
Jasper	J5	3	19 May 94	16.0	Jasper	J5	4	19 May 94	26.0
Jasper	J5	3	19 May 94	19.5	Jasper	J5	4	19 May 94	27.0
Jasper	J5	3	19 May 94	23.5	Jasper	J5	4	19 May 94	22.0
Jasper	J5	3	19 May 94	26.5	Jasper	J5	4	19 May 94	30.0
Jasper	J5	3	19 May 94	19.0	Jasper	J5	4	19 May 94	18.0
Jasper	J5	3	19 May 94	32.0	Jasper	J5	4	19 May 94	23.0
Jasper	J5	3	19 May 94	19.0	Jasper	J5	4	19 May 94	22.0
Jasper	J5	3	19 May 94	30.0	Jasper	J5	4	19 May 94	28.0
Jasper	J5	3	19 May 94	19.0	Jasper	J5	4	19 May 94	18.5
Jasper	J5	3	19 May 94	17.0	Jasper	J5	4	19 May 94	21.0
Jasper	J5	3	19 May 94	18.0	Jasper	J5	4	19 May 94	24.5
Jasper	J5	3	19 May 94	15.0	Jasper	J5	4	19 May 94	23.5
Jasper	J5	3	19 May 94	16.0	Jasper	J5	4	19 May 94	16.5
Jasper	J5	3	19 May 94	30.0	Jasper	J5	4	19 May 94	18.5
Jasper	J5	3	19 May 94	31.0	Jasper	J5	4	19 May 94	16.0
Jasper	J5	3	19 May 94	24.5	Jasper	J5	4	19 May 94	16.5
Jasper	J5	3	19 May 94	31.0	Jasper	J5	4	19 May 94	18.5
Jasper	J5	3	19 May 94	17.0	Jasper	J5	4	19 May 94	27.5
Jasper	J5	3	19 May 94	15.0	Jasper	J5	4	19 May 94	21.0
Jasper	J5	3	19 May 94	23.0	Jasper	J5	4	19 May 94	22.5
Jasper	J5	3	19 May 94	27.0	Jasper	J5	4	19 May 94	21.0
Jasper	J5	3	19 May 94	20.5	Jasper	J5	4	19 May 94	23.5
Jasper	J5	3	19 May 94	22.0	Jasper	J5	4	19 May 94	22.5
Jasper	J5	3	19 May 94	27.0	Jasper	J5	4	19 May 94	26.0

* Hauls without numbers indicate grouped data; DN indicates dip net captures

Continued ...

Appendix E1 Continued.

Section	Site	Haul *	Date	Length (mm)	Section	Site	Haul *	Date	Length (mm)
Jasper	J5	4	19 May 94	22.5	Jasper	J7	1	18 May 94	20.0
Jasper	J5	4	19 May 94	25.0	Jasper	J7	1	18 May 94	18.0
Jasper	J5	4	19 May 94	20.5	Jasper	J7	1	18 May 94	21.0
Jasper	J5	4	19 May 94	23.0	Jasper	J7	1	18 May 94	18.5
Jasper	J5	4	19 May 94	23.0	Jasper	J7	1	18 May 94	20.5
Jasper	J5	4	19 May 94	27.0	Jasper	J7	1	18 May 94	19.5
Jasper	J5	4	19 May 94	25.0	Jasper	J7	1	18 May 94	18.0
Jasper	J5	4	19 May 94	21.5	Jasper	J7	1	18 May 94	18.0
Jasper	J5	4	19 May 94	20.5	Jasper	J7	1	18 May 94	20.0
Jasper	J5	4	19 May 94	23.5	Jasper	J7	1	18 May 94	17.5
Jasper	J5	4	19 May 94	26.0	Jasper	J7	1	18 May 94	19.0
Jasper	J5	4	19 May 94	25.0	Jasper	J7	1	18 May 94	18.0
Jasper	J5	4	19 May 94	22.0	Jasper	J7	2	18 May 94	16.0
Jasper	J5	4	19 May 94	22.5	Jasper	J7	2	18 May 94	19.5
Jasper	J5	4	19 May 94	26.0	Jasper	J7	2	18 May 94	22.5
Jasper	J5	4	19 May 94	20.0	Jasper	J7	2	18 May 94	21.0
Jasper	J5	4	19 May 94	21.0	Jasper	J7	2	18 May 94	31.0
Jasper	J5	4	19 May 94	23.5	Jasper	J7	2	18 May 94	18.5
Jasper	J5	4	19 May 94	22.0	Jasper	J7	2	18 May 94	20.0
Jasper	J5	4	19 May 94	21.5	Jasper	J7	2	18 May 94	16.0
Jasper	J5	4	19 May 94	27.5	Jasper	J7	2	18 May 94	17.5
Jasper	J7	1	18 May 94	21.0	Jasper	J7	2	18 May 94	30.0
Jasper	J7	1	18 May 94	20.0	Jasper	J7	2	18 May 94	22.0
Jasper	J7	1	18 May 94	24.0	Jasper	J7	2	18 May 94	21.5
Jasper	J7	1	18 May 94	19.0	Jasper	J7	2	18 May 94	15.5
Jasper	J7	1	18 May 94	17.5	Jasper	J7	2	18 May 94	17.0
Jasper	J7	1	18 May 94	17.0	Jasper	J7	2	18 May 94	29.0
Jasper	J7	1	18 May 94	20.0	Jasper	J7	2	18 May 94	22.0
Jasper	J7	1	18 May 94	21.0	Jasper	J7	2	18 May 94	25.5
Jasper	J7	1	18 May 94	15.5	Jasper	J7	2	18 May 94	25.0
Jasper	J7	1	18 May 94	16.0	Jasper	J7	2	18 May 94	20.0
Jasper	J7	1	18 May 94	17.0	Jasper	J7	2	18 May 94	18.0
Jasper	J7	1	18 May 94	16.5	Jasper	J7	2	18 May 94	25.0
Jasper	J7	1	18 May 94	16.5	Jasper	J7	2	18 May 94	16.5
Jasper	J7	1	18 May 94	17.0	Jasper	J7	2	18 May 94	27.0
Jasper	J7	1	18 May 94	17.0	Jasper	J7	2	18 May 94	26.5
Jasper	J7	1	18 May 94	15.0	Jasper	J7	2	18 May 94	16.0
Jasper	J7	1	18 May 94	19.5	Jasper	J7	2	18 May 94	19.0
Jasper	J7	1	18 May 94	20.0	Jasper	J7	2	18 May 94	15.5
Jasper	J7	1	18 May 94	20.5	Jasper	J7	2	18 May 94	16.5
Jasper	J7	1	18 May 94	20.0	Jasper	J7	2	18 May 94	20.5
Jasper	J7	1	18 May 94	18.0	Jasper	J7	2	18 May 94	25.0
Jasper	J7	1	18 May 94	19.0	Jasper	J7	2	18 May 94	19.0
Jasper	J7	1	18 May 94	18.0	Jasper	J7	2	18 May 94	16.5
Jasper	J7	1	18 May 94	20.5	Jasper	J7	2	18 May 94	24.5
Jasper	J7	1	18 May 94	16.0	Jasper	J7	2	18 May 94	16.0
Jasper	J7	1	18 May 94	16.5	Jasper	J7	2	18 May 94	20.0
Jasper	J7	1	18 May 94	19.5	Jasper	J7	2	18 May 94	19.5
Jasper	J7	1	18 May 94	18.0	Jasper	J7	2	18 May 94	16.0
Jasper	J7	1	18 May 94	20.0	Jasper	J7	2	18 May 94	24.5
Jasper	J7	1	18 May 94	18.5	Jasper	J7	2	18 May 94	21.0
Jasper	J7	1	18 May 94	18.0	Jasper	J7	2	18 May 94	23.0
Jasper	J7	1	18 May 94	17.0	Jasper	J7	2	18 May 94	19.0
Jasper	J7	1	18 May 94	19.0	Jasper	J7	2	18 May 94	20.5
Jasper	J7	1	18 May 94	17.0	Jasper	J7	2	18 May 94	19.5

* Hauls without numbers indicate grouped data; DN indicates dip net captures

Continued ...

Appendix E1 Continued.

Section	Site	Haul *	Date	Length (mm)	Section	Site	Haul *	Date	Length (mm)
Jasper	J7	2	18 May 94	22.0	Jasper	Jasper Lake	DN	18 May 94	16.5
Jasper	J7	2	18 May 94	23.5	Hinton	H1	3	12 May 94	26.0
Jasper	J7	2	18 May 94	20.0	Hinton	H1	3	12 May 94	23.0
Jasper	J7	2	18 May 94	17.0	Hinton	H1	3	12 May 94	22.5
Jasper	J7	2	18 May 94	22.5	Hinton	H1	3	12 May 94	26.0
Jasper	J7	2	18 May 94	21.5	Hinton	H1	3	12 May 94	24.0
Jasper	J7	2	18 May 94	20.0	Hinton	H1	3	12 May 94	22.0
Jasper	J7	3	18 May 94	17.5	Hinton	H1	3	12 May 94	22.5
Jasper	J7	3	18 May 94	18.0	Hinton	H1	3	12 May 94	19.0
Jasper	J7	3	18 May 94	16.0	Hinton	H1	3	12 May 94	23.5
Jasper	J7	3	18 May 94	21.0	Hinton	H1	3	12 May 94	14.5
Jasper	J7	3	18 May 94	15.5	Hinton	H1	3	12 May 94	23.5
Jasper	J7	3	18 May 94	15.5	Hinton	H1	3	12 May 94	27.0
Jasper	J7	3	18 May 94	16.0	Hinton	H1	3	12 May 94	21.5
Jasper	J7	3	18 May 94	20.5	Hinton	H1	3	12 May 94	26.0
Jasper	J7	3	18 May 94	14.5	Hinton	H2	4	12 May 94	16.0
Jasper	J7	3	18 May 94	16.0	Hinton	H2	4	12 May 94	14.0
Jasper	J7	3	18 May 94	15.5	Hinton	H2	4	12 May 94	20.0
Jasper	J7	3	18 May 94	20.0	Hinton	H2	4	12 May 94	22.0
Jasper	J7	3	18 May 94	18.5	Hinton	H2	4	12 May 94	19.0
Jasper	J7	3	18 May 94	16.0	Hinton	H2	4	12 May 94	16.0
Jasper	J7	3	18 May 94	17.0	Hinton	H2	4	12 May 94	17.0
Jasper	J7	3	18 May 94	17.0	Hinton	H2	4	12 May 94	15.5
Jasper	J7	3	18 May 94	15.0	Hinton	H2	4	12 May 94	15.5
Jasper	J7	3	18 May 94	15.0	Hinton	H2	4	12 May 94	16.0
Jasper	J7	3	18 May 94	15.0	Hinton	H2	4	12 May 94	20.0
Jasper	J7	3	18 May 94	15.5	Hinton	H2	4	12 May 94	16.0
Jasper	J7	3	18 May 94	17.0	Hinton	H2	4	12 May 94	22.0
Jasper	J7	3	18 May 94	16.5	Hinton	H2	4	12 May 94	15.5
Jasper	J7	3	18 May 94	20.0	Hinton	H2	4	12 May 94	15.5
Jasper	J7	3	18 May 94	14.0	Hinton	H3	1&2	17 May 94	22.5
Jasper	J7	3	18 May 94	17.0	Hinton	H3	1&2	17 May 94	31.0
Jasper	J7	3	18 May 94	16.0	Hinton	H3	1&2	17 May 94	26.5
Jasper	J7	3	18 May 94	16.0	Hinton	H3	1&2	17 May 94	26.0
Jasper	J7	3	18 May 94	15.5	Hinton	H3	1&2	17 May 94	27.0
Jasper	J7	3	18 May 94	15.0	Hinton	H3	1&2	17 May 94	24.5
Jasper	J7	3	18 May 94	15.5	Hinton	H3	1&2	17 May 94	26.0
Jasper	J7	3	18 May 94	16.0	Hinton	H3	1&2	17 May 94	28.0
Jasper	J7	3	18 May 94	15.0	Hinton	H3	1&2	17 May 94	25.0
Jasper	Jasper Lake	DN	18 May 94	16.5	Hinton	H3	1&2	17 May 94	23.0
Jasper	Jasper Lake	DN	18 May 94	24.5	Hinton	H3	1&2	17 May 94	25.0
Jasper	Jasper Lake	DN	18 May 94	15.0	Hinton	H3	1&2	17 May 94	23.5
Jasper	Jasper Lake	DN	18 May 94	17.5	Hinton	H3	1&2	17 May 94	25.5
Jasper	Jasper Lake	DN	18 May 94	19.0	Hinton	H3	1&2	17 May 94	18.0
Jasper	Jasper Lake	DN	18 May 94	17.0	Hinton	H3	1&2	17 May 94	17.0
Jasper	Jasper Lake	DN	18 May 94	20.0	Hinton	H3	1&2	17 May 94	20.0
Jasper	Jasper Lake	DN	18 May 94	24.5	Hinton	H3	1&2	17 May 94	16.0
Jasper	Jasper Lake	DN	18 May 94	16.0	Hinton	H3	1&2	17 May 94	27.0
Jasper	Jasper Lake	DN	18 May 94	16.5	Hinton	H3	1&2	17 May 94	26.0
Jasper	Jasper Lake	DN	18 May 94	13.5	Hinton	H3	1&2	17 May 94	25.0
Jasper	Jasper Lake	DN	18 May 94	15.5	Hinton	H3	1&2	17 May 94	20.5
Jasper	Jasper Lake	DN	18 May 94	20.0	Hinton	H3	1&2	17 May 94	22.5
Jasper	Jasper Lake	DN	18 May 94	19.0	Hinton	H3	1&2	17 May 94	22.0
Jasper	Jasper Lake	DN	18 May 94	19.0	Hinton	H3	1&2	17 May 94	17.0
Jasper	Jasper Lake	DN	18 May 94	17.0	Hinton	H3	1&2	17 May 94	16.5

* Hauls without numbers indicate grouped data; DN indicates dip net captures

Continued ...

Appendix E1 Continued.

Section	Site	Haul *	Date	Length (mm)	Section	Site	Haul *	Date	Length (mm)
Hinton	H3	1&2	17 May 94	15.0	Knight	K1	3	14 May 94	24.5
Hinton	H3	1&2	17 May 94	17.0	Knight	K1	3	14 May 94	25.5
Hinton	H3	1&2	17 May 94	16.5	Knight	K1	3	14 May 94	25.5
Hinton	H3	1&2	17 May 94	19.0	Knight	K1	3	14 May 94	25.0
Hinton	H3	1&2	17 May 94	16.0	Knight	K1	3	14 May 94	23.5
Hinton	H3	1&2	17 May 94	18.0	Knight	K1	3	14 May 94	24.5
Hinton	H3	1&2	17 May 94	17.0	Knight	K1	3	14 May 94	23.5
Hinton	H3	1&2	17 May 94	19.5	Knight	K1	3	14 May 94	27.0
Hinton	H3	1&2	17 May 94	20.0	Knight	K1	3	14 May 94	25.0
Hinton	H3	1&2	17 May 94	16.0	Knight	K1	3	14 May 94	22.5
Hinton	H3	1&2	17 May 94	18.0	Knight	K2	3	15 May 94	23.0
Hinton	H3	1&2	17 May 94	16.5	Knight	K2	3	15 May 94	22.0
Hinton	H3	1&2	17 May 94	19.0	Knight	K2	3	15 May 94	25.0
Hinton	H3	1&2	17 May 94	15.0	Knight	K2	3	15 May 94	24.0
Knight	K1	3	14 May 94	25.5	Knight	K2	3	15 May 94	25.0
Knight	K1	3	14 May 94	24.5	Knight	K2	3	15 May 94	27.0
Knight	K1	3	14 May 94	24.0	Knight	K2	3	15 May 94	22.5
Knight	K1	3	14 May 94	26.0	Knight	K2	3	15 May 94	25.0
Knight	K1	3	14 May 94	22.0	Knight	K2	3	15 May 94	24.5
Knight	K1	3	14 May 94	27.0	Knight	K2	3	15 May 94	23.0
Knight	K1	3	14 May 94	27.5	Knight	K2	3	15 May 94	25.5
Knight	K1	3	14 May 94	25.0	Knight	K3		15 May 94	20.0
Knight	K1	3	14 May 94	22.0	Knight	K3		15 May 94	23.0
Knight	K1	3	14 May 94	27.0	Knight	K3		15 May 94	21.5
Knight	K1	3	14 May 94	26.0	Knight	K3		15 May 94	25.5
Knight	K1	3	14 May 94	26.0	Knight	K3		15 May 94	22.0
Knight	K1	3	14 May 94	26.0	Knight	K3		15 May 94	22.5
Knight	K1	3	14 May 94	23.5	Knight	K3		15 May 94	23.0
Knight	K1	3	14 May 94	24.5	Knight	K3		15 May 94	19.0
Knight	K1	3	14 May 94	26.5	Knight	K3		15 May 94	26.5
Knight	K1	3	14 May 94	24.0	Knight	K3		15 May 94	19.5
Knight	K1	3	14 May 94	26.5	Knight	K3		15 May 94	22.0
Knight	K1	3	14 May 94	24.0	Knight	K3		15 May 94	23.5
Knight	K1	3	14 May 94	24.0	Knight	K3		15 May 94	23.0
Knight	K1	3	14 May 94	25.0	Knight	K3		15 May 94	22.0
Knight	K1	3	14 May 94	19.0	Knight	K3		15 May 94	18.0
Knight	K1	3	14 May 94	27.5	Knight	K3		15 May 94	24.0
Knight	K1	3	14 May 94	25.5	Knight	K3		15 May 94	20.0
Knight	K1	3	14 May 94	21.0	Knight	K3		15 May 94	23.5
Knight	K1	3	14 May 94	26.5	Knight	K3		15 May 94	22.5
Knight	K1	3	14 May 94	26.0	Knight	K3		15 May 94	25.0
Knight	K1	3	14 May 94	23.5	Knight	K3		15 May 94	20.0
Knight	K1	3	14 May 94	23.0	Knight	K3		15 May 94	26.0
Knight	K1	3	14 May 94	23.0	Knight	K3		15 May 94	20.0
Knight	K1	3	14 May 94	22.0	Knight	K3		15 May 94	25.0
Knight	K1	3	14 May 94	24.0	Knight	K3		15 May 94	24.0
Knight	K1	3	14 May 94	20.0	Knight	K3		15 May 94	25.0
Knight	K1	3	14 May 94	21.0	Knight	K3		15 May 94	26.5
Knight	K1	3	14 May 94	21.5	Knight	K3		15 May 94	19.5
Knight	K1	3	14 May 94	24.5	Knight	K3		15 May 94	28.0
Knight	K1	3	14 May 94	20.5	Knight	K3		15 May 94	25.5
Knight	K1	3	14 May 94	26.5	Knight	K3		15 May 94	21.0
Knight	K1	3	14 May 94	24.0	Knight	K3		15 May 94	21.0
Knight	K1	3	14 May 94	25.0	Knight	K3		15 May 94	22.5

* Hauls without numbers indicate grouped data; DN indicates dip net captures

Continued ...

Appendix E1 Continued

Section	Site	Haul *	Date	Length (mm)	Section	Site	Haul *	Date	Length (mm)
Knight	K3		15 May 94	22.5	Whitecourt	W1	4	13 May 94	21.0
Knight	K3		15 May 94	25.0	Whitecourt	W1	4	13 May 94	24.0
Knight	K3		15 May 94	25.0	Whitecourt	W1	4	13 May 94	22.0
Knight	K3		15 May 94	25.0	Whitecourt	W1	4	13 May 94	23.5
Knight	K3		15 May 94	26.5	Whitecourt	W1	4	13 May 94	19.0
Knight	K3		15 May 94	22.0	Whitecourt	W1	4	13 May 94	23.5
Knight	K3		15 May 94	25.0	Whitecourt	W1	4	13 May 94	21.0
Knight	K3		15 May 94	24.5	Whitecourt	W1	4	13 May 94	19.0
Knight	K3		15 May 94	22.5	Whitecourt	W1	4	13 May 94	24.0
Knight	K3		15 May 94	24.0	Whitecourt	W1	4	13 May 94	22.5
Knight	K3		15 May 94	26.0	Whitecourt	W1	4	13 May 94	18.5
Knight	K3		15 May 94	26.0	Whitecourt	W1	4	13 May 94	20.0
Knight	K3		15 May 94	24.0	Whitecourt	W1	4	13 May 94	20.5
Knight	K3		15 May 94	25.0	Whitecourt	W1	4	13 May 94	21.5
Knight	K3		15 May 94	22.5	Whitecourt	W1	4	13 May 94	24.0
Knight	K3		15 May 94	26.0	Whitecourt	W1	4	13 May 94	18.0
Knight	K3		15 May 94	25.0	Whitecourt	W1	4	13 May 94	20.0
Whitecourt	W1	2	13 May 94	23.0	Whitecourt	W1	4	13 May 94	20.0
Whitecourt	W1	2	13 May 94	22.5	Whitecourt	W1	4	13 May 94	18.0
Whitecourt	W1	2	13 May 94	23.5	Whitecourt	W1	4	13 May 94	21.5
Whitecourt	W1	2	13 May 94	23.5	Whitecourt	W1	4	13 May 94	22.0
Whitecourt	W1	2	13 May 94	22.0	Whitecourt	W1	4	13 May 94	23.0
Whitecourt	W1	2	13 May 94	24.0	Whitecourt	W1	4	13 May 94	21.5
Whitecourt	W1	2	13 May 94	22.0	Whitecourt	W1	4	13 May 94	24.0
Whitecourt	W1	2	13 May 94	24.5	Whitecourt	W1	4	13 May 94	21.5
Whitecourt	W1	2	13 May 94	23.5	Whitecourt	W1	4	13 May 94	19.0
Whitecourt	W1	2	13 May 94	24.5	Whitecourt	W1	4	13 May 94	19.0
Whitecourt	W1	2	13 May 94	22.0	Whitecourt	W1	4	13 May 94	17.5
Whitecourt	W1	2	13 May 94	22.0	Whitecourt	W1	4	13 May 94	21.5
Whitecourt	W1	2	13 May 94	24.0	Whitecourt	W1	4	13 May 94	18.5
Whitecourt	W1	2	13 May 94	23.0	Whitecourt	W1	4	13 May 94	20.0
Whitecourt	W1	2	13 May 94	23.0	Whitecourt	W1	4	13 May 94	20.0
Whitecourt	W1	2	13 May 94	22.5	Whitecourt	W1	4	13 May 94	19.0
Whitecourt	W1	2	13 May 94	24.5	Whitecourt	W1	4	13 May 94	16.0
Whitecourt	W1	2	13 May 94	25.0	Whitecourt	W2		16 May 94	26.0
Whitecourt	W1	3	13 May 94	24.0	Whitecourt	W2		16 May 94	21.0
Whitecourt	W1	3	13 May 94	21.0	Whitecourt	W2		16 May 94	19.5
Whitecourt	W1	3	13 May 94	22.0	Whitecourt	W2		16 May 94	20.5
Whitecourt	W1	3	13 May 94	22.0	Whitecourt	W2		16 May 94	23.0
Whitecourt	W1	3	13 May 94	19.5	Whitecourt	W2		16 May 94	24.5
Whitecourt	W1	3	13 May 94	22.0	Whitecourt	W2		16 May 94	18.5
Whitecourt	W1	3	13 May 94	22.5	Whitecourt	W2		16 May 94	20.0
Whitecourt	W1	4	13 May 94	22.5	Whitecourt	W2		16 May 94	23.0
Whitecourt	W1	4	13 May 94	23.0	Whitecourt	W2		16 May 94	22.0
Whitecourt	W1	4	13 May 94	20.0	Whitecourt	W2		16 May 94	22.0
Whitecourt	W1	4	13 May 94	18.0	Whitecourt	W2		16 May 94	22.5
Whitecourt	W1	4	13 May 94	21.0	Whitecourt	W2		16 May 94	25.0
Whitecourt	W1	4	13 May 94	22.0	Whitecourt	W2		16 May 94	23.5
Whitecourt	W1	4	13 May 94	24.0	Whitecourt	W2		16 May 94	19.0
Whitecourt	W1	4	13 May 94	24.5	Whitecourt	W2		16 May 94	21.0
Whitecourt	W1	4	13 May 94	22.0	Whitecourt	W2		16 May 94	23.0
Whitecourt	W1	4	13 May 94	20.0	Whitecourt	W2		16 May 94	23.0
Whitecourt	W1	4	13 May 94	18.0	Whitecourt	W2		16 May 94	22.0
Whitecourt	W1	4	13 May 94	23.5	Whitecourt	W2		16 May 94	24.5
Whitecourt	W1	4	13 May 94	21.0	Whitecourt	W2		16 May 94	23.5

* Hauls without numbers indicate grouped data; DN indicates dip net captures

Continued ...

Appendix E1 Concluded

Section	Site	Haul *	Date	Length (mm)
Whitecourt	W2		16 May 94	22.5
Whitecourt	W2		16 May 94	21.5
Whitecourt	W2		16 May 94	22.0
Whitecourt	W2		16 May 94	21.5
Whitecourt	W2		16 May 94	24.0
Whitecourt	W2		16 May 94	19.0
Whitecourt	W2		16 May 94	21.5
Whitecourt	W2		16 May 94	24.5
Whitecourt	W2		16 May 94	21.5
Whitecourt	W2		16 May 94	22.0
Whitecourt	W2		16 May 94	24.5
Whitecourt	W2		16 May 94	21.0
Whitecourt	W2		16 May 94	24.0
Whitecourt	W2		16 May 94	22.5
Whitecourt	W2		16 May 94	24.5
Whitecourt	W2		16 May 94	20.0
Whitecourt	W2		16 May 94	22.0
Whitecourt	W2		16 May 94	20.0
Whitecourt	W2		16 May 94	22.5
Whitecourt	W2		16 May 94	19.5
Whitecourt	W2		16 May 94	22.0
Whitecourt	W2		16 May 94	24.0
Whitecourt	W2		16 May 94	22.5
Whitecourt	W2		16 May 94	22.0
Whitecourt	W2		16 May 94	22.0
Whitecourt	W2		16 May 94	22.0
Whitecourt	W2		16 May 94	21.5
Whitecourt	W2		16 May 94	19.5
Whitecourt	W2		16 May 94	23.0
Whitecourt	W3	5	14 May 94	23.0
Whitecourt	W3	5	14 May 94	23.0
Whitecourt	W3	5	14 May 94	21.0
Whitecourt	W3	5	14 May 94	21.5
Whitecourt	W3	5	14 May 94	23.0
Whitecourt	W3	5	14 May 94	21.5
Whitecourt	W3	5	14 May 94	21.0
Whitecourt	W3	5	14 May 94	19.0
Whitecourt	W3	5	14 May 94	23.5
Whitecourt	W3	5	14 May 94	24.5
Whitecourt	W3	5	14 May 94	21.5
Whitecourt	W3	5	14 May 94	25.0
Whitecourt	W3	5	14 May 94	19.5
Whitecourt	W3	5	14 May 94	18.5
Whitecourt	W3	5	14 May 94	21.0
Whitecourt	W3	5	14 May 94	24.5
Whitecourt	W3	5	14 May 94	25.0
Whitecourt	W3	5	14 May 94	22.0
Whitecourt	W3	5	14 May 94	25.0
Whitecourt	W3	5	14 May 94	25.0
Whitecourt	W3	5	14 May 94	20.0
Whitecourt	W3	5	14 May 94	24.0
Whitecourt	W3	5	14 May 94	20.0
Whitecourt	W3	5	14 May 94	23.5
Whitecourt	W3	5	14 May 94	25.0
Whitecourt	W3	5	14 May 94	25.0
Whitecourt	W3	5	14 May 94	26.0
Whitecourt	W3	5	14 May 94	25.0
Whitecourt	W3	5	14 May 94	18.5
Whitecourt	W3	5	14 May 94	24.0
Whitecourt	W3	5	14 May 94	20.0
Whitecourt	W3	5	14 May 94	18.5
Whitecourt	W3	5	14 May 94	19.5
Whitecourt	W3	5	14 May 94	17.0
Whitecourt	W3	5	14 May 94	26.5
Whitecourt	W3	5	14 May 94	22.0
Whitecourt	W3	5	14 May 94	24.0
Whitecourt	W3	5	14 May 94	20.5
Whitecourt	W3	5	14 May 94	22.0
Whitecourt	W3	5	14 May 94	19.0
Whitecourt	W3	5	14 May 94	21.5
Whitecourt	W3	5	14 May 94	24.0
Whitecourt	W3	5	14 May 94	20.5

* Hauls without numbers indicate grouped data; DN indicates dip net captures

APPENDIX E2

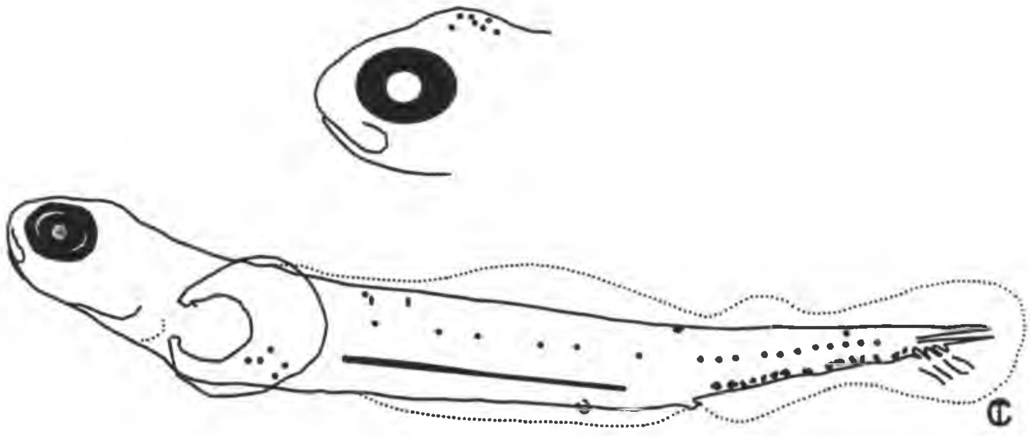
RAW DATA FOR TOTAL LENGTH MEASUREMENTS FROM A SAMPLE OF LARVAL MOUNTAIN WHITEFISH CAPTURED FROM THE ATHABASCA RIVER

Appendix E2 Myomere counts from a sample of larval mountain whitefish captured from the Athabasca River, 13-18 May 1994.

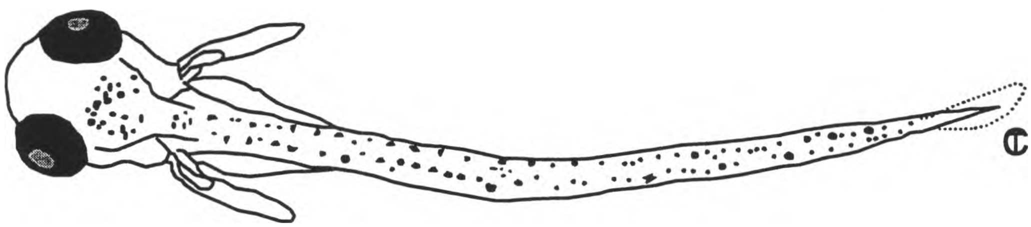
Area, Site, and Date	Myomere Count Preanal	Myomere Count Postanal	Area, Site, and Date	Myomere Count Preanal	Myomere Count Postanal	Area, Site, and Date	Myomere Count Preanal	Myomere Count Postanal
Jasper	39	18	Knight	40	17	Whitecourt	41	17
Site J7	41	18	Site K3	39	17	Site W1	42	17
18 May 1994	41	17	15 May 1994	41	16	13 May 1994	42	17
	39	17		38	17		40	17
	39	19		37	16		39	14
	37	16		39	18		42	15
	39	17		42	17		39	16
	37	15		41	16		40	17
	38	18		40	17		41	17
	40	17		41	18		42	18
	40	15		39	17		40	17
	42	18		39	17		41	17
	43	15		40	17		40	19
	46	21		40	17		38	17
	39	17		39	18		41	17
	39	16		41	17		43	16
	40	14		42	17		41	17
	43	23		39	14		40	15
	39	19		39	16		43	16
	36	14		42	19		39	15
	38	18		41	17		42	18
	42	19		39	18		41	18
	40	15		40	17		40	17
	44	18		40	16		39	17
	39	16		39	17		38	16
	36	17		40	18		39	19
	45	16		40	17		38	17
	44	16		41	17		40	17
	37	13		40	17		38	14
	43	21		40	17		39	16
Mean	40.17	17.10	Mean	39.93	16.97	Mean	40.27	16.67
Minimum	36	13	Minimum	37	14	Minimum	38	14
Maximum	46	23	Maximum	42	19	Maximum	43	19
Standard Deviation	2.61	2.17	Standard Deviation	1.15	0.87	Standard Deviation	1.46	1.19

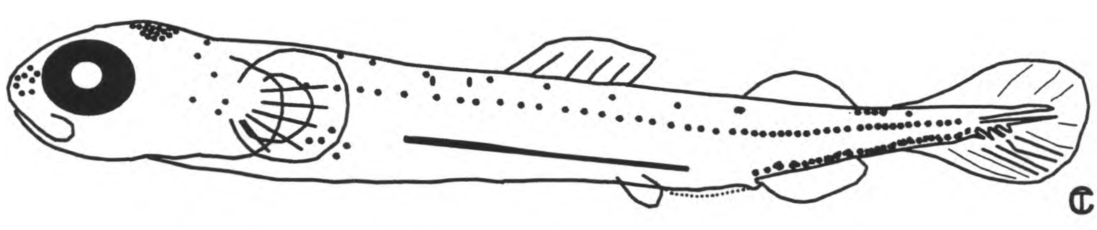
APPENDIX E3

FIGURES OF LARVAL MOUNTAIN WHITEFISH



larval mountain whitefish (Prosopium williamsoni) 15 mm TL





larval mountain whitefish (Prosopium williamsoni) 27 mm TL

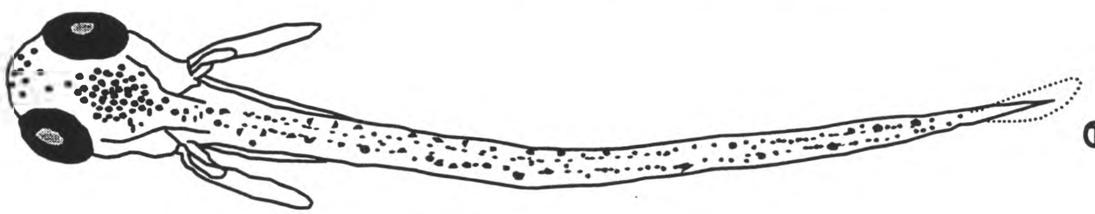


Figure E3. Mountain whitefish (*Prosopium williamsoni* Girard) larva from the upper Athabasca River, 1994 (Illustration by T. Clayton).

ADDENDUM A

FISH ABNORMALITIES

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.:	832 (Plate 1)	**U.T.M LOCATION:**	11U 588650E 6002100N
SPECIES:	Mountain whitefish	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:		**EXAMINATION TIME:**	

GROSS EXTERNAL EXAMINATION

Skin: ( ) Normal ( ) Excessive mucus ( ) Abnormal Colour ____

(X) Lesions (X) Single ( ) Multiple ( ) Closed

(X) Open ( ) Haemorrhagic ( ) Necrotic ( ) Ulcer

( ) Blister ( ) Tumour ( ) Lost Scales ( ) Abrasions

Body Location: Dorsal

Eyes: ( ) Normal ( ) Exophthalmia ( ) Cataract ( ) Haemorrhagic

( ) Opaque cornea ( ) Lens lost ( ) Parasites ( ) Bilateral

Fins: ( ) Normal ( ) Frayed ____ ( ) Haemorrhagic

( ) Eroded ____ ( ) Deformed ____

Gills: ( ) Normal ( ) Pale ( ) Mottled ( ) Haemorrhagic

( ) Necrotic ( ) Excessive mucus ( ) Hyperplasia

( ) Telangiectasia ( ) Gas emboli ( ) Cysts

( ) *Large Parasites* ____ ( ) *Fungus Visible*

OTHER: ____

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.:	837 (Plate 2)	**U.T.M LOCATION:**	11U 589800E 6002000N
SPECIES:	Longnose sucker	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:		**EXAMINATION TIME:**	

GROSS EXTERNAL EXAMINATION

Skin:	( ) Normal	( ) Excessive mucus	( ) Abnormal Colour ____	
	(X) Lesions	(X) Single	( ) Multiple	( ) Closed
	(X) Open	( ) Haemorrhagic	( ) Necrotic	( ) Ulcer
	( ) Blister	( ) Tumour	( ) Lost Scales	( ) Abrasions

Body Location: Caudal Peduncle-side

Eyes:	( ) Normal	( ) Exophthalmia	( ) Cataract	( ) Haemorrhagic
	( ) Opaque cornea	( ) Lens lost	( ) Parasites	( ) Bilateral
Fins:	( ) Normal	( ) Frayed ____	( ) Haemorrhagic	
	( ) Eroded ____	( ) Deformed ____		
Gills:	( ) Normal	( ) Pale	( ) Mottled	( ) Haemorrhagic
	( ) Necrotic	( ) Excessive mucus		( ) Hyperplasia
	( ) Telangiectasia	( ) Gas emboli	( ) Cysts	
	( ) *Large Parasites* ____		( ) *Fungus Visible*	

OTHER: ____

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.:	902 (Plate 3)	**U.T.M LOCATION:**	11U 594300E 6001500N
SPECIES:	Mountain whitefish	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:	______	**EXAMINATION TIME:**	______

GROSS EXTERNAL EXAMINATION

Skin:	( ) Normal	( ) Excessive mucus	( ) Abnormal Colour ______	
	(X) Lesions	( ) Single	(X) Multiple	(X) Closed
	(X) Open	( ) Haemorrhagic	( ) Necrotic	( ) Ulcer
	( ) Blister	( ) Tumour	( ) Lost Scales	( ) Abrasions
	Body Location: Ventral			
Eyes:	( ) Normal	( ) Exophthalmia	( ) Cataract	( ) Haemorrhagic
	( ) Opaque cornea	( ) Lens lost	( ) Parasites	( ) Bilateral
Fins:	( ) Normal	( ) Frayed ______	( ) Haemorrhagic	
	( ) Eroded ______	( ) Deformed ______		
Gills:	( ) Normal	( ) Pale	( ) Mottled	( ) Haemorrhagic
	( ) Necrotic	( ) Excessive mucus		( ) Hyperplasia
	( ) Telangiectasia	( ) Gas emboli	( ) Cysts	
	( ) *Large Parasites* ______		( ) *Fungus Visible*	

OTHER: ______

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.:	903 (Plate 4)	**U.T.M LOCATION:**	11U 594300E 6001500N
SPECIES:	Mountain whitefish	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:	______	**EXAMINATION TIME:**	______

GROSS EXTERNAL EXAMINATION

Skin:	( ) Normal	( ) Excessive mucus	( ) Abnormal Colour ______	
	(X) Lesions	( ) Single	(X) Multiple	(X) Closed
	(X) Open	( ) Haemorrhagic	( ) Necrotic	( ) Ulcer
	( ) Blister	( ) Tumour	( ) Lost Scales	( ) Abrasions

Body Location: Ventral

Eyes:	( ) Normal	( ) Exophthalmia	( ) Cataract	( ) Haemorrhagic
	( ) Opaque cornea	( ) Lens lost	( ) Parasites	( ) Bilateral
Fins:	( ) Normal	( ) Frayed ______	( ) Haemorrhagic	
	( ) Eroded ______	( ) Deformed ______		
Gills:	( ) Normal	( ) Pale	( ) Mottled	( ) Haemorrhagic
	( ) Necrotic	( ) Excessive mucus		( ) Hyperplasia
	( ) Telangiectasia	( ) Gas emboli	( ) Cysts	
	( ) *Large Parasites* ______		( ) *Fungus Visible*	

OTHER: ______

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.:	908	**U.T.M LOCATION:**	11U 594300E 6001500N
SPECIES:	Mountain whitefish	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:		**EXAMINATION TIME:**	

GROSS EXTERNAL EXAMINATION

Skin:	( ) Normal	( ) Excessive mucus	( ) Abnormal Colour ______	
	(X) Lesions	( ) Single	(X) Multiple	( ) Closed
	(X) Open	( ) Haemorrhagic	( ) Necrotic	( ) Ulcer
	( ) Blister	( ) Tumour	( ) Lost Scales	( ) Abrasions

Body Location: Ventral

Eyes:	( ) Normal	( ) Exophthalmia	( ) Cataract	( ) Haemorrhagic
	( ) Opaque cornea	( ) Lens lost	( ) Parasites	( ) Bilateral
Fins:	( ) Normal	( ) Frayed ______	( ) Haemorrhagic	
	( ) Eroded ______	( ) Deformed ______		
Gills:	( ) Normal	( ) Pale	( ) Mottled	( ) Haemorrhagic
	( ) Necrotic	( ) Excessive mucus		( ) Hyperplasia
	( ) Telangiectasia	( ) Gas emboli	( ) Cysts	
	( ) *Large Parasites* ______		( ) *Fungus Visible*	

OTHER: ______

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.: 909 **U.T.M LOCATION:** 11U 594300E 6001500N

SPECIES: Longnose sucker **CAPTURE METHOD:** Boat electrofishing

CAPTURE TIME: ______ **EXAMINATION TIME:** ______

GROSS EXTERNAL EXAMINATION

Skin:	( ) Normal	( ) Excessive mucus	( ) Abnormal Colour ______	
	(X) Lesions	(X) Single	( ) Multiple	( ) Closed
	(X) Open	( ) Haemorrhagic	( ) Necrotic	( ) Ulcer
	( ) Blister	( ) Tumour	( ) Lost Scales	( ) Abrasions

Body Location: Caudal Peduncle-ventral

Eyes:	( ) Normal	( ) Exophthalmia	( ) Cataract	( ) Haemorrhagic
	( ) Opaque cornea	( ) Lens lost	( ) Parasites	( ) Bilateral
Fins:	( ) Normal	( ) Frayed ______	( ) Haemorrhagic	
	( ) Eroded ______	( ) Deformed ______		
Gills:	( ) Normal	( ) Pale	( ) Mottled	( ) Haemorrhagic
	( ) Necrotic	( ) Excessive mucus		( ) Hyperplasia
	( ) Telangiectasia	( ) Gas emboli	( ) Cysts	
	( ) *Large Parasites* ______		( ) *Fungus Visible*	

OTHER: ______

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.:	918 (Plate 5)	**U.T.M LOCATION:**	11U 594300E 6001500N
SPECIES:	White sucker	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:		**EXAMINATION TIME:**	

GROSS EXTERNAL EXAMINATION

Skin:
( ) Normal ( ) Excessive mucus ( ) Abnormal Colour ______
( ) Lesions ( ) Single ( ) Multiple ( ) Closed
( ) Open (X) Haemorrhagic ( ) Necrotic ( ) Ulcer
( ) Blister ( ) Tumour ( ) Lost Scales (X) Abrasions

Body Location: Caudal Peduncle-ventral

Eyes:
( ) Normal ( ) Exophthalmia ( ) Cataract ( ) Haemorrhagic
( ) Opaque cornea ( ) Lens lost ( ) Parasites ( ) Bilateral

Fins:
( ) Normal ( ) Frayed ______ ( ) Haemorrhagic
( ) Eroded ______ ( ) Deformed ______

Gills:
( ) Normal ( ) Pale ( ) Mottled ( ) Haemorrhagic
( ) Necrotic ( ) Excessive mucus ( ) Hyperplasia
( ) Telangiectasia ( ) Gas emboli ( ) Cysts
( ) *Large Parasites* ______ ( ) *Fungus Visible*

OTHER: ______

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.:	919	**U.T.M LOCATION:**	11U 595150E 6002150N
SPECIES:	Mountain whitefish	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:		**EXAMINATION TIME:**	

GROSS EXTERNAL EXAMINATION

Skin: ( ) Normal ( ) Excessive mucus ( ) Abnormal Colour ______

(X) Lesions ( ) Single (X) Multiple ( ) Closed

(X) Open ( ) Haemorrhagic ( ) Necrotic ( ) Ulcer

( ) Blister ( ) Tumour ( ) Lost Scales ( ) Abrasions

Body Location: Dorsal

Eyes: ( ) Normal ( ) Exophthalmia ( ) Cataract ( ) Haemorrhagic

( ) Opaque cornea ( ) Lens lost ( ) Parasites ( ) Bilateral

Fins: ( ) Normal ( ) Frayed ______ ( ) Haemorrhagic

( ) Eroded ______ ( ) Deformed ______

Gills: ( ) Normal ( ) Pale ( ) Mottled ( ) Haemorrhagic

( ) Necrotic ( ) Excessive mucus ( ) Hyperplasia

( ) Telangiectasia ( ) Gas emboli ( ) Cysts

( ) *Large Parasites* ______ ( ) *Fungus Visible*

OTHER: ______

N.B. In the event that a significant number of specimens at any site havve abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.:	926	**U.T.M LOCATION:**	11U 595150E 6002150N
SPECIES:	White sucker	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:	________	**EXAMINATION TIME:**	________

GROSS EXTERNAL EXAMINATION

Skin:	( ) Normal	( ) Excessive mucus	( ) Abnormal Colour ______	
	(X) Lesions	( ) Single	(X) Multiple	( ) Closed
	(X) Open	( ) Haemorrhagic	( ) Necrotic	( ) Ulcer
	( ) Blister	( ) Tumour	( ) Lost Scales	( ) Abrasions

Body Location: Caudal Peduncle-side

Eyes:	( ) Normal	( ) Exophthalmia	( ) Cataract	( ) Haemorrhagic
	( ) Opaque cornea	( ) Lens lost	( ) Parasites	( ) Bilateral
Fins:	( ) Normal	( ) Frayed ______	( ) Haemorrhagic	
	( ) Eroded ______	( ) Deformed ______		
Gills:	( ) Normal	( ) Pale	( ) Mottled	( ) Haemorrhagic
	( ) Necrotic	( ) Excessive mucus		( ) Hyperplasia
	( ) Telangiectasia	( ) Gas emboli	( ) Cysts	
	( ) *Large Parasites* ______		( ) *Fungus Visible*	

OTHER: ________________

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.:	945	**U.T.M LOCATION:**	11U 596050E 6002600N
SPECIES:	Burbot	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:		**EXAMINATION TIME:**	

GROSS EXTERNAL EXAMINATION

Skin:	( ) Normal	( ) Excessive mucus	( ) Abnormal Colour ______	
	(X) Lesions	(X) Single	( ) Multiple	( ) Closed
	(X) Open	( ) Haemorrhagic	( ) Necrotic	( ) Ulcer
	( ) Blister	( ) Tumour	( ) Lost Scales	( ) Abrasions

Body Location: Dorsal

Eyes:	( ) Normal	( ) Exophthalmia	( ) Cataract	( ) Haemorrhagic
	( ) Opaque cornea	( ) Lens lost	( ) Parasites	( ) Bilateral
Fins:	( ) Normal	( ) Frayed ______	( ) Haemorrhagic	
	( ) Eroded ______	( ) Deformed ______		
Gills:	( ) Normal	( ) Pale	( ) Mottled	( ) Haemorrhagic
	( ) Necrotic	( ) Excessive mucus		( ) Hyperplasia
	( ) Telangiectasia	( ) Gas emboli	( ) Cysts	
	( ) *Large Parasites* ______		( ) *Fungus Visible*	

OTHER: ______

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.: 967 **U.T.M LOCATION:** 11U 598400E 6002100N

SPECIES: Mountain whitefish **CAPTURE METHOD:** Boat electrofishing

CAPTURE TIME: ______ **EXAMINATION TIME:** ______

GROSS EXTERNAL EXAMINATION

Skin: ( ) Normal ( ) Excessive mucus ( ) Abnormal Colour ______

(X) Lesions ( ) Single (X) Multiple ( ) Closed

( ) Open (X) Haemorrhagic ( ) Necrotic ( ) Ulcer

( ) Blister ( ) Tumour ( ) Lost Scales ( ) Abrasions

Body Location: Ventral

Eyes: ( ) Normal ( ) Exophthalmia ( ) Cataract ( ) Haemorrhagic

( ) Opaque cornea ( ) Lens lost ( ) Parasites ( ) Bilateral

Fins: ( ) Normal ( ) Frayed ______ ( ) Haemorrhagic

( ) Eroded ______ ( ) Deformed ______

Gills: ( ) Normal ( ) Pale ( ) Mottled ( ) Haemorrhagic

( ) Necrotic ( ) Excessive mucus ( ) Hyperplasia

( ) Telangiectasia ( ) Gas emboli ( ) Cysts

( ) *Large Parasites* ______ ( ) *Fungus Visible*

OTHER: ______

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 13 May 94

SAMPLE NO.: 983 **U.T.M LOCATION:** 11U 598925E 6001150N

SPECIES: Northern pike **CAPTURE METHOD:** Boat electrofishing

CAPTURE TIME: ______ **EXAMINATION TIME:** ______

GROSS EXTERNAL EXAMINATION

Skin: ( ) Normal ( ) Excessive mucus ( ) Abnormal Colour ______

(X) Lesions ( ) Single (X) Multiple ( ) Closed

( ) Open (X) Haemorrhagic ( ) Necrotic ( ) Ulcer

( ) Blister ( ) Tumour ( ) Lost Scales ( ) Abrasions

Body Location: Ventral and side

Eyes: ( ) Normal ( ) Exophthalmia ( ) Cataract ( ) Haemorrhagic

( ) Opaque cornea ( ) Lens lost ( ) Parasites ( ) Bilateral

Fins: ( ) Normal ( ) Frayed ______ ( ) Haemorrhagic

( ) Eroded ______ ( ) Deformed ______

Gills: ( ) Normal ( ) Pale ( ) Mottled ( ) Haemorrhagic

( ) Necrotic ( ) Excessive mucus ( ) Hyperplasia

( ) Telangiectasia ( ) Gas emboli ( ) Cysts

( ) *Large Parasites* ______ ( ) *Fungus Visible*

OTHER: ______

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 14 May 94

SAMPLE NO.:	1047	**U.T.M LOCATION:**	11U 584800E 6000425N
SPECIES:	Longnose sucker	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:		**EXAMINATION TIME:**	

GROSS EXTERNAL EXAMINATION

Skin:	( ) Normal	( ) Excessive mucus	( ) Abnormal Colour ________	
	( ) Lesions	( ) Single	( ) Multiple	( ) Closed
	( ) Open	(X) Haemorrhagic	( ) Necrotic	( ) Ulcer
	( ) Blister	( ) Tumour	( ) Lost Scales	(X) Abrasions

Body Location: Ventral and caudal peduncle

Eyes:	( ) Normal	( ) Exophthalmia	( ) Cataract	( ) Haemorrhagic
	( ) Opaque cornea	( ) Lens lost	( ) Parasites	( ) Bilateral
Fins:	( ) Normal	( ) Frayed ________	( ) Haemorrhagic	
	( ) Eroded ________	( ) Deformed ________		
Gills:	( ) Normal	( ) Pale	( ) Mottled	( ) Haemorrhagic
	( ) Necrotic	( ) Excessive mucus		( ) Hyperplasia
	( ) Telangiectasia	( ) Gas emboli	( ) Cysts	
	( ) *Large Parasites* ________		( ) *Fungus Visible*	

OTHER: ____________________

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 14 May 94

SAMPLE NO.:	1048	**U.T.M LOCATION:**	11U 584800E 6000425N
SPECIES:	Longnose sucker	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:		**EXAMINATION TIME:**	

GROSS EXTERNAL EXAMINATION

Skin:
( ) Normal ( ) Excessive mucus ( ) Abnormal Colour ________
( ) Lesions ( ) Single ( ) Multiple ( ) Closed
( ) Open (X) Haemorrhagic ( ) Necrotic ( ) Ulcer
( ) Blister ( ) Tumour ( ) Lost Scales (X) Abrasions

Body Location: Caudal Peduncle

Eyes:
( ) Normal ( ) Exophthalmia ( ) Cataract ( ) Haemorrhagic
( ) Opaque cornea ( ) Lens lost ( ) Parasites ( ) Bilateral

Fins:
( ) Normal ( ) Frayed ________ ( ) Haemorrhagic
( ) Eroded ________ ( ) Deformed ________

Gills:
( ) Normal ( ) Pale ( ) Mottled ( ) Haemorrhagic
( ) Necrotic ( ) Excessive mucus ( ) Hyperplasia
( ) Telangiectasia ( ) Gas emboli ( ) Cysts
( ) *Large Parasites* ________ ( ) *Fungus Visible*

OTHER: ________

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

NORTHERN RIVER BASINS STUDY

EXAMINATION SHEETS
GROSS PATHOLOGY

DATE: 14 May 94

SAMPLE NO.:	1052	**U.T.M LOCATION:**	11U 584800E 6000425N
SPECIES:	Mountain whitefish	**CAPTURE METHOD:**	Boat electrofishing
CAPTURE TIME:		**EXAMINATION TIME:**	

GROSS EXTERNAL EXAMINATION

Skin:
( ) Normal ( ) Excessive mucus ( ) Abnormal Colour ________
(X) Lesions (X) Single ( ) Multiple ( ) Closed
(X) Open ( ) Haemorrhagic ( ) Necrotic ( ) Ulcer
( ) Blister ( ) Tumour ( ) Lost Scales ( ) Abrasions

Body Location: Side

Eyes:
( ) Normal ( ) Exophthalmia ( ) Cataract ( ) Haemorrhagic
( ) Opaque cornea ( ) Lens lost ( ) Parasites ( ) Bilateral

Fins:
( ) Normal ( ) Frayed ______ ( ) Haemorrhagic
( ) Eroded __________ ( ) Deformed __________

Gills:
( ) Normal ( ) Pale ( ) Mottled ( ) Haemorrhagic
( ) Necrotic ( ) Excessive mucus ( ) Hyperplasia
( ) Telangiectasia ( ) Gas emboli ( ) Cysts
( ) *Large Parasites* __________ ( ) *Fungus Visible*

OTHER: ____________________

N.B. In the event that a significant number of specimens at any site have abnormalities, the contractor is asked to immediately notify the Project Liaison Officer.
Phone: 427-1742 or fax to 422-3055.

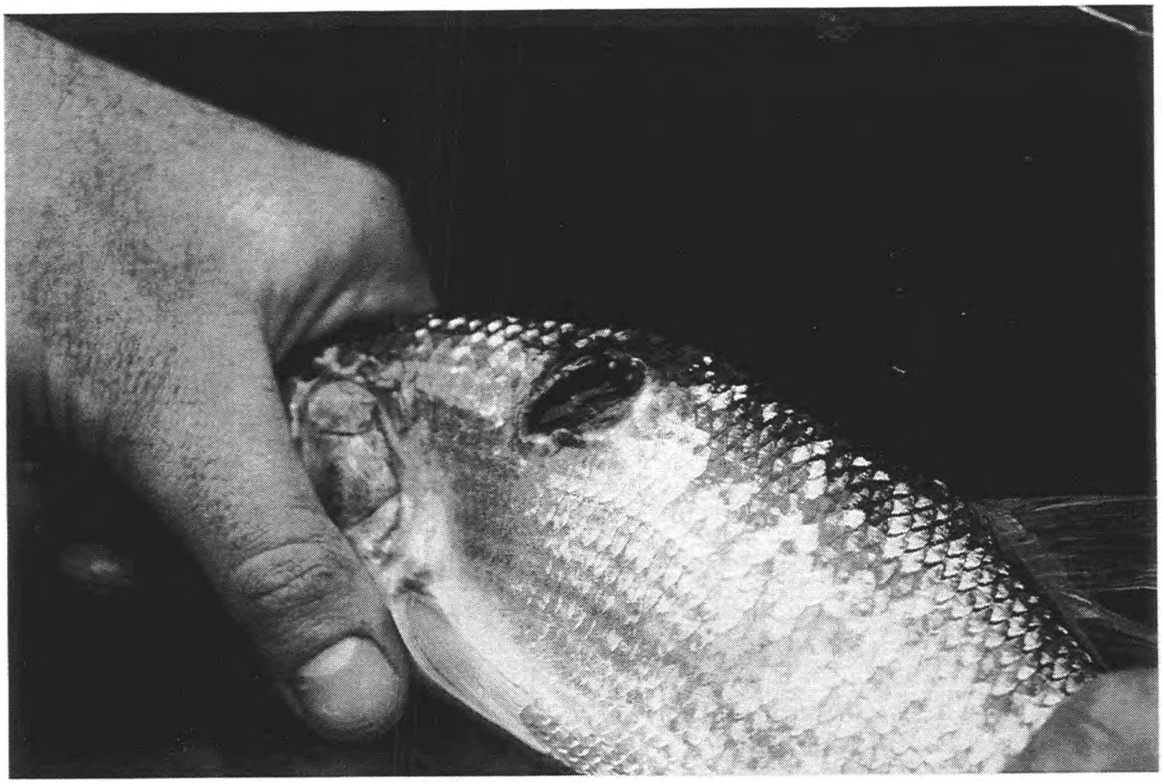


Plate 1 Physical abnormality on mountain whitefish captured at Km 1021.5, spring 1994.

Plate 2 Physical abnormality on longnose sucker captured at Km 1020.5, spring 1994.

Plate 3 Physical abnormality on mountain whitefish captured at Km 1016.0, spring 1994.

Plate 4 Physical abnormality on mountain whitefish captured at Km 1016.9, spring 1994.

Plate 5 Physical abnormality on white sucker captured at Km 1016.0, spring 1994.