Bulkley

Timber Supply Area

Vegetation Resources Inventory

Ground Sampling and NVAF
VRI- Phase 2
Project Implementation Plan (VPIP)

Amendment #1

Includes

Addendum #1
Bulkley NVAF Tree Selection

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1.0 Introduction

1.1 Document Objectives

This Vegetation Resources Inventory (VRI) Phase 2 Project Implementation Plan (VPIP) is a working document that details the specific operational activities associated with implementation and documentation of the inventory project in the Bulkley TSA.

This document provides stakeholders with the operational details needed to complete VRI Phase 2 work and subsequent Net Volume Adjustment Factor (NVAF) sampling that will address issues and emerging data needs in the Bulkley TSA. As outlined in the VSIP, this VPIP provides implementation details such as project area, priorities, plot locations, maps, scheduling, roles and responsibilities.

The Bulkley TSA VSIP is available in full at:
http://www.for.gov.bc.ca/hts/vri/reports&pub/tsa_vsips/bulkleytsa_vri_vsip_w_addendum.pdf

1.2 Vegetation Resources Inventory

The Vegetation Resources Inventory (VRI) is the Ministry of Forests and Range (MoFR) standard for assessing the quantity and quality of BC's vegetation resources. The VRI is carried out in 2 phases.

Phase 1 of the VRI process used photo interpretation and 3-D imagery to create bioterrain based polygons and to complete an estimation of a set of vegetation attributes. The definition of these attributes is currently found at:
http://ilmbwww.gov.bc.ca/risc/pubs/teveg/vri-photointerp2k2/photo_interp2k2.pdf

This Phase 1 inventory work was completed during the 2007-2008 fiscal year.

Phase 2 of the VRI process is ground sampling done to verify and/or adjust Phase 1 vegetation attributes. Tree and stand attributes are measured in sample clusters established randomly within the target population. These measurements also include stem analysis to assess decay and taper in individual trees (Net Volume Adjustment Factor measurements NVAF). Data collected will be compiled and the photo interpreted inventory will be adjusted to the current VRI standards.

1.3 State of the Current Inventory

The previous inventory was a Forest Cover re-inventory that was not completed to VRI standards. It was completed between 1995 and 1997, and was delivered in 1997. The aerial photographs were 1993 and 1994, 1:15,000 black and white hardcopy images.

The Bulkley TSA inventory was last audited in 1994 with the data reported in 1996. The audit was conducted using the previous Forest Cover inventory that was re-inventoried in

1988. The audit results of the 1988 Bulkley TSA re-inventory can be reviewed at the following site: http://www.for.gov.bc.ca/hts/vri/audits/reports&pub/

The previous timber inventory discussed above has now been replaced by the VRI Phase 1 conducted in 2007, photo interpreted from colour photos flown in 2006 via softcopy-photogrammetry. The new inventory is referenced to the TRIM NAD 83 base.

1.4 Forest Management Issues in the Bulkley TSA

The issues and emerging data needs brought forward by the Bulkley TSA stakeholder group are summarized below:

1. A VRI which addresses the issues around the partitioned Annual Allowable Cut (AAC); specifically; refined delineation and more accurate structure, species composition, age, height, and derived volume estimates, to better define stands that fall within the sawlog, marginal sawlog and pulp log quality criteria, as defined by the Harvest Method Mapping parameters.

2. Information related to Problem Forest Types (PFT) and Low Productivity Types (LPT) specifically refined delineation and calibration information.

3. Forest health issues including improved stand mapping and identification of lodgepole pine to support mountain pine beetle and pine needle blight hazard mapping and salvage opportunities.

4. The polygon delineation from Phase I VRI is beneficial to MOE and Parks, as Park areas contribute to Timber Supply Area seral stage balance, habitat representation, and old growth management objectives.

5. The development of a Predictive Ecosystem Mapping (PEM) project based on the bioterrain delineated VRI to assist in spatially defining both; site series site productivity Index (SI 50) and habitat supply.

6. Growth and Yield linkages that could provide valuable attribute and sample data to be used to enhance follow-up growth and yield programs.

7. A statistically defensible inventory to meet market-based environmental certification requirements that can subsequently be used in the next Timber Supply Review (TSR).

8. Localized decay factors (NVAF) that can be used to refine loss factors from gross to net volumes, as well as provide data for tree stem taper equations.

1.5 Other Benefits

The final product will provide for a variety of future uses and benefits for land resource managers and researchers including:

- Habitat Supply Mapping - the completed VRI and the PEM could be modeled to assess species specific favorable habitat supply
- Harvest Forecasting and Scheduling
- State of the Resource Analysis and Reporting (SORR)
- Forest Stewardship Plans (FSP) criteria, indicator monitoring and reporting of results, and analysis of strategies
- Non-Timbered Forest Products (NTFP)
- Management plans based on ecological classification and forest cover
- Type 2 Silviculture Analysis - The updated VRI, including the PEM productivity estimates will provide critical data to ensure that the Bulkley Type 2 Silviculture Analysis, and any future investments on public lands are completed using the best available information.

1.6 Land Base

The Bulkley TSA is situated in northwestern British Columbia in the Northern Interior Forest Region. Covering approximately 762,540 hectares, the Bulkley TSA is part of the Skeena-Stikine Forest District and is administered from the district office in Smithers (see Figure 1. Bulkley TSA Overview Map).

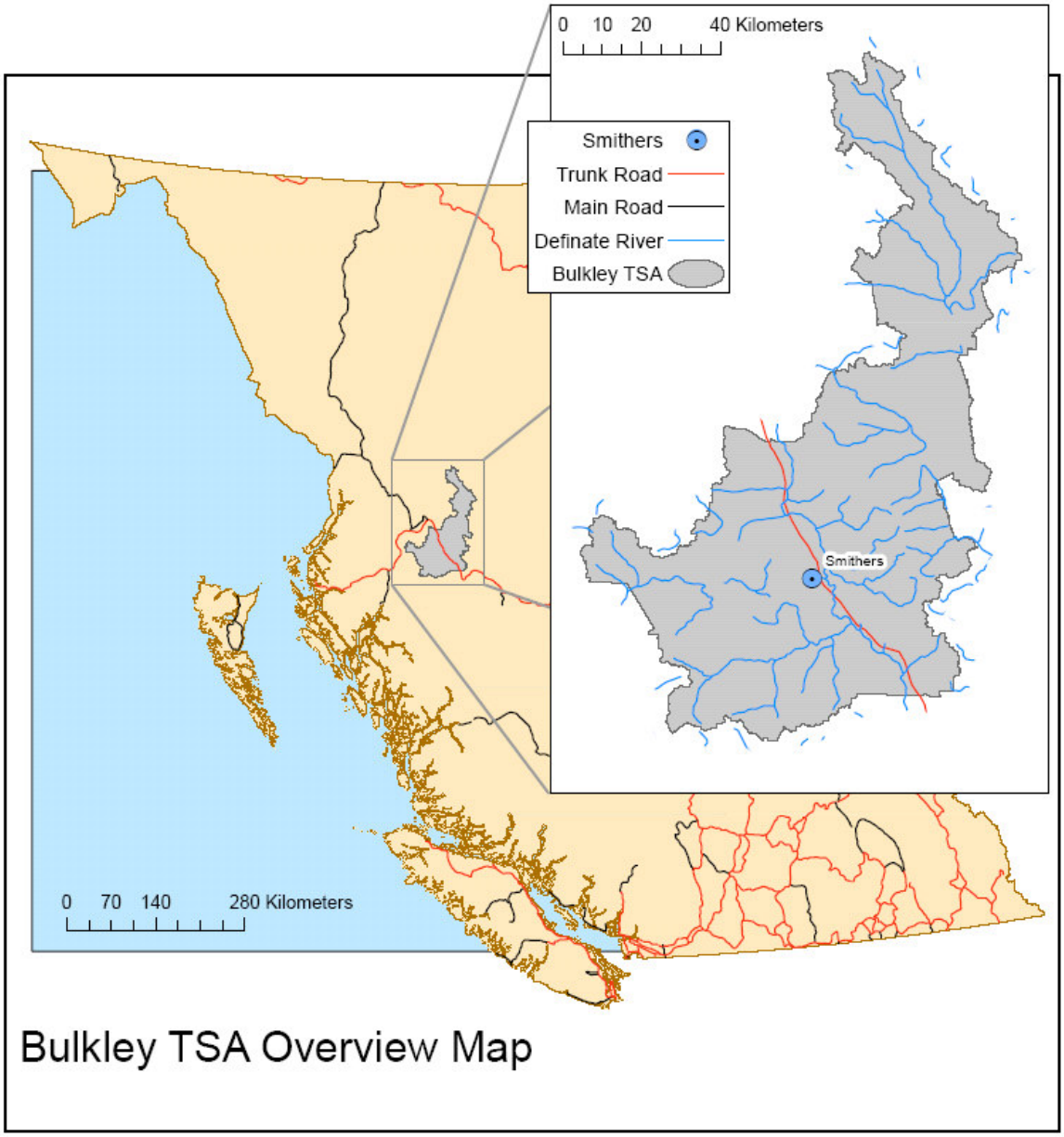

Figure 1. Bulkley TSA Overview Map

The Bulkley TSA is located on the eastern drainage of the Skeena River. It is bounded by the Hazelton Mountains to the west, the Telkwa River watershed to the south, and the Babine Mountains to the east, and extends north to the headwaters of the Nilkitkwa River. The Bulkley River runs through the center of the southern portion of the TSA. The terrain in the Bulkley TSA varies from wide river valley bottoms to steep sided v-shaped valleys and high mountains.

Due to its location between interior and coastal climates, the Bulkley TSA includes diverse ecological features. The dominant tree species in the TSA are sub-alpine fir (48%), spruce (23%), lodgepole pine (25%) and hemlock (4%). Minor deciduous areas are present but these are almost entirely restricted to the private land areas in the TSA. Mountainous terrain and high elevations limit the amount of land considered suitable for timber production in this TSA. In this plan, the assumption is made that the forested land base corresponds to the Vegetated Treed (VT) land base according to the BC Land Cover Classification Scheme, or BCLCS.

Table 1. Bulkley TSA Area Summary*

Land base Classification	Area (ha)	Percent (%)
Total TSA area	**762, 540**	**100**
Not managed by the MoFR	95,232	12.5
Non-forest and non-productive	171,386	22.5
Total forested area managed by the MoFR	**495,922**	**65**
Reductions to Crown Forest		
-Non-commercial cover	6,312	0.8
-Inoperable	348	0.0
-Terrain stability in Copper LU	1,698	0.2
-Riparian areas	10,932	1.4
-Helicopter areas	7,388	1.0
-Cable areas	31,320	4.1
-Low productivity sites	44,551	5.8
-Problem forest types	19,020	2.5
-Existing road, trails, and landings	8,340	1.1
-Recreation areas	696	0.1
-Environmentally sensitive areas	7,836	1.0
-Newly created parks	9,499	1.2
-Special management zone 1	8,108	1.1
Total current reductions	**156,048**	**20.5**
Current timber harvesting land base (THLB)	**339,874**	**44.6**
Future reductions		
-Future roads	15,763	2.2
-Agricultural land reserves	4,841	0.6
Future timber harvesting land base	**319,270**	**41.9**

***Source: TSR II Analysis Report.**

Note: The area of THLB requires some adjustment as the Upper Operability line has been revised somewhat since TSR 2. (Refer to s. 2.2 below). The revision was made based on ecological criteria and classification limits of the ESSFw.

2.0 Ground Sampling Plan

2.1 Sampling Objectives

The purpose of the ground sampling project is to improve TSA polygon volume information through field work and volume adjustment, eliminating or reducing the bias associated with the photo interpretation process. Sampling objectives include:

- installing an adequate number of Phase-2 VRI sample clusters (enhanced timber emphasis including the collection of site series information) to statistically adjust the photo interpreted timber inventory attributes; and,

- ensuring that sufficient sampling is completed to meet the +/- 10% sampling error.

A key additional objective that has been identified through the planning process is that the resulting data will be acquired in a timely manner so that it will be available for the next timber supply analysis and that it will better define:

- the hemlock-balsam height and volume relationship to currently partitioned AAC; and,

- the volume of lodgepole pine, as first and second leading species, currently subject to mountain pine beetle infestation.

2.2 Target Population

The target population for this project includes all vegetated treed polygons within the operable land base of the Bulkley TSA. The base data for the vegetated treed polygons will be the 2007 Phase 1 VRI spatial data. The target population will be restricted to the area of the Timber Harvesting Land Base (THLB), and will not include:

- parks;
- protected areas;
- private land; or
- Indian Reserves.

The upper operability line will be used to further refine the target population. This upper operability line has been defined using ecological criteria relating to soil and site productivity, and the lower limit of the ESSFw (woodland) BEC sub-zone. As this line was not completed for a portion of the TSA namely the Nilkitkwa Landscape Unit (LU), the Stakeholders and Provincial Inventory staff have agreed to use a surrogate line (utilize the ESSF parkland sub-zone) for this area of the TSA. Using the woodland concept to define operability emphasizes inherent productivity rather than harvesting limitations and as such, this definition is not expected to change significantly over the next 10 to 15 years. In the Nilkitkwa LU where this work has not been completed, the Regional Ecologist has recommended using the lower parkland line that has

been mapped on the recent "Big BEC" version for the Bulkley TSA. This will be a liberal estimate of the operable area in this part of the TSA that can later be refined if necessary (note this line is not expected to shift more than 50 to 100m in elevation with further refinements). Spatial data for both the ESSFw and the Parkland line will be used to close the polygon for the upper limit of the THLB. This spatial information was forwarded on May 1, 2008 to Gary Johansen, VRI Audit Coordinator with the Ministry of Forests and Range, for storage as an official record.

2.3 Stratification and Sample Size

2.3.1 Ground Sampling

The Biogeoclimatic Ecological Classification System (BEC) will be used as the first level of stratification for the target population.

The TSA is considered transitional as both the interior and coastal biogeoclimatic sub-zones are represented; however, only 5.5 % of the TSA is found in coastal sub-zones. As tree species are closely correlated to BEC sub-zones, the use of three broad-level BEC zones, as defined by the following grouping of BEC sub-zones in the TSA will yield species/productivity similar stratums:

- ICH, CWH and other
- SBSdk and SBSmc2
- all ESSF areas.

Grouped age classes will be used as the second level of the target population stratification.

For each group of BEC sub-zones identified above, the following age breaks as detailed in Table 2 will be applied. Stands less than 40 years will not be sampled, as TASS/TIPSY (Managed Stand) yield curves will be used. Strata without significant representation by area can be combined with other strata to ensure an adequate sample size.

Table 2. Sample Stratum by BEC Sub-Zone and Age Breaks

BEC Zone	Managed Stand Yield Tables Early	Natural Stand Yield Tables Immature	Natural Stand Yield Tables Mature	Natural Stand Yield Tables Old
All SBS	0 - 40	41 - 100	101 - 250	> 250
All Other	0 - 40	41 - 100	101 - 250	> 250
All ESSF	0 - 40	41 - 100	101 - 250	> 250

The resulting target population for the ground sampling program will be the Vegetated Treed (VT) polygons from the Phase 1 VRI with a leading species age greater than 40 years, excluding private land, parks, and protected areas, and the defined THLB operability line previously mentioned. This stratification results in nine (9) strata.

The objective is to install an adequate number of Phase-2 VRI sample clusters (enhanced timber emphasis including the collection of site series information) to statistically adjust the photo interpreted timber inventory attributes in the operable vegetated treed (VT) areas of the Bulkley TSA.

The objective of the ground samples is to achieve a +/-10 % sampling error (SE). The sample size (120 plots) is based on previous emails and negotiations, using the audit CV of 40 %.

"Based on the audit ground sample CV published in the Bulkley Audit (40%) and the commonly accepted means of estimating sample sizes for VRI to meet sampling error objectives of +/-10% overall. Approximately 100 samples would be required." Jon Vivian then agreed to an additional 20 samples => 120 samples. **source email dated March 7,2008*

The 120 samples have been distributed proportionally among the strata as shown in Table 3 below. A more detailed accounting of the sample selection has been included in the Appendix.

Table 3. Final Ground Sample Summary with Extra Samples Selected

STRATUM1	STRATUM2	Area	Actual # of samples required	Actual # of samples that will be selected
All_Other	Imm	6572.1	2	3
All_Other	Mat	35121.59	9	11
All_Other	Old	21274.084	5	7
			16	**21**
ESSF	Imm	14277.732	4	5
ESSF	Mat	144212.492	36	46
ESSF	Old	49682.527	13	16
			53	**67**
SBS	Imm	47842.751	12	15
SBS	Mat	141635.799	36	45
SBS	Old	12683.602	3	4
			51	**64**
TOTALS		**473302.677**	**120**	**152**

2.3.2 NVAF

The sample size for NVAF destructive sampling that has been recommended by MoFR Forest Analysis and Inventory Branch staff is 130 trees. The MoFR has suggested setting this sample size which is greater than the minimum standard (100 trees) to ensure that there are adequate numbers of live and dead sub-alpine fir to assess the accuracy of the taper and loss factors, specifically for Sub-alpine fir. Within the Bulkley TSA there are known concerns over sub-alpine fir taper and loss factors particularly in terms of live trees differing by BEC zonation (elevation and coast/interior) and for dead trees due to the balsam bark beetle infestation. MoFR Forest Analysis and Inventory Branch staff suggested the collection of both interior and coastal log grades and would support the use of a coastal log scaler to tally coastal log grades. The standing log grade assessment can be verified by having the NVAF sample trees 'bush scaled' at the time of the destructive sample. Their support allows for a variance to project standards (i.e. coastal log scaling and grading) fundable through the Forest Investment Account.

The following information is based on information and direction supplied by Will Smith, MoFR Forest Analysis and Inventory Branch Volume and Decay Sampling Officer.

The number of Enhanced Ground Samples required for NVAF sample tree selection is based:

- on a guideline of one ground sample for every 3 sample trees, and
- stratified by broad age grouping where the allocation by mature age grouping is proportional to the area of each age grouping in the phase II population.

In order to ensure that there are sufficient numbers of trees enhanced to allow for an adequate distribution of sample trees across the land base, the number of NVAF ground samples was slightly increased in 40 in total.

Table 4. Enhanced Ground Sample Plots Required for NVAF Sample Trees

Species	Enhanced NVAF Plots per Stratum			
	Immature	Mature	Old	Target
Total	**4**	**29**	**7**	**40**

The following is a summary of the suggested sample set:

- 20 - Dead - trees (larger than normal to address balsam bark beetle mortality)
- 10 - Immature - trees (as small as possible)
- 45 - Mature Balsam – trees (enhanced sample with precedents set from other projects)
- 20 - Mature Spruce trees (acceptable sample size for a stand alone species stratum)
- 15 - Mature Pine trees (minimum sample size for a stand alone species stratum but acceptable in regards to the reduced presence of pine due to mortality caused by the mountain pine beetle)
- 20 - Mature Other Species trees (includes hemlock, cedar, deciduous)
- 130 – TOTAL NVAF Sample Trees†

†NVAF Sample Numbers are taken from emails sent by Jon Vivian and Will Smith, dated March 7 and March 11, 2008, respectively.

The allocations by species in the mixed species strata will be proportional to the area or volume by leading species in the phase 1 population. Exact allocations and details around the basis for the allocation and sample selection process will be described in the forthcoming NVAF sample plan phase II VPIP addendum.

Table 5. NVAF Preliminary Sample List

Live /Dead	Maturity	Species Group	Sample Size (trees)
Dead	All	Balsam	10
Dead	All	Other Species	10
Live	Immature	All	10
Live	Mature/Old	ESSF Balsam	18
Live	Mature/Old	Other Balsam	27
Live	Mature/Old	Spruce	20
Live	Mature/Old	Pine	15
Live	Mature/Old	Other Species	20
Total			**130**

2.4 Sample Selection

2.4.1 Ground Sampling

All the potential vegetated treed polygons within the Bulkley TSA will be identified from the 2007 Phase 1 VRI based target population. This resultant dataset will be coded by the strata identified in the Stratification section of this document and then the dataset will be ready for sample polygon selection. Queries will be run on the dataset at this point to ensure that the data is complete and stratified properly.

All the potential vegetated treed polygons within the TSA will be identified in the VRI photo-interpretation generated database and assembled into a list using the Probability Proportional to Size within Replacement (PPSWR) sample selection standard. This is a method of randomly sampling within an identified stratum of the inventory, in which every point in the stratum must have an equal chance of being sampled, even though variable sized polygons are treated as the basic sampling units. A polygon that is twice as large as another has twice the chance of being chosen, once chosen it is still eligible to be chosen again.

2.4.2 NVAF

The 130 NVAF sample trees will be selected from enhanced ground samples including: **4 Immature, 29 Mature and 7 Old** strata. This would require an average of (3 to 4) NVAF Sample Trees for each of the 40 enhanced ground samples. The focus will be to complete these **40 enhanced** samples prior to the remaining 80 ground samples, so that the NVAF sampling may proceed in a timely fashion.

2.5 Sampling Approach

This inventory will be achieved in two steps. The first step is to complete a statistically valid sample of the area that will include ~120 samples over the 2008 field season. The second step will be to complete any remaining samples required (based on the results of the preliminary analysis) in the late summer to early autumn of the 2008 field season.

2.6 Sample Type

Timber Emphasis Plot (TEP) ground sampling will be used for this inventory. This sampling will include call grading and net factoring. The sub-sampling of trees for stem analysis to address decay and waste issues (not breakage) will be undertaken during the NVAF (net factor / call grading and destructive sampling) phase.

2.7 Free Use Permit

Destructive sampling (falling, limbing and bucking) of NVAF sample trees will require a **Free Use Permit** (**FUP)** from the MoFR (under the name of Research) in order to cut trees, within the THLB. The MoFR Regional Staff will provide the Proponent with a template for this exercise. This FUP will be applied for once the NVAF polygons and the Enhance Sample Plot locations are identified on a map.

3.0 Predictive Ecosystem Mapping

VRI Phase 1 Polygon Delineation process was based on Ecological Bioterrain analysis and interpretation. This Bulkley TSA approach to combining the VRI and Predictive Ecosystem Mapping (PEM) data gathering is fairly unique in the Province.

The objective of this project is to complete a Vegetation Resources Inventory (VRI) along with basic bioterrain/surficial material information.

The goal is to provide a seamless foundation inventory that will be used to develop statistically unbiased volume estimates; to provide the technical data, for use in the Chief Forester's Timber Supply Analysis of Bulkley TSA, and to support a simultaneous Predictive Ecosystem Mapping (PEM) project.

This project is a result of close collaboration with the MoFR, at the District, Regional, and the Provincial Branch levels. The bioterrain component must be delineated in such a fashion as to be appropriate for ecological interpretations. The overall objective is to gain efficiencies by combining the VRI and Bioterrain photo interpretation, mapping and field programs.

VRI Phase 2 strata within this Sample Plan are based firstly on the Biogeoclimatic (Ecological) sub-zones for the TSA, and then by Age categories and then forest cover Leading Species.

As the intent is to use this bioterrain component in the PEM project it is important to delineate the bioterrain into pure units. Bioterrain polygons are delineated on the basis of slope position and soil moisture regime/drainage topographic and edaphic factors. This will greatly increase the utility of the final VRI maps for Predictive Ecosystem Mapping (PEM).

Attributes required for the bioterrain data are texture information where available from ground checks, genetic/surficial material and modifiers, surface expression, geomorphological processes, and drainage class. The bioterrain digital map and database will form a separate deliverable.

Current PEM related Data obtained from VRI -1 includes ~390 Field Ecological Sample Plots (modified FS882 eco-plots) with soil pits and descriptions of forest floor, soil horizons, textures, and interpretations of soil moisture nutrient regimes. All of this data was collected to within the Provincial PEM standards.

These contract specifications are based on (provincial input from Del Meidinger, Provincial Forest Ecologist and local input from Allen Banner (Regional Ecologist). VRI samples also include another ~ 390 Ground Calibration Point Samples and ~1300 Air (Helicopter) calibration points.

PEM-1 QA Transects from an independent contractor and Knowledge Table data from PEM-1 will be assessed for use in calibrating the PEM model for the Bulkley TSA. It was agreed to by the Bulkley Stakeholders, the Regional Ecologist and the MoFR

Inventory Staff that addition ecological (modified FS 882) data will be collected at each of the VRI-2 (120) Ground Sample Plots. The resultant field data may then be combined and analyzed to calibrate the PEM model.

Project Output Includes PEM Related Ecological Data (Spreadsheets and VPRO XP). This ecological field data may then be combined with the existing eco-plot and transect data gathered by Rick and Aaron Trowbridge from a previous PEM related study. The combination of these eco-plot data will be used to help validate the results of the PEM Model. The intended output of this project is to produce a spatial explicit, statistically sound representation of the ecological site series, a digital map of Biogeoclimatic Ecosystem Classification (BEC) Site-Series for the Bulkley TSA.

The Regional Ecologist has recommended that ecological sampling using the modified FS882 form, with the same modifications as recommended for the Phase 1 sampling, be completed for the 120 random ground samples. The inclusion of these data for each ground sample increases the utility of the data immensely for PEM and site productivity interpretations. The additional ecological field sampler would also be of use to assist with other aspects of the VRI-2 ground sample data collection, so there would be improved efficiencies overall. Any incremental cost for ecological data collection during Phase 2 sampling will be funded through a FIA PEM project for the Bulkley TSA.

Note: All VRI related works must meet the provincially established Standards, and the Quality Assurance is to be upheld by an independent 3rd party as a qualified assessor.

4.0 Project Implementation and Deliverables

4.1 Scheduling

Table 6. Bulkley TSA VRI-2 Project Schedule

Item No.	Item	Due Date
1	Bulkley TSA Stakeholders Meeting	April 16, 2008
2	VPIP DRAFT Amendment	June 2008
3	VRI-2 Ground Plot Sample Plan	July 2008
4	**VPIP Final VRI-2 Ground Plot Sample Plan (VPIP) Approved by MoFR and Stakeholders**	**August 2008**
5	Tender Packages released and advertised	July 2008
6	Tender Bids Opened	August 2008
7	Contracts Developed and Signed	August 2008
8	Contractor Pre-Works	September 2008
9	**Ground Samples Start** -2 or more contracts Focus on Enhanced Plots 1st, so NVAF will not be delayed	**September 2008**
10	**40 Enhanced Ground Sample Plots are complete**	**October 2008**
11	NVAF Sample Tree Selection Plan	October 2008
12	PEM Project Completed	March 2009
13	**NVAF Sampling Begins**	**June 2009**
14	All VRI-2 Field Works Completed	June 2009
15	All VRI-2 QA Field Works Completed	July 2009
16	All NVAF Samples Completed	July 2009
17	Statistical Analysis and Adjustments and Final QA reports	September 2009

4.2 Sample Packages

The crews will be provided with a large scale overview map of the project area. There will be a project list that includes the geographic location (UTMs) for each sample IPC, highlight of the enhanced Ground samples, and a rough estimate of the access type (i.e. helicopter, truck – 4x4, quad).

Sample packages will be prepared for each sample for each ground sampling activity. These will contain the information required for field crews to navigate to and establish the sample. The crews will be provided with overall project information in the bid packages, in their contract and at the pre-work including the data to be collected, both standard and additional for this project and directions on how to record the data.

Sample packages will include:

- an envelope with sample details on the outside, including sample number, base map number, UTM coordinates of the IPC and a line each for crew initials and completion data; and,
- one 11 x 17 orthophoto at 1:10,000 scale map showing the IPC as well as the forest cover polygons, TRIM features including contours, BGC (legacy or big BEC as available) and major roads.

Other items that will help with the locating samples may also be included.

4.3 Standards

The most recent edition of the Vegetation Resource Inventory Standards and Procedures will be followed for the completing of this project. These are located at: http://ilmbwww.gov.bc.ca/risc/pubs/teveg/index.htm

The following is a list of the critical Standards and Procedures for the Bulkley TSA VRI project:

1. VRI Guidelines for Preparing a Project Implementation Plan for Ground Sampling and Net Factor Sampling (May 2007)
2. VRI Sample Selection Procedures for Ground Sampling (December 2002)
3. VRI Ground Sampling Procedures Version 4.8 (March 2008)
4. VRI Ground Sampling Procedures Appendices Version 4.5 (March 2004)
5. VRI Ground Sampling Data Collection Procedures for Inaccessible Sample Version 1.0 (March 2003)
6. VRI Ground Sampling Quality Assurance Procedures Version 3.0 (March 2004)
7. Net Volume Adjustment Factor Sampling Standards and Procedures, Version 4.3 (May 2008)
8. British Columbia Standards, Specifications and Guidelines for Resource Surveys Using Global Positioning System (GPS) Technology, Release 3.0 (March 2001)
9. VRI Procedures and Standards for Data Analysis Attribute Adjustment, and Implementation of Adjustment in a Corporate Database, Version 2.0 (March 2004)
10. Worksafe BC, Occupational Health & Safety Regulations

4.4 Measurements

All ground sampling measurements will conform to the VRI Ground Sampling Procedures Version 4.8 (March 2008) found at: http://ilmbwww.gov.bc.ca/risc/pubs/teveg/vri_gs_2k8/vri_gs_4.8.pdf

These measurements will be recorded using the following VRI field cards:

FS 505I	Header Card (CH) 1
FS 505N	Compass Card (CP) 2
FS 505O	Cluster Layout (CL) 3
FS 505K	Tree Details (TD) 8
FS 505J	Tree Loss Indicators (TL) 9
FS 505L	Small Tree, Stump and Site Tree Data (TS) 10
FS 505M	Auxiliary Plot Card (TA) 11

Note that FS 505L is on the reverse of FS 505J. Note also that all call grade and net factor enhancement data of tree selected for NVAF sampling will be recorded on the FS

505M Auxiliary Plot Card (TA) 11. All ground sampling field data will be digitally captured using Timber Vegetation (TIMVEG) software, and submitted to the MoFR in that format. All NVAF sampling field data will be digitally captured using DVHAND / DVHOST software, and submitted to the MoFR in that format.

4.5 Deliverables

VRI Phase 2 – ground sampling deliverables will include:

- Corrected GPS location information,
- Completed maps showing the TP and IPC location, including the GPS locations,
- Digital data, validated and error corrected, in the most recent version of TIMVEG, with all errors eliminated,
- One hard copy printout of a complete set of all field cards for each sample,
- Microscope counted ages for each tree sampled for age,
- Edited access notes, these must be entered in TIMVEG,
- Sample package for each sample containing all material supplied by the MOFR and properly labeled age cores in plastic straws,
  Data collected for 'X' trees for site index where required, using the 'interim' protocol that is supported by Branch,
- Data collected for VRI and interior log grades on all trees that have net factoring and all grading, according the manual,
- Data collected to facilitate the planned PEM project, using the modified FS882,
- For NVAF enhanced samples ONLY: A short summary report for each sample highlighting general comments/problems/issues with any of the samples as per section 3.4 of the NVAF Standards and Procedures document. This document must be Microsoft Word compatible.

4.5 Roles and Responsibilities

Project Coordinator

This will be a multi-contract project, where each contractor will designate a Project Coordinator:

1 - VRI Administration…Silvicon Services Inc.
1 - VPIP Amendment and Sample Plan…Silvicon Services Inc.

Fieldwork

Up to (10) Contracts will be created to complete this project, some of which may be combined

2 or 3 - Ground Sample Contractors
- 1-North-East
- 1- South-West (Split by the Babine Mountains)

2 or 3 - NVAF Sample Contracts

Quality Assurance

MoFR Regional Inventory staff will cover the costs of the Ground Sample Quality Assurance, (QA), as they will provide staff to do the work; however, any helicopter costs will be required to be paid through FIA funding related to this project.

Quality Assurance (QA) relating to NVAF Sampling, and Ecological Ground sampling will need to be conducted by an external third-party, as this is specialize work that requires the assessor to be certified to MoFR Standards.

External third-party quality assurance will be undertaken by a consultant which is not involved in the undertaking, and who is chosen by PIR through an open bidding process or direct award relationship. Files will be submitted for third-party quality assurance in batches of at least five or as agreed to by the contractor and quality assurance contractor.

Internal quality control of field work and data entry will be undertaken by the contractor in accordance with the appropriate standards.

1 - Ground Sample QA = MoFR
1 - NVAF QA Contractor
1 – PEM QA Contractor
1 - PEM Wrap-up (MoFR + Independent)

Data Compilation, Analysis and Adjustment

1 - Statistical Analysis and Adjustment (MoFR + Independent)

The project coordinators will be an employee of the company that is the winning proponent, and will be subordinate to the Pacific Inland Resources (PIR) contract coordinator for the purposes of this project.

The project coordinator's responsibilities will include, but will not be limited to:

1. Coordinating the project;
2. Monitoring and communicating project progress;
3. Ensuring all contractors are qualified and certified;
4. Ensuring quality assurance is complete; and,
5. Assisting in coordinating technical expertise where required.

4.6 Project Support

The contractors will be responsible for the provision of field supplies such as aluminum stakes, cards, etc., and technical support for GPS, TIMVEG, and DVHAND / DVHOST software.

The company will be responsible for the sample list; sample packages (including compiling field maps, photos, and grids); coordinating the fieldwork in addition to coordinating the data compilation, and data analysis and adjustment of the Phase 1 inventory.

5.0 Sample Lists

A complete sample list, and a comparison of the sample and population, as per the sample selection standards, will be provided upon completion of the VRI photo-interpretation phase.

Following are the Ground Sample List of Polygons and NVAF Enhanced Sample List created from the VRI-1 resultant files. This list includes a comparison of the sample and population, as per the sample selection standards.

The NVAF Tree List will be included upon completion of the enhanced timber plots.

Ground Sample Selection List (List1) for Bulkley TSA

stratum2	vol_cls	sample_number	FC_Poly	actual_area	Polygon_ar	age_proj	SP1	NumberHits	ExpectedHits	SamplingWeight
Imm	1	1	6003028	12.51949575	12.519	62	BL	1	0.005714612	174.9900152
Imm	1	2	6002863	6.913972943	6.914	62	PL	1	0.003156069	316.8498698
Imm	1	3	6026761	17.82526128	23.926	97	AT	1	0.010921623	91.56148123
Mat	0	4	6035426	3.335549537	29.839	102	BL	1	0.009756072	102.5002648
Mat	0	5	6324307	24.70349154	24.703	182	SX	1	0.008076821	123.8110918
Mat	0	6	6027675	19.14582826	19.146	217	BL	1	0.00625992	159.7464431
Mat	0	7	6014350	5.426037909	10.068	212	HW	1	0.003291804	303.7848033
Mat	0	8	6324359	22.0393604	22.039	102	AT	1	0.007205807	138.776959
Mat	1	9	6039829	24.14798862	24.148	122	BL	1	0.007306851	136.8578695
Mat	1	10	6340987	11.30836826	22.014	202	HW	1	0.006661132	150.1246404
Mat	1	11	6324717	19.66203851	19.662	212	SX	1	0.005949449	168.0827908
Mat	1	12	6027040	51.49850636	56.921	142	ACT	1	0.017223507	58.06018575
Mat	1	13	6013606	15.27614224	15.548	242	HW	1	0.00470461	212.5574886
Mat	1	14	6026265	42.39027328	65.635	141	HW	1	0.019860243	50.35185242
Old	0	15	6010612	58.5444784	59.898	272	BL	1	0.02194573	45.56695132
Old	0	16	6028433	10.16368921	10.164	252	SX	1	0.003723937	268.5329841
Old	0	17	6333967	21.4097847	34.318	252	BL	1	0.012573601	79.53171076
Old	0	18	6033180	14.98930884	24.047	272	BA	1	0.008810461	113.5014451
Old	1	19	6011024	34.86544051	49.193	272	BL	1	0.014249744	70.17669858
Old	1	20	6033682	26.35441431	26.354	312	BL	1	0.007633967	130.9934861
Old	1	21	5989680	16.09967603	16.246	252	HW	1	0.004705981	212.4955271
Imm	1	22	6011657	1.620241091	1.62	72	BL	1	0.000567317	1762.682963
Imm	1	23	6011898	6.021851762	13.16	62	BL	1	0.004608575	216.9868085
Imm	1	24	6027688	9.562814281	9.563	62	PL	1	0.003348921	298.6036181
Imm	1	25	6009492	23.67676279	23.677	50	AT	1	0.008291583	120.604232
Imm	1	26	6043697	22.67093983	22.671	92	BL	1	0.007939286	125.9559084
Mat	0	27	6021379	18.1810379	18.209	152	BL	1	0.005672708	176.2826574
Mat	0	28	6339500	12.41698168	13.921	112	BL	1	0.004336853	230.5819201
Mat	0	29	5984201	16.13661188	16.213	232	BL	1	0.005050888	197.9850064
Mat	0	30	6022245	8.794808451	8.795	132	BL	1	0.002739934	364.9722466

Mat	0	31	6339092	5.129259049	42.065	182	BL	1	0.013104643	76.30882941
Mat	0	32	5993458	16.88634834	16.886	232	BL	1	0.005260549	190.0942147
Mat	0	33	6011562	18.48200831	18.482	172	BL	1	0.005757756	173.6787636
Mat	0	34	6019506	1.197112491	1.197	162	BL	1	0.000372905	2681.646541
Mat	0	35	6332958	15.23270973	35.115	192	BL	1	0.010939488	91.41195811
Mat	0	36	6334631	7.275501773	64.729	211	BL	1	0.020165232	49.59030588
Mat	0	37	6015369	10.77524288	30.185	192	BL	1	0.009403629	106.3419218
Mat	1	38	6013648	12.08341797	15.923	182	BL	1	0.005173815	193.2809735
Mat	1	39	6332744	26.30791878	26.308	152	BL	1	0.008548183	116.983919
Mat	1	40	6040124	3.445927797	29.406	152	BL	1	0.009554808	104.6593532
Mat	1	41	5986534	0.967184999	20.76	202	BL	1	0.006745488	148.2472515
Mat	1	42	6044137	58.42196737	58.422	152	BL	1	0.018982894	52.6790069
Mat	1	43	5985788	4.114244497	13.11	162	BL	1	0.004259795	234.7530848
Mat	1	44	6327513	37.4070346	37.407	202	BL	1	0.01215455	82.27371725
Mat	1	45	6340955	2.595821391	12.14	212	BL	1	0.003944616	253.510127
Mat	1	46	6008446	17.69342356	17.693	192	BL	1	0.005748936	173.9452293
Mat	1	47	6006051	2.11020964	2.11	152	BL	1	0.000685596	1458.584332
Mat	1	48	6339394	6.295096186	8.68	212	BL	1	0.002820368	354.5637029
Mat	1	49	6331904	33.43818926	33.438	170	BL	1	0.010864914	92.03938457
Mat	1	50	6341063	14.41471074	14.415	222	BL	1	0.004683825	213.5007243
Mat	1	51	6015570	11.4577384	15.27	222	BL	1	0.004961638	201.5463616
Mat	1	52	6331865	21.82076458	28.794	232	BL	1	0.009355952	106.8838279
Mat	1	53	6326999	30.62789064	30.628	172	BL	1	0.009951869	100.4836405
Mat	1	54	6022619	32.88565627	32.886	222	BL	1	0.010685554	93.5842894
Mat	2	55	6031537	21.69165106	21.692	202	BL	1	0.006900487	144.9173069
Mat	2	56	6030957	15.27175446	23.365	162	BL	1	0.007432689	134.5408184
Mat	2	57	6013185	44.6426903	44.643	232	BL	1	0.014201477	70.41521005
Mat	2	58	6337208	18.03278387	18.033	232	BL	1	0.005736515	174.3218667
Mat	2	59	6002490	32.07964916	32.08	201	BL	1	0.010205035	97.99084234
Mat	2	60	6015363	22.7600702	25.211	222	BL	1	0.008019923	124.6894698
Mat	2	61	6333507	15.95860637	15.959	242	BL	1	0.005076751	196.9763909
Mat	2	62	6332187	41.78162367	41.877	232	BL	1	0.013321579	75.06617528
Mat	2	63	6337898	0.724371933	0.724	172	BL	1	0.000230313	4341.914672

Mat	2	64	6326987	7.352923989	7.353	202	BL	1	0.002339078	427.5188661
Mat	2	65	6012221	0.71936957	5.579	212	BL	1	0.001774747	563.4605166
Mat	2	66	6334329	56.20695199	79.572	211	BL	1	0.025312814	39.50568318
Mat	2	67	6013193	44.87245295	44.872	222	SX	1	0.014274325	70.0558527
Mat	2	68	6044595	8.975036735	8.975	179	BL	1	0.002855056	350.2558465
Mat	2	69	6013370	30.18486282	30.185	232	BL	1	0.009602213	104.142661
Mat	2	70	5988082	36.52098773	36.521	221	BL	1	0.011617771	86.07503141
Mat	2	71	6339055	5.154616645	13.773	212	BL	1	0.004381358	228.2397606
Mat	2	72	6000193	32.46361496	32.464	152	PL	1	0.01032719	96.83175894
Old	0	73	6030183	24.39760481	24.398	252	BL	1	0.007471172	133.8478037
Old	0	74	6015625	3.489153839	13.372	252	BL	1	0.004094783	244.2131853
Old	0	75	5993897	4.221462576	16.126	272	BL	1	0.004938115	202.5064315
Old	0	76	6003227	21.13642932	24.488	282	BL	1	0.007498732	133.3558769
Old	0	77	6325369	0.737454206	21.335	267	BL	1	0.006533218	153.0639191
Old	0	78	6032963	31.37203174	31.372	252	BL	1	0.009606755	104.0934182
Old	0	79	6330521	34.74013661	34.74	252	BL	1	0.010638107	94.00169011
Old	1	80	6002021	15.7963398	15.796	292	BL	1	0.004711146	212.2625665
Old	1	81	6333055	2.879709253	7.085	252	BL	1	0.002113096	473.2391673
Old	1	82	6006895	80.83888859	80.839	292	BL	1	0.024110177	41.47626146
Old	1	83	6035574	2.934304833	11.418	252	BL	1	0.003405411	293.6503328
Old	1	84	6016536	10.22819443	10.228	252	BL	1	0.003050494	327.8157509
Old	1	85	5994639	22.94356811	26.192	252	BL	1	0.007811746	128.0123511
Old	1	86	6040108	58.20518862	58.205	262	BL	1	0.017359602	57.60500816
Old	1	87	6003617	28.32586747	29.801	312	BL	1	0.008888128	112.5096305
Imm	0	88	6032430	77.37005249	77.37	47	BL	1	0.025673998	38.94991414
Imm	0	89	6024211	108.7369467	108.737	48	PL	1	0.036082635	27.71416222
Imm	0	90	6012979	92.7042063	92.704	52	PL	1	0.03076234	32.5072797
Imm	0	91	5996316	0.106946127	39.719	52	AT	1	0.013180115	75.87187132
Imm	0	92	6325587	10.13002484	10.13	48	PL	1	0.003361479	297.4881399
Imm	0	93	6030441	12.47761002	12.478	82	BL	1	0.004140625	241.5094452
Imm	0	94	6030467	14.84032425	14.84	92	PL	1	0.004924417	203.0697343
Imm	1	95	5996024	13.76512867	13.765	82	PL	1	0.004631584	215.9088429
Imm	1	96	6027106	14.92238682	20.73	87	AT	1	0.006975136	143.366388

Imm	1	97	5997079	29.62157801	54.671	92	SX	1	0.018395448	54.36127421	
Imm	1	98	6007560	5.130209302	6.385	82	AT	1	0.002148396	465.4636213	
Imm	1	99	5996696	24.62540909	40.394	82	SX	1	0.013591588	73.57491762	
Imm	1	100	5997025	4.257778569	4.258	42	PL	1	0.001432712	697.9768018	
Imm	1	101	5996540	1.577909898	29.498	82	AT	1	0.009925352	100.7520924	dropped s/b Private
Imm	1	102	6005778	8.394167679	30.022	82	AT	1	0.010101665	98.99357878	replace # 101
Imm	1	103	5994594	12.16231304	12.162	97	SX	1	0.004092214	244.3664876	
Mat	0	104	5995562	13.30920703	13.309	162	BL	1	0.00435697	229.5173259	dropped Logged
Mat	0	105	5999256	13.98824658	207.575	172	SB	1	0.067953862	14.71586699	
Mat	0	106	6329454	19.38109379	19.381	162	BL	1	0.006344761	157.6103447	dropped Logged
Mat	0	107	6017126	13.15267764	13.153	162	SB	1	0.0043059	232.239496	
Mat	0	108	6023486	6.717952365	6.718	162	SB	1	0.002199273	454.6957563	
Mat	0	109	6332908	10.19733607	16.23	122	BL	1	0.005313218	188.2098639	
Mat	0	110	6044317	24.8189755	24.819	132	PL	1	0.008125	123.0769205	
Mat	0	111	5986358	4.581337835	4.581	142	SX	1	0.001499683	666.8077038	
Mat	0	112	6335151	20.37134174	20.371	132	BL	1	0.006668858	149.9507187	
Mat	0	113	6019860	23.87303287	23.873	142	SX	1	0.007815308	127.9540104	replaced #104
Mat	0	114	6327027	13.90352763	13.904	172	SX	1	0.004551755	219.6954899	replaced #106
Mat	1	115	6029534	23.70671133	23.707	112	BL	1	0.00733685	136.2982832	
Mat	1	116	5986995	4.446555907	4.447	122	ACT	1	0.001376259	726.6074657	
Mat	1	117	6020715	24.69677329	24.697	142	PL	1	0.007643235	130.834652	
Mat	1	118	6334895	11.27175779	11.272	132	BL	1	0.003488462	286.6592796	
Mat	1	119	6329085	57.99725091	58.326	162	BL	1	0.018050748	55.39936563	
Mat	1	120	6329873	0.883413717	0.883	202	BL	1	0.000273271	3659.369649	
Mat	1	121	5987069	4.771880094	4.772	112	SX	1	0.00147684	677.1214166	
Mat	1	122	5988105	29.28781061	29.288	202	BL	1	0.009064059	110.3258468	
Mat	1	123	6013237	41.66656735	41.667	132	PL	1	0.012895116	77.54874121	
Mat	1	124	5991210	24.5462423	24.546	112	SX	1	0.007596504	131.6395095	
Mat	1	125	6040030	11.04490134	11.045	232	BL	1	0.00341821	292.5507832	
Mat	1	126	6032873	16.1100523	16.11	182	PL	1	0.004985728	200.5725264	
Mat	1	127	6340125	5.215634661	9.202	232	BL	1	0.002847838	351.1435992	
Mat	1	128	6336457	14.7406098	14.741	112	PL	1	0.004562049	219.1997422	
Mat	1	129	6040061	3.035500807	34.751	102	BL	1	0.01075475	92.9821703	

Mat	2	130	6019248	14.04348807	14.043	122	PL	1	0.004479325	223.2479227
Mat	2	131	6328343	1.37863528	16.979	137	SX	1	0.005415827	184.6440061
Mat	2	132	6011869	50.93152532	50.932	132	PL	1	0.016245886	61.5540442
Mat	2	133	6023203	7.139311315	10.072	172	PL	1	0.003212687	311.2659431
Mat	2	134	6017379	13.68097201	19.734	187	BL	1	0.006294595	158.8664528
Mat	2	135	6019692	37.62273475	37.623	142	PL	1	0.012000687	83.32856441
Mat	2	136	6327755	31.23510541	31.235	102	PL	1	0.009963093	100.3704363
Mat	2	137	6335562	10.44371312	20.721	212	SX	1	0.006609421	151.299193
Mat	2	138	6327196	22.74367481	22.744	131	SX	1	0.007254701	137.841654
Mat	2	139	6016967	27.87852058	27.879	192	SX	1	0.008892623	112.452763
Mat	2	140	6002731	17.94383596	29.648	192	BL	1	0.009456884	105.7430713
Mat	2	141	5992128	19.43303513	27.941	142	SX	1	0.008912399	112.2032346
Mat	2	142	6017110	50.01002414	50.01	172	BL	1	0.015951794	62.6888738
Mat	2	143	6039400	12.9924796	12.992	152	PL	1	0.004144085	241.3077724
Mat	2	144	5998746	25.50326868	25.503	212	PL	1	0.008134745	122.929482
Mat	2	145	6017486	18.07353742	18.074	242	BL	1	0.005765101	173.4574847
Mat	2	146	6032509	17.17738998	17.177	202	SX	1	0.005478984	182.5156069
Mat	2	147	6038916	18.42448384	18.424	162	BL	1	0.005876742	170.1623197
Mat	2	148	5999987	10.63460559	10.888	152	BL	1	0.003472968	287.9381502
Old	1	149	5988679	14.86073175	14.861	252	BL	1	0.004686681	213.3706009
Old	1	150	6326334	11.92344554	14.303	267	BL	1	0.004510706	221.6947843
Old	1	151	6325650	15.51606563	15.516	267	BL	1	0.004893247	204.3632702
Old	1	152	6335261	38.47641814	38.477	252	ACT	1	0.012134408	82.41028407

Stratum - BEC Zone

stratum	Zone	samples	% samples within stratum	# of polygons in class / stratum	Total area by class and stratum for population	% of area of class and stratum for population	total # of samples in stratum	Total area of stratum
All_Other-Imm	CWH			25	129.1	2		6572.1
All_Other-Imm	ICH	3	100	615	6443.0	98	3	6572.1
All_Other-Mat	CWH	1	9.1	362	3470.0	9.9	11	35121.6
All_Other-Mat	ICH	10	90.9	2585	29094.5	82.8	11	35121.6
All_Other-Mat	MH			183	2557.0	7.3		35121.6
All_Other-Old	CWH	1	14.3	604	6736.7	31.7	7	21274.1
All_Other-Old	ICH	2	28.6	510	6250.1	29.4	7	21274.1
All_Other-Old	MH	4	57.1	497	8287.3	39	7	21274.1
ESSF-Imm	ESSF	5	100	1328	14277.7	100	5	14277.7
ESSF-Mat	ESSF	46	100	12357	144212.5	100	46	144212.5
ESSF-Old	ESSF	15	100	3799	49682.5	100	15	49682.5
SBS-Imm	SBS	16	100	4144	47842.8	100	16	47842.8
SBS-Mat	SBS	45	100	12413	141635.8	100	45	141635.8
SBS-Old	SBS	4	100	921	12683.6	100	4	12683.6

Stratum – Age Class and BEC Zone

stratum	Age class	samples	% samples within stratum	# of polygons in class / stratum	Total area by class and stratum for population	% of area of class and stratum for population	total # of samples in stratum	Total area of stratum
All_Other-Imm	3			123	1180.7	18		6572.1
All_Other-Imm	4	2	66.7	277	2969.4	45.2	3	6572.1
All_Other-Imm	5	1	33.3	240	2422.0	36.9	3	6572.1
All_Other-Mat	6	2	18.2	231	2542.5	7.2	11	35121.6
All_Other-Mat	7	1	9.1	422	4225.1	12	11	35121.6
All_Other-Mat	8	8	72.7	2477	28354.0	80.7	11	35121.6
All_Other-Old	9	7	100	1611	21274.1	100	7	21274.1
ESSF-Imm	3	1	20	236	2999.6	21	5	14277.7
ESSF-Imm	4	3	60	368	3296.4	23.1	5	14277.7
ESSF-Imm	5	1	20	724	7981.7	55.9	5	14277.7
ESSF-Mat	6	1	2.2	607	6522.8	4.5	46	144212.5
ESSF-Mat	7	1	2.2	1039	10250.6	7.1	46	144212.5
ESSF-Mat	8	44	95.7	10711	127439.1	88.4	46	144212.5
ESSF-Old	9	15	100	3799	49682.5	100	15	49682.5
SBS-Imm	3	6	37.5	964	10087.1	21.1	16	47842.8
SBS-Imm	4			959	11210.7	23.4		47842.8
SBS-Imm	5	10	62.5	2221	26545.0	55.5	16	47842.8
SBS-Mat	6	6	13.3	1921	21485.1	15.2	45	141635.8
SBS-Mat	7	10	22.2	2308	26526.0	18.7	45	141635.8
SBS-Mat	8	29	64.4	8184	93624.6	66.1	45	141635.8
SBS-Old	9	4	100	921	12683.6	100	4	12683.6

Stratum – Leading Species and BEC Zone

stratum	sp1	samples	% samples within stratum	# of polygons in class / stratum	Total area by class and stratum for population	% of area of class and stratum for population	total # of samples in stratum	Total area of stratum
All_Other-Imm	ACT			28	333.5	5.1		6572.1
All_Other-Imm	AT	1	33.3	235	2395.0	36.4	3	6572.1
All_Other-Imm	BA			2	16.6	0.3		6572.1
All_Other-Imm	BL	1	33.3	129	1341.7	20.4	3	6572.1
All_Other-Imm	EP			24	243.0	3.7		6572.1
All_Other-Imm	HW			49	405.7	6.2		6572.1
All_Other-Imm	PA			1	6.6	0.1		6572.1
All_Other-Imm	PL	1	33.3	82	1039.5	15.8	3	6572.1
All_Other-Imm	SB			5	28.0	0.4		6572.1
All_Other-Imm	SX			85	762.6	11.6		6572.1
All_Other-Mat	ACT	1	9.1	248	2998.4	8.5	11	35121.6
All_Other-Mat	AT	1	9.1	228	2318.0	6.6	11	35121.6
All_Other-Mat	BA			69	579.2	1.6		35121.6
All_Other-Mat	BL	3	27.3	1104	13005.3	37	11	35121.6
All_Other-Mat	EP			17	327.6	0.9		35121.6
All_Other-Mat	HM			8	89.2	0.3		35121.6
All_Other-Mat	HW	4	36.4	646	7654.5	21.8	11	35121.6
All_Other-Mat	PL			182	1841.1	5.2		35121.6
All_Other-Mat	SB			15	78.8	0.2		35121.6

All_Other-Mat	SX	2	18.2	613	6229.5	17.7	11	35121.6
All_Other-Old	BA	1	14.3	138	1995.2	9.4	7	21274.1
All_Other-Old	BL	4	57.1	690	10002.5	47	7	21274.1
All_Other-Old	HM			59	666.4	3.1		21274.1
All_Other-Old	HW	1	14.3	666	8004.1	37.6	7	21274.1
All_Other-Old	PA			1	3.6	0		21274.1
All_Other-Old	PL			2	36.4	0.2		21274.1
All_Other-Old	SX	1	14.3	55	565.9	2.7	7	21274.1
ESSF-Imm	ACT			5	15.7	0.1		14277.7
ESSF-Imm	AT	1	20	42	299.0	2.1	5	14277.7
ESSF-Imm	BL	3	60	910	9656.3	67.6	5	14277.7
ESSF-Imm	EP			3	35.7	0.2		14277.7
ESSF-Imm	HM			1	2.7	0		14277.7
ESSF-Imm	HW			7	85.7	0.6		14277.7
ESSF-Imm	PA			2	15.3	0.1		14277.7
ESSF-Imm	PL	1	20	262	3062.1	21.4	5	14277.7
ESSF-Imm	SB			5	20.3	0.1		14277.7
ESSF-Imm	SE			2	9.3	0.1		14277.7
ESSF-Imm	SX			89	1075.7	7.5		14277.7
ESSF-Mat	ACT			4	14.5	0		144212.5
ESSF-Mat	AT			16	69.1	0		144212.5
ESSF-Mat	BA			27	257.8	0.2		144212.5
ESSF-Mat	BL	44	95.7	10727	126991.6	88.1	46	144212.5
ESSF-Mat	H			1	28.4	0		144212.5
ESSF-Mat	HM			29	287.2	0.2		144212.5
ESSF-Mat	HW			156	1686.2	1.2		144212.5
ESSF-Mat	PA			15	168.6	0.1		144212.5
ESSF-Mat	PL	1	2.2	572	6639.0	4.6	46	144212.5
ESSF-Mat	SB			90	364.3	0.3		144212.5
ESSF-Mat	SE			19	193.2	0.1		144212.5
ESSF-Mat	SX	1	2.2	701	7512.6	5.2	46	144212.5
ESSF-Old	BA			36	320.8	0.6		49682.5
ESSF-Old	BL	15	100	3470	45832.2	92.3	15	49682.5

ESSF-Old	H			5	87.0	0.2		49682.5
ESSF-Old	HM			25	264.8	0.5		49682.5
ESSF-Old	HW			172	2265.9	4.6		49682.5
ESSF-Old	PA			2	6.8	0		49682.5
ESSF-Old	PL			10	161.5	0.3		49682.5
ESSF-Old	SB			7	139.2	0.3		49682.5
ESSF-Old	SE			2	3.7	0		49682.5
ESSF-Old	SX			70	600.6	1.2		49682.5
SBS-Imm	ACT			153	1697.2	3.5		47842.8
SBS-Imm	AT	5	31.3	1287	18140.3	37.9	16	47842.8
SBS-Imm	BA			1	10.2	0		47842.8
SBS-Imm	BL	2	12.5	619	5658.8	11.8	16	47842.8
SBS-Imm	EP			58	617.7	1.3		47842.8
SBS-Imm	HW			4	26.9	0.1		47842.8
SBS-Imm	PL	6	37.5	1093	12511.4	26.2	16	47842.8
SBS-Imm	SB			132	794.3	1.7		47842.8
SBS-Imm	SE			3	48.1	0.1		47842.8
SBS-Imm	SX	3	18.8	794	8337.8	17.4	16	47842.8
SBS-Mat	ACT	1	2.2	225	3034.3	2.1	45	141635.8
SBS-Mat	AT			314	4672.2	3.3		141635.8
SBS-Mat	BA			6	54.6	0		141635.8
SBS-Mat	BL	18	40	4035	45387.0	32	45	141635.8
SBS-Mat	EP			15	224.7	0.2		141635.8
SBS-Mat	HW			27	309.0	0.2		141635.8
SBS-Mat	PA			1	2.1	0		141635.8
SBS-Mat	PL	12	26.7	2746	34968.8	24.7	45	141635.8
SBS-Mat	SB	3	6.7	919	5872.6	4.1	45	141635.8
SBS-Mat	SE			10	48.9	0		141635.8
SBS-Mat	SX	11	24.4	4115	47061.7	33.2	45	141635.8
SBS-Old	ACT	1	25	2	43.4	0.3	4	12683.6
SBS-Old	BL	3	75	701	9853.7	77.7	4	12683.6
SBS-Old	HW			24	360.7	2.8		12683.6
SBS-Old	PL			2	25.5	0.2		12683.6

SBS-Old	SB	4	39.8	0.3	12683.6
SBS-Old	SE	6	55.2	0.4	12683.6
SBS-Old	SX	182	2305.4	18.2	12683.6

Ground Sample Stratum by Area and Percentage with Targeted Samples

	Stratum	Volume class	% of sample area	# of polygons	Area by stratum & volume class	Req'd # of samples	# of samples needed
All Other							
	All_Other-Imm	1	1.389	640	6572.10	1.7	2
			1.389	**640**	**6572.1**		**2**
	All_Other-Mat	0	3.231	1567	15292.53	3.9	4
	All_Other-Mat	1	4.190	1563	19829.06	5	5
			7.421	**3130**	**35121.59**		**9**
	All_Other-Old	0	2.307	805	10917.48	2.8	3
	All_Other-Old	1	2.188	806	10356.61	2.6	2
			4.495	**1611**	**21274.084**		**5**
						All Other	**16**
ESSF							
	ESSF-Imm	1	3.017	1328	14277.73	3.6	4
			3.017	**1328**	**14277.732**		**4**
	ESSF-Mat	0	7.460	4121	35309.24	9	9
	ESSF-Mat	1	11.054	4117	52319.42	13.3	13
	ESSF-Mat	2	11.955	4119	56583.83	14.3	15
			30.469	**12357**	**144212.492**		**37**
	ESSF-Old	0	4.830	1900	22859.33	5.8	6
	ESSF-Old	1	5.667	1899	26823.20	6.8	6
			10.497	**3799**	**49682.527**		**12**
						ESSF	**53**

SBS							
	SBS-Imm	0	4.457	2072	21094.884	5.3	5
	SBS-Imm	1	5.651	2072	26747.867	6.8	7
			10.108	**4144**	**47842.751**		**12**
	SBS-Mat	0	7.099	4138	33601.11	8.5	9
	SBS-Mat	1	10.240	4142	48468.35	12.3	12
	SBS-Mat	2	12.585	4133	59566.34	15.1	15
			29.925	**12413**	**141635.799**		**36**
	SBS-Old	1	2.680	921	12683.60	3.2	3
			2.680	**921**	**12683.602**		**3**
						SBS	**51**
Totals			**100**	**40343**	**473302.68**		**120**

Stratum – Stratum 2 and BEC Zone

stratum	stratum2	samples	% samples within stratum	# of polygons in class / stratum	Total area by class and stratum for population	% of area of class and stratum for population	total # of samples in stratum	Total area of stratum
All_Other-Imm	Imm	3	100	640	6572.1	100	3	6572.1
All_Other-Mat	Mat	11	100	3130	35121.6	100	11	35121.6
All_Other-Old	Old	7	100	1611	21274.1	100	7	21274.1
ESSF-Imm	Imm	5	100	1328	14277.7	100	5	14277.7
ESSF-Mat	Mat	46	100	12357	144212.5	100	46	144212.5
ESSF-Old	Old	15	100	3799	49682.5	100	15	49682.5
SBS-Imm	Imm	16	100	4144	47842.8	100	16	47842.8
SBS-Mat	Mat	45	100	12413	141635.8	100	45	141635.8
SBS-Old	Old	4	100	921	12683.6	100	4	12683.6

NVAF Enhance Sample List

nvaf_select	stratum1	stratum2	vol_cls	sample_number	FC_Poly	actual_area	Polygon_area
No	All_Other	Imm	1	1	6003028	12.51949575	12.519
No	All_Other	Imm	1	2	6002863	6.913972943	6.914
No	All_Other	Mat	0	4	6035426	3.335549537	29.839
Yes	All_Other	Mat	0	5	6324307	24.70349154	24.703
No	All_Other	Mat	0	6	6027675	19.14582826	19.146
Yes	All_Other	Mat	0	7	6014350	5.426037909	10.068
Yes	All_Other	Mat	1	9	6039829	24.14798862	24.148
No	All_Other	Mat	1	10	6340987	11.30836826	22.014
Yes	All_Other	Mat	1	11	6324717	19.66203851	19.662
Yes	All_Other	Mat	1	12	6027040	51.49850636	56.921
No	All_Other	Mat	1	13	6013606	15.27614224	15.548
No	All_Other	Old	0	15	6010612	58.5444784	59.898
No	All_Other	Old	0	16	6028433	10.16368921	10.164
No	All_Other	Old	0	17	6333967	21.4097847	34.318
Yes	All_Other	Old	1	19	6011024	34.86544051	49.193
No	All_Other	Old	1	20	6033682	26.35441431	26.354
Yes	ESSF	Imm	1	22	6011657	1.620241091	1.62
No	ESSF	Imm	1	23	6011898	6.021851762	13.16
No	ESSF	Imm	1	24	6027688	9.562814281	9.563
No	ESSF	Imm	1	25	6009492	23.67676279	23.677
No	ESSF	Mat	0	27	6021379	18.1810379	18.209
Yes	ESSF	Mat	0	28	6339500	12.41698168	13.921
No	ESSF	Mat	0	29	5984201	16.13661188	16.213
No	ESSF	Mat	0	30	6022245	8.794808451	8.795
Yes	ESSF	Mat	0	31	6339092	5.129259049	42.065
No	ESSF	Mat	0	32	5993458	16.88634834	16.886
No	ESSF	Mat	0	33	6011562	18.48200831	18.482
Yes	ESSF	Mat	0	34	6019506	1.197112491	1.197
No	ESSF	Mat	0	35	6332958	15.23270973	35.115
No	ESSF	Mat	1	38	6013648	12.08341797	15.923

No	ESSF	Mat	1	39	6332744	26.30791878	26.308
Yes	ESSF	Mat	1	40	6040124	3.445927797	29.406
No	ESSF	Mat	1	41	5986534	0.967184999	20.76
No	ESSF	Mat	1	42	6044137	58.42196737	58.422
No	ESSF	Mat	1	43	5985788	4.114244497	13.11
Yes	ESSF	Mat	1	44	6327513	37.4070346	37.407
Yes	ESSF	Mat	1	45	6340955	2.595821391	12.14
No	ESSF	Mat	1	46	6008446	17.69342356	17.693
Yes	ESSF	Mat	1	47	6006051	2.11020964	2.11
No	ESSF	Mat	1	48	6339394	6.295096186	8.68
No	ESSF	Mat	1	49	6331904	33.43818926	33.438
No	ESSF	Mat	1	50	6341063	14.41471074	14.415
No	ESSF	Mat	2	55	6031537	21.69165106	21.692
Yes	ESSF	Mat	2	56	6030957	15.27175446	23.365
Yes	ESSF	Mat	2	57	6013185	44.6426903	44.643
No	ESSF	Mat	2	58	6337208	18.03278387	18.033
No	ESSF	Mat	2	59	6002490	32.07964916	32.08
Yes	ESSF	Mat	2	60	6015363	22.7600702	25.211
No	ESSF	Mat	2	61	6333507	15.95860637	15.959
Yes	ESSF	Mat	2	62	6332187	41.78162367	41.877
Yes	ESSF	Mat	2	63	6337898	0.724371933	0.724
No	ESSF	Mat	2	64	6326987	7.352923989	7.353
Yes	ESSF	Mat	2	65	6012221	0.71936957	5.579
No	ESSF	Mat	2	66	6334329	56.20695199	79.572
No	ESSF	Mat	2	67	6013193	44.87245295	44.872
No	ESSF	Mat	2	68	6044595	8.975036735	8.975
Yes	ESSF	Old	0	73	6030183	24.39760481	24.398
No	ESSF	Old	0	74	6015625	3.489153839	13.372
No	ESSF	Old	0	75	5993897	4.221462576	16.126
No	ESSF	Old	0	76	6003227	21.13642932	24.488
No	ESSF	Old	0	77	6325369	0.737454206	21.335
Yes	ESSF	Old	0	78	6032963	31.37203174	31.372
No	ESSF	Old	1	80	6002021	15.7963398	15.796

No	ESSF	Old	1	81	6333055	2.879709253	7.085	
Yes	ESSF	Old	1	82	6006895	80.83888859	80.839	
Yes	ESSF	Old	1	83	6035574	2.934304833	11.418	
No	ESSF	Old	1	84	6016536	10.22819443	10.228	
No	ESSF	Old	1	85	5994639	22.94356811	26.192	
Yes	ESSF	Old	1	86	6040108	58.20518862	58.205	
No	SBS	Imm	0	88	6032430	77.37005249	77.37	
No	SBS	Imm	0	89	6024211	108.7369467	108.737	
Yes	SBS	Imm	0	90	6012979	92.7042063	92.704	
No	SBS	Imm	0	91	5996316	0.106946127	39.719	
No	SBS	Imm	0	92	6325587	10.13002484	10.13	
No	SBS	Imm	1	95	5996024	13.76512867	13.765	
No	SBS	Imm	1	96	6027106	14.92238682	20.73	
Yes	SBS	Imm	1	97	5997079	29.62157801	54.671	
No	SBS	Imm	1	98	6007560	5.130209302	6.385	
No	SBS	Imm	1	99	5996696	24.62540909	40.394	
No	SBS	Imm	1	100	5997025	4.257778569	4.258	
Yes	SBS	Imm	1	102	6005778	8.394168	30.022	replace 101 with 102 - 101 s/b private
No	SBS	Mat	0	104	5995562	13.30920703	13.309	
No	SBS	Mat	0	105	5999256	13.98824658	207.575	
No	SBS	Mat	0	106	6329454	19.38109379	19.381	
No	SBS	Mat	0	107	6017126	13.15267764	13.153	
Yes	SBS	Mat	0	108	6023486	6.717952365	6.718	
No	SBS	Mat	0	109	6332908	10.19733607	16.23	
No	SBS	Mat	0	110	6044317	24.8189755	24.819	
No	SBS	Mat	0	111	5986358	4.581337835	4.581	
No	SBS	Mat	0	112	6335151	20.37134174	20.371	
No	SBS	Mat	1	115	6029534	23.70671133	23.707	
No	SBS	Mat	1	116	5986995	4.446555907	4.447	
No	SBS	Mat	1	117	6020715	24.69677329	24.697	
Yes	SBS	Mat	1	118	6334895	11.27175779	11.272	
No	SBS	Mat	1	119	6329085	57.99725091	58.326	
No	SBS	Mat	1	120	6329873	0.883413717	0.883	

Yes	SBS	Mat	1	121	5987069	4.771880094	4.772
Yes	SBS	Mat	1	122	5988105	29.28781061	29.288
Yes	SBS	Mat	1	123	6013237	41.66656735	41.667
No	SBS	Mat	1	124	5991210	24.5462423	24.546
No	SBS	Mat	1	125	6040030	11.04490134	11.045
Yes	SBS	Mat	1	126	6032873	16.1100523	16.11
No	SBS	Mat	2	130	6019248	14.04348807	14.043
Yes	SBS	Mat	2	131	6328343	1.37863528	16.979
No	SBS	Mat	2	132	6011869	50.93152532	50.932
No	SBS	Mat	2	133	6023203	7.139311315	10.072
Yes	SBS	Mat	2	134	6017379	13.68097201	19.734
Yes	SBS	Mat	2	135	6019692	37.62273475	37.623
Yes	SBS	Mat	2	136	6327755	31.23510541	31.235
No	SBS	Mat	2	137	6335562	10.44371312	20.721
No	SBS	Mat	2	138	6327196	22.74367481	22.744
No	SBS	Mat	2	139	6016967	27.87852058	27.879
Yes	SBS	Mat	2	140	6002731	17.94383596	29.648
No	SBS	Mat	2	141	5992128	19.43303513	27.941
No	SBS	Mat	2	142	6017110	50.01002414	50.01
No	SBS	Mat	2	143	6039400	12.9924796	12.992
No	SBS	Mat	2	144	5998746	25.50326868	25.503
No	SBS	Old	1	149	5988679	14.86073175	14.861
No	SBS	Old	1	150	6326334	11.92344554	14.303
Yes	SBS	Old	1	151	6325650	15.51606563	15.516

NVAF Enhanced Sample Stats

STRATUM1	STRATUM2	# of polygons	Polygon Area	% of land mass	# of samples (120)	actual # of samples	# of samples (150)	actual # of samples that will be selected	Min Age	min polygon area	Min. actual area	Max age
All_Other	Imm	640	6572.1	1.4%	1.7	2.0	2.1	3.0	41	0.118	0.0314	97
All_Other	Mat	3130	35121.59	7.4%	8.9	9.0	11.1	11.0	101	0.017	0.0166	247
All_Other	Old	1611	21274.084	4.5%	5.4	5.0	6.7	7.0	251	0.013	0.0133	481
						16.0		**21.0**				
ESSF	Imm	1328	14277.732	3.0%	3.6	4.0	4.5	5.0	41	0.015	0.0126	100
ESSF	Mat	12357	144212.492	30.5%	36.6	36.0	45.7	46.0	101	0.018	0.0102	247
ESSF	Old	3799	49682.527	10.5%	12.6	13.0	15.7	16.0	251	0.036	0.0122	402
						53.0		**67.0**				
SBS	Imm	4144	47842.751	10.1%	12.1	12.0	15.2	15.0	41	0.036	0.0101	100
SBS	Mat	12413	141635.799	29.9%	35.9	36.0	44.9	45.0	101	0.011	0.0102	247
SBS	Old	921	12683.602	2.7%	3.2	3.0	4.0	4.0	251	0.026	0.0260	377
						51.0		**64.0**				
			473302.677		**120.0**	**120.0**	**150.0**	**152.0**				

Note: previously 37 & 12

samples / bec zone

All_Other	Imm	640	6572.1			
All_Other	Mat	3130	35121.59			
All_Other	Old	1611	21274.084			
all Other			**62967.774**	**13.3%**	**16.0**	**20.0**
ESSF	Imm	1328	14277.732			
ESSF	Mat	12357	144212.492			
ESSF	Old	3799	49682.527			
ESSF			**208172.751**	**44.0%**	**52.8**	**66.0**
SBS	Imm	4144	47842.751			
SBS	Mat	12413	141635.799			
SBS	Old	921	12683.602			
SBS			**202162.152**	**42.7%**	**51.3**	**64.1**
					120.0	**150.0**

NVAF Samples : Area for Mature and Old	total by age category				Percent	# of samples
All_Other	Mat	3130	35121.59			
ESSF	Mat	12357	144212.492			
SBS	Mat	12413	141635.799	320,969.88	79%	28.6
All_Other	Old	1611	21274.084			
ESSF	Old	3799	49682.527			
SBS	Old	921	12683.602	83,640.21	21%	7.4
				404,610.09		

NVAF Enhanced Sample

age_cat	stratum1	pop_count	sample_count
Imm		18	4
Mat		81	29
Old		21	7

By Stratum

Imm	All_Other	2	
Imm	ESSF	4	1
Imm	SBS	12	3
Mat	All_Other	9	5
Mat	ESSF	36	13
Mat	SBS	36	11
Old	All_Other	5	1
Old	ESSF	13	5
Old	SBS	3	1

By leading species

Imm	AT	5	1
Imm	BL	2	1
Imm	PL	7	1
Imm	SX	4	1
Mat	ACT	2	1
Mat	BL	51	18
Mat	HW	3	1
Mat	PL	11	4
Mat	SB	3	1
Mat	SX	11	4
Old	BL	20	7
Old	SX	1	

By volume class

Imm	0	5	1
Imm	1	13	3
Mat	0	22	6
Mat	1	30	12
Mat	2	29	11
Old	0	9	2
Old	1	12	5

6.0 Approval and Sign-off of the VPIP for VRI-Phase 2 Ground sampling and NVAF sampling – Amendment # 1

I have read and agree that the procedures outlined in this proposal meet the current MoFR minimum standards.

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Gary Quanstrom
Pacific Inland Resources, West Fraser Mills Ltd.

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Jon Vivian
Manager, Forest Inventory Section (MoFR)

_____

Barry Smith
Skeena-Stikine Forest District (MoFR)

_____

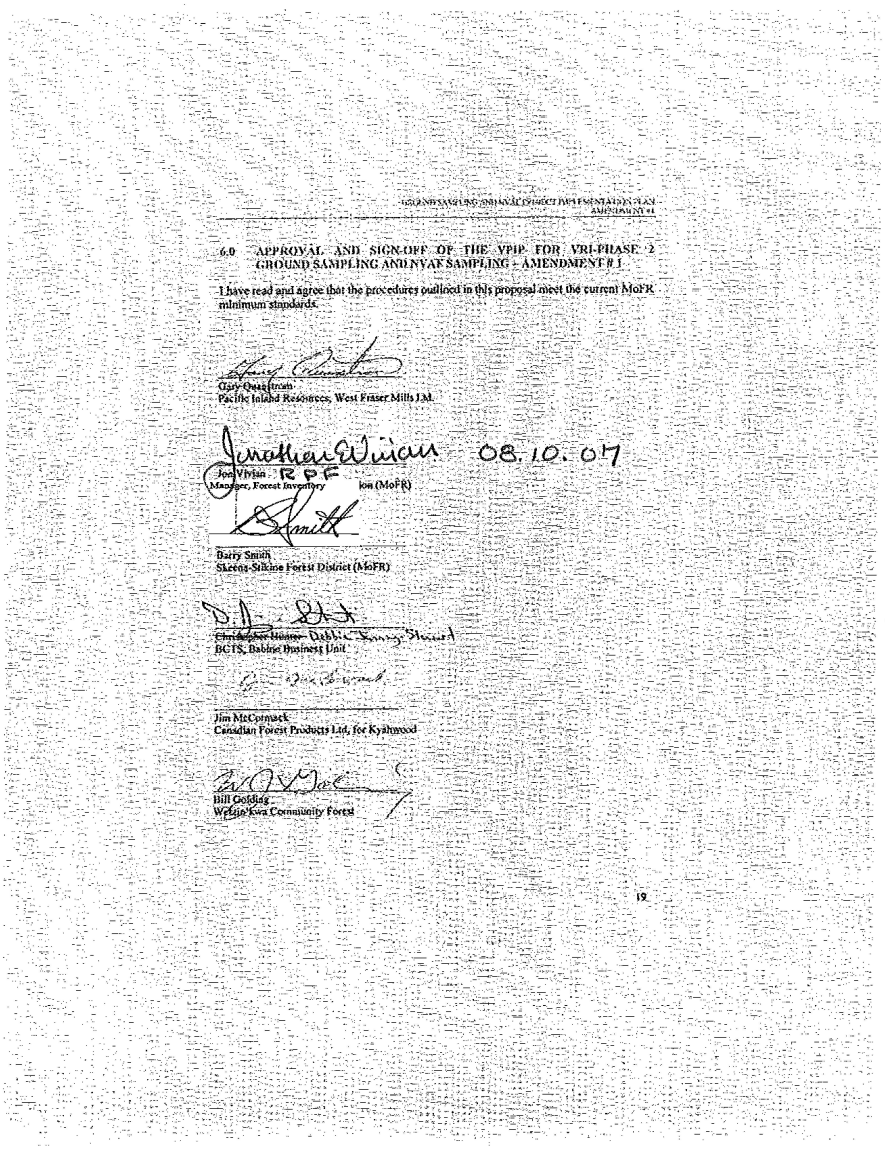
Christopher Hunter
BCTS, Babine Business Unit

_____

Jim McCormack
Canadian Forest Products Ltd, for Kyahwood

_____

Bill Golding
Wetzin'kwa Community Forest



GROUND SAMPLING AND NVAF PROJECT IMPLEMENTATION PLAN
AMENDMENT #1

6.0 APPROVAL AND SIGN-OFF OF THE VPIP FOR VRI-PHASE 2 GROUND SAMPLING AND NVAF SAMPLING - AMENDMENT # 1

I have read and agree that the procedures outlined in this proposal meet the current MoFR minimum standards.

Gary Quesnel
Pacific Inland Resources, West Fraser Mills Ltd.

Jon Vivian RPF 08.10.07
Manager, Forest Inventory MoFR (MoFR)

Barry Smith
Skeena-Stikine Forest District (MoFR)

Christopher Hunter Debbie Young-Stewart
BCTS, Babine Business Unit

Jim McCormack
Canadian Forest Products Ltd, for Kyahwood

Bill Golding
Wet'suwet'en Community Forest

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Addendum I: Bulkley NVAF Tree Selection:

Requirements:
This document outlines the process and results of selecting 130 NVAF trees from 40 VRI Phase II ground samples. The process followed Ministry standards[1] and the sampling procedures were unbiased[2].

Overview:
During the original VRI Phase II sample selection, 40 of the 120 samples were chosen for NVAF enhancement[3]. The samples were selected in the following proportions. Of the original 40 samples selected for NVAF enhancement, one sample was replaced[4].

Stratum	# of samples / stratum
Imm	4
Mat (ESSF)	13
Mat (non ESSF)	16
Old (ESSF)	5
Old (non-ESSF)	2
Total	40

From these 40 samples, the VPIP specified the following target numbers of NVAF trees.:

Live /Dead	Maturity	Species Group	Sample Size (trees)
Dead	All	Balsam	10
Dead	All	Other Species	10
Live	Immature	All	10
Live	Mature/ Old	ESSF Balsam	18
Live	Mature / Old	Other Balsam	27
Live	Mature / Old	Spruce	20
Live	Mature / Old	Pine	15
Live	Mature/ Old	Other Species	20
Total			130

Selection Results:
The following table outlines the distribution of candidate NVAF trees from among the 40 ground samples, by species and stratum. There was no difficulty in selecting a representative set of NVAF trees. The dead trees were selected from the list of dead potential trees that were from samples in which live trees had been selected.

[1] Net Volume Adjustment Factor Samplings Standards and Procedures, Min. of Forests and Ranges, FAIB, June 19, 2007 Version 4.2

[2] The selection was done using SAS ® Proc Surveyselect using a systematic selection with a random starting number. The random numbers are generated by excel to maintain a lack of bias.

[3] Number of trees by stratum was defined in VPIP

[4] There were 3 changes to the starting list. We had to drop 101 it should have all been private, we replaced it with 102. We also had to drop 104 and 106 because they turned out to actually be logged already, and replaced them with 113 and 114. – Email communication – 7/15/2008 from Lorna Halverson Silvicon. (note: only 101 was selected for NVAF)

A complete list of the auxiliary plot trees from the 40 enhanced ground samples, from which the NVAF trees were selected, is included in a spreadsheet. This file will also provide the trees which are available for substitution, should that be necessary.

Distribution of Candidate and selected NVAF trees by Stratum and Species:

Stratum	Species Selection Group	Species Category	# of trees available	# of trees selected	subtotal
Dead	B	B	165	10	**10**
Dead	Ot	AC	1		
Dead	Ot	AT	1	1	
Dead	Ot	F	5	1	
Dead	Ot	H	4	1	
Dead	Ot	PL	5	2	
Dead	Ot	S	14	5	**10**
Imm	Ot	AT	3		
Imm	Ot	B	7		
Imm	Ot	D	1	1	
Imm	Ot	E	5	3	
Imm	Ot	PL	2	2	
Imm	Ot	S	24	4	**10**
Mat	ESSF Balsam	B	188	18	**18**
Mat	Other Balsam	B	106	27	**27**
Mat	S	S	111	20	**20**
Mat	PL	PL	40	15	**15**
Mat	Ot	AC	16	3	
Mat	Ot	AT	5	2	
Mat	Ot	H	44	15	
Mat	Ot	PA	1		**20**
Total					**130**

List of the enhanced ground samples from which NVAF trees were selected.
The NVAF trees that were selected came from only 32 of the 40 NVAF enhanced ground samples. The list is below.

CLSTR_ID	# of trees available	# of trees selected
0031-0005-NO1	15	3
0031-0007-NO1	25	7
0031-0009-NO1	28	9
0031-0011-NO1	14	3
0031-0012-NO1	19	3
0031-0019-NO1	20	4
0031-0028-NO1	17	4
0031-0040-NO1	12	2
0031-0047-NO1	30	2
0031-0056-NO1	24	2
0031-0057-NO1	14	2
0031-0060-NO1	21	3
0031-0063-NO1	13	4
0031-0065-NO1	28	3
0031-0082-NO1	26	4
0031-0083-NO1	21	4
0031-0086-NO1	22	3
0031-0090-NO1	12	6
0031-0097-NO1	17	4
0031-0102-NO1	11	2
0031-0108-NO1	25	7
0031-0118-NO1	16	3
0031-0121-NO1	21	1
0031-0122-NO1	23	8
0031-0123-NO1	25	4
0031-0126-NO1	23	3
0031-0131-NO1	17	7
0031-0134-NO1	16	5
0031-0135-NO1	14	5
0031-0136-NO1	13	5
0031-0140-NO1	18	2
0031-0151-NO1	33	6
		130

The following 8 samples did not include any of the trees selected for NVAF. As a result, these samples did not contribute to the dead tree sample pool.

CLSTR_ID	# of trees available	# of trees selected
0031-0022-NO1	16	0
0031-0034-NO1	6	0
0031-0036-NO1	20	0
0031-0044-NO1	26	0
0031-0045-NO1	13	0
0031-0062-NO1	18	0
0031-0073-NO1	15	0
0031-0078-NO1	1	0

List of NVAF trees by sample number

samp_no	plot	Tree #	lv_d	stand/fallen	DBH	Height	species	spp_grp	Stratum
0005	N	002	L	S	83	36.9	ACT	Ot	Mat
0005	S	004	L	S	36.1	27.1	BL	B	Mat
0005	W	001	L	S	36.8	30	PLI	PL	Mat
0007	E	003	L	S	43.7	27.5	HW	Ot	Mat
0007	E	004	L	S	61.9	24.3	HW	Ot	Mat
0007	E	005	L	S	55.5	29.8	BA	B	Mat
0007	E	008	L	S	40.2	29.3	BA	B	Mat
0007	N	004	L	S	29.8	22.9	BA	B	Mat
0007	N	007	L	S	49.4	27.8	HW	Ot	Mat
0007	S	007	L	S	59.5	29.4	HW	Ot	Mat
0009	E	005	L	S	15.8	17	BL	B	Mat
0009	E	009	L	S	49.7	34.1	S	S	Mat
0009	N	001	L	S	12.7	13.6	HW	Ot	Mat
0009	N	002	L	S	27.2	28.3	HW	Ot	Mat
0009	N	005	L	S	17.5	21.7	HW	Ot	Mat
0009	N	008	L	S	39.8	31.3	HW	Ot	Mat
0009	N	011	L	S	38.1	33.6	HW	Ot	Mat
0009	S	005	L	S	46.7	33.9	S	S	Mat
0009	W	003	L	S	25.7	26.6	BL	B	Mat
0011	N	002	L	S	55.5	30.1	HW	Ot	Mat
0011	S	005	L	S	35	24.2	HW	Ot	Mat
0011	W	005	L	S	32.6	24.1	HW	Ot	Mat
0012	E	004	L	S	67	34	ACT	Ot	Mat
0012	N	008	L	S	48.7	32.6	ACT	Ot	Mat
0012	S	001	L	S	59.2	39.8	S	S	Mat
0019	N	004	L	S	34.9	22.5	BL	B	Mat
0019	N	005	L	S	37.6	23.9	BL	B	Mat
0019	S	004	D	S	14.8	4.5	BL	B	Mat
0019	W	002	L	S	22.3	10.6	BL	B	Mat

0028	E	004	L	S	22.4	11.1	HM	Ot	ESSF
0028	N	008	L	S	20.9	13.8	HM	Ot	ESSF
0028	W	002	L	S	28.5	13.8	BL	B	ESSF
0028	W	003	D	S	13.9	1.6	HM	Ot	ESSF
0040	E	005	L	S	12.5	10.6	BL	B	ESSF
0040	W	002	L	S	20.6	13.4	BL	B	ESSF
0047	E	004	L	S	48.3	19.2	BL	B	ESSF
0047	S	009	L	S	31.9	20.4	BL	B	ESSF
0056	E	003	L	S	55.5	29.9	BL	B	ESSF
0056	N	002	D	S	48.1	16.3	S	Ot	ESSF
0057	N	002	L	S	34.2	22	BL	B	ESSF
0057	N	005	L	S	16.8	13.4	BL	B	ESSF
0060	E	009	D	S	31	19.6	BL	B	ESSF
0060	W	001	L	S	39.5	24.1	BL	B	ESSF
0060	W	002	L	S	29.9	9.3	BL	B	ESSF
0063	N	004	L	S	44.7	27.5	PLI	PL	ESSF
0063	S	001	L	S	31.8	22.7	PLI	PL	ESSF
0063	S	004	L	S	34.7	23.4	PLI	PL	ESSF
0063	W	001	L	S	75.3	39.8	S	S	ESSF
0065	N	007	L	S	42.6	22.1	BL	B	ESSF
0065	S	001	L	S	38.4	18.1	BL	B	ESSF
0065	S	004	D	S	34.4	10.5	BL	B	ESSF
0082	W	001	L	S	26.4	10.4	BL	B	ESSF
0082	W	002	L	S	19.2	9.5	BL	B	ESSF
0082	W	003	D	S	48.1	23.6	BL	B	ESSF
0082	W	010	L	S	32.5	19	BL	B	ESSF
0083	E	003	D	S	28.8	14.1	B	B	ESSF
0083	E	008	L	S	24.6	12.1	BL	B	ESSF
0083	N	005	L	S	24.3	11.5	HM	Ot	ESSF
0083	S	004	L	S	22.4	11	BL	B	ESSF
0086	N	002	L	S	14.2	8.2	BL	B	ESSF
0086	N	008	L	S	52	30.4	S	S	ESSF
0086	S	002	D	S	40.2	23.8	BL	B	ESSF
0090	N	001	L	S	21.6	15.6	S	Ot	Imm
0090	N	003	D	S	36.9	24.2	PLI	Ot	Imm
0090	N	004	L	S	16.2	14.3	S	Ot	Imm
0090	S	002	D	S	34.7	17.8	PLI	Ot	Imm
0090	S	004	L	S	33.5	19.1	PLI	Ot	Imm
0090	W	001	L	S	25.5	17.1	PLI	Ot	Imm
0097	E	002	L	S	56.9	29.2	S	Ot	Imm
0097	E	005	L	S	40	20.1	EP	Ot	Imm
0097	N	010	L	S	27.7	17	S	Ot	Imm

0097	S	003	L	S	12.6	10.5	DR	Ot	Imm
0102	N	002	L	S	24.2	20.5	EP	Ot	Imm
0102	W	007	L	S	37	25.1	EP	Ot	Imm
0108	E	006	L	S	20.8	15.8	SB	S	Mat
0108	N	002	L	S	38.3	19.2	PLI	PL	Mat
0108	N	003	L	S	15.9	12.5	SB	S	Mat
0108	N	004	L	S	24.5	18.3	SB	S	Mat
0108	W	001	D	F	27.9	17	SB	Ot	Mat
0108	W	003	L	S	19	13.7	SB	S	Mat
0108	W	009	D	F	21	11.6	SB	Ot	Mat
0118	S	004	L	S	19.1	11.9	BL	B	Mat
0118	W	002	L	S	30.9	19.6	BL	B	Mat
0118	W	003	L	S	26.5	18.4	BL	B	Mat
0121	W	007	L	S	37.8	28.1	S	S	Mat
0122	E	002	L	S	21.7	18.3	S	S	Mat
0122	E	006	D	S	39	8.3	XC	Ot	Mat
0122	N	003	L	S	25.3	20	PLI	PL	Mat
0122	N	006	D	S	17.8	13.3	BL	B	Mat
0122	N	009	D	S	22	11.5	BL	B	Mat
0122	S	001	L	S	13.4	15.3	BL	B	Mat
0122	S	002	L	S	33.2	20.8	BL	B	Mat
0122	W	001	L	S	21	15.4	BL	B	Mat
0123	S	002	L	S	27.4	23.5	BL	B	Mat
0123	S	008	L	S	17.1	17.4	BL	B	Mat
0123	W	002	L	S	27.5	24.1	S	S	Mat
0123	W	004	L	S	33	28.2	PLI	PL	Mat
0126	N	003	L	S	51.9	26.3	AT	Ot	Mat
0126	N	008	L	S	41.9	27.7	PLI	PL	Mat
0126	W	005	D	S	19	11.5	S	Ot	Mat
0131	E	002	L	S	42.2	32.1	S	S	Mat
0131	E	003	L	S	32.4	27.2	S	S	Mat
0131	N	001	L	S	33.9	27.9	S	S	Mat
0131	N	004	D	S	13	13.5	S	Ot	Mat
0131	N	005	L	S	35.4	25.6	S	S	Mat
0131	W	004	L	S	14	11.8	BL	B	Mat
0131	W	006	D	S	22.8	17.4	AT	Ot	Mat
0134	E	003	L	S	32.3	26.2	BL	B	Mat
0134	E	005	L	S	23.6	22	BL	B	Mat
0134	E	007	D	S	42.8	8.5	BL	B	Mat
0134	S	001	L	S	45.3	14.3	S	S	Mat
0134	S	004	L	S	48.4	31.5	BL	B	Mat
0135	N	002	L	S	28.4	23	PLI	PL	Mat

0135	N	005	L	S	22.9	23.6	PLI	PL	Mat
0135	N	006	L	S	26.3	23	PLI	PL	Mat
0135	N	007	L	S	21.1	23.2	PLI	PL	Mat
0135	W	004	L	S	41.1	27.2	S	S	Mat
0136	E	003	L	S	30.7	22.9	S	S	Mat
0136	N	002	L	S	24	22.8	PLI	PL	Mat
0136	N	006	L	S	31.5	22.4	PLI	PL	Mat
0136	S	005	L	S	30.7	24.3	PLI	PL	Mat
0136	W	001	L	S	27.6	22.5	AT	Ot	Mat
0140	E	002	L	S	45	33.9	BL	B	Mat
0140	N	003	L	S	28.5	11.8	BL	B	Mat
0151	E	005	L	S	25	19.8	BL	B	Mat
0151	N	009	L	S	43.2	26.6	BL	B	Mat
0151	S	006	L	S	65.1	37.6	BL	B	Mat
0151	S	007	L	S	17.7	14.8	BL	B	Mat
0151	W	003	D	S	53.9	29.8	BL	B	Mat
0151	W	006	L	S	64.4	30.1	S	S	Mat

- Email from Will Smith/Gitte Churlish regarding approval of NVAF plan February 2009

Lorna Halverson

From: Gitte Churlish [gitte-c@shaw.ca]
Sent: February 23, 2009 2:23 PM
To: mapping@silvicon.com
Subject: FW: Bulkley NVAF

Hi Lorna,

Just to let you know that the NVAF selection has been finalized and approved.

I'll have it you on Wednesday. It needs a bit of write up to go with the spreadsheet.

Gitte

From: Smith, Will FOR:EX [mailto:Will.Smith@gov.bc.ca]
Sent: Monday, February 23, 2009 1:50 PM
To: Gitte Churlish
Cc: Beurskens, Carolyn M FOR:EX
Subject: RE: Bulkley NVAF

Gitte,

The NVAF sample selection for the Bulkley TSA meets the standard and is approved.

Regard,
Will

Will Smith, RPF
Volume and Decay Sampling Forester
Forest Analysis and Inventory Branch
Ministry of Forests and Range
PO Box 9512
Victoria, B.C.
V8W 9C2
mailto:will.smith@gov.bc.ca
tel: 250-356-6853
fax: 250-387-5999

From: Gitte Churlish [mailto:gitte-c@shaw.ca]
Sent: Thursday, February 19, 2009 7:36 PM
To: Smith, Will FOR:EX
Subject: RE: Bulkley NVAF

Hi Will, Attached is the Bulkley NVAF based on the full set of 40 samples.

As discussed today, the dead trees which are not eligible for selection have been moved to a new part of the spreadsheet.

I hope that this selection meets the needs of the Bulkley NVAF tree selection.

Gitte

List of Trees by Stratum – to be used for Substitution IF a NVAF tree needs to be replaced

List of trees by stratum

IF a tree needs to be replaced, then use the one directly below the tree which is to be replaced.

Selection Group	Species stratum	clstr_id	Samp_ #	plot	Tree_ #	species	lv_d	stand/ fallen	DBH	Height	BEC zone stratum	Age stratum	species category	sample size	# of select	Selection Prob	Sampling Weight	sample
Mat	B	0031-0005-NO1	0005	S	001	BL	L	S	12.5	14.4	All_Other	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	E	011	BL	L	S	12.5	10.6	SBS	Mat	B	106	27			N
Mat	B	0031-0140-NO1	0140	E	003	BL	L	S	12.6	7.5	SBS	Mat	B	106	27			N
Mat	B	0031-0122-NO1	0122	S	001	BL	L	S	13.4	15.3	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0151-NO1	0151	E	004	BL	L	S	13.6	7.3	SBS	Old	B	106	27			N
Mat	B	0031-0151-NO1	0151	S	005	BL	L	S	13.8	13.1	SBS	Old	B	106	27			N
Mat	B	0031-0121-NO1	0121	S	006	BL	L	S	13.9	8.7	SBS	Mat	B	106	27			N
Mat	B	0031-0131-NO1	0131	W	004	BL	L	S	14	11.8	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0121-NO1	0121	S	004	BL	L	S	14.6	10.9	SBS	Mat	B	106	27			N
Mat	B	0031-0151-NO1	0151	N	006	BL	L	S	15	7.6	SBS	Old	B	106	27			N
Mat	B	0031-0118-NO1	0118	E	001	BL	L	S	15.6	10.9	SBS	Mat	B	106	27			N
Mat	B	0031-0009-NO1	0009	E	005	BL	L	S	15.8	17	All_Other	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0012-NO1	0012	N	005	BL	L	S	15.9	13.8	All_Other	Mat	B	106	27			N
Mat	B	0031-0121-NO1	0121	S	003	BL	L	S	15.9	10.1	SBS	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	E	006	BL	L	S	16.7	13.5	SBS	Mat	B	106	27			N
Mat	B	0031-0123-NO1	0123	S	008	BL	L	S	17.1	17.4	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0122-NO1	0122	W	003	BL	L	S	17.3	13.4	SBS	Mat	B	106	27			N
Mat	B	0031-0131-NO1	0131	W	008	BL	L	S	17.6	15.8	SBS	Mat	B	106	27			N
Mat	B	0031-0151-NO1	0151	S	007	BL	L	S	17.7	14.8	SBS	Old	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0121-NO1	0121	E	002	BL	L	S	17.8	14	SBS	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	N	005	BL	L	S	18.7	9.9	SBS	Mat	B	106	27			N
Mat	B	0031-0140-NO1	0140	S	001	BL	L	S	18.8	13.2	SBS	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	S	004	BL	L	S	19.1	11.9	SBS	Mat	B	106	27	0.254717	3.925925926	Y

Mat	B	0031-0019-NO1	0019	S	001	BL	L	S	19.5	9.3	All_Other	Old	B	106	27			N
Mat	B	0031-0122-NO1	0122	N	010	BL	L	S	20	14.7	SBS	Mat	B	106	27			N
Mat	B	0031-0123-NO1	0123	S	004	BL	L	S	20.5	15.7	SBS	Mat	B	106	27			N
Mat	B	0031-0122-NO1	0122	W	001	BL	L	S	21	15.4	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0126-NO1	0126	E	004	BL	L	S	21.2	17.5	SBS	Mat	B	106	27			N
Mat	B	0031-0121-NO1	0121	N	005	BL	L	S	21.7	11.9	SBS	Mat	B	106	27			N
Mat	B	0031-0134-NO1	0134	N	001	BL	L	S	21.7	19.5	SBS	Mat	B	106	27			N
Mat	B	0031-0019-NO1	0019	W	002	BL	L	S	22.3	10.6	All_Other	Old	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0151-NO1	0151	N	008	BL	L	S	23.2	19.6	SBS	Old	B	106	27			N
Mat	B	0031-0009-NO1	0009	E	003	BL	L	S	23.3	21.6	All_Other	Mat	B	106	27			N
Mat	B	0031-0005-NO1	0005	W	004	BL	L	S	23.5	10.9	All_Other	Mat	B	106	27			N
Mat	B	0031-0134-NO1	0134	E	005	BL	L	S	23.6	22	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0118-NO1	0118	S	001	BL	L	S	24.2	17.2	SBS	Mat	B	106	27			N
Mat	B	0031-0123-NO1	0123	S	011	BL	L	S	24.8	21.4	SBS	Mat	B	106	27			N
Mat	B	0031-0005-NO1	0005	E	001	BL	L	S	25	15.3	All_Other	Mat	B	106	27			N
Mat	B	0031-0151-NO1	0151	E	005	BL	L	S	25	19.8	SBS	Old	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0151-NO1	0151	E	001	BL	L	S	25.2	21.9	SBS	Old	B	106	27			N
Mat	B	0031-0005-NO1	0005	E	003	BL	L	S	25.5	22	All_Other	Mat	B	106	27			N
Mat	B	0031-0005-NO1	0005	E	004	BL	L	S	25.6	21.4	All_Other	Mat	B	106	27			N
Mat	B	0031-0009-NO1	0009	W	003	BL	L	S	25.7	26.6	All_Other	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0151-NO1	0151	E	006	BL	L	S	26.3	19.7	SBS	Old	B	106	27			N
Mat	B	0031-0005-NO1	0005	W	006	BL	L	S	26.4	21.2	All_Other	Mat	B	106	27			N
Mat	B	0031-0134-NO1	0134	E	004	BL	L	S	26.4	22.9	SBS	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	W	003	BL	L	S	26.5	18.4	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0123-NO1	0123	S	009	BL	L	S	26.6	23.3	SBS	Mat	B	106	27			N
Mat	B	0031-0121-NO1	0121	E	006	BL	L	S	26.8	12.5	SBS	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	S	002	BL	L	S	27.2	18.1	SBS	Mat	B	106	27			N
Mat	B	0031-0123-NO1	0123	S	002	BL	L	S	27.4	23.5	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0005-NO1	0005	E	005	BL	L	S	27.5	21.3	All_Other	Mat	B	106	27			N
Mat	B	0031-0134-NO1	0134	S	003	BL	L	S	27.5	21.3	SBS	Mat	B	106	27			N
Mat	B	0031-0121-NO1	0121	W	002	BL	L	S	28.2	26.6	SBS	Mat	B	106	27			N
Mat	B	0031-0140-NO1	0140	N	003	BL	L	S	28.5	11.8	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0009-NO1	0009	E	006	BL	L	S	28.6	21.8	All_Other	Mat	B	106	27			N
Mat	B	0031-0005-NO1	0005	E	008	BL	L	S	28.8	23.8	All_Other	Mat	B	106	27			N

Mat	B	0031-0151-NO1	0151	E	009	BL	L	S	29.3	23.5	SBS	Old	B	106	27			N
Mat	B	0031-0007-NO1	0007	N	004	BA	L	S	29.8	22.9	All_Other	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0005-NO1	0005	S	003	BL	L	S	30.4	23.1	All_Other	Mat	B	106	27			N
Mat	B	0031-0122-NO1	0122	E	004	BL	L	S	30.5	19.8	SBS	Mat	B	106	27			N
Mat	B	0031-0121-NO1	0121	E	007	BL	L	S	30.6	15.2	SBS	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	W	002	BL	L	S	30.9	19.6	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0122-NO1	0122	S	004	BL	L	S	31.6	22.4	SBS	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	S	005	BL	L	S	32	17.9	SBS	Mat	B	106	27			N
Mat	B	0031-0007-NO1	0007	E	002	BA	L	S	32.1	23.2	All_Other	Mat	B	106	27			N
Mat	B	0031-0134-NO1	0134	E	003	BL	L	S	32.3	26.2	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0122-NO1	0122	S	003	BL	L	S	32.5	21.8	SBS	Mat	B	106	27			N
Mat	B	0031-0122-NO1	0122	S	008	BL	L	S	33	18.3	SBS	Mat	B	106	27			N
Mat	B	0031-0122-NO1	0122	S	002	BL	L	S	33.2	20.8	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0140-NO1	0140	E	004	BL	L	S	34.5	25.8	SBS	Mat	B	106	27			N
Mat	B	0031-0123-NO1	0123	N	005	BL	L	S	34.6	25.8	SBS	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	N	004	BL	L	S	34.8	20.5	SBS	Mat	B	106	27			N
Mat	B	0031-0019-NO1	0019	N	004	BL	L	S	34.9	22.5	All_Other	Old	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0009-NO1	0009	E	002	BL	L	S	35	27.7	All_Other	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	N	003	BL	L	S	35.1	23	SBS	Mat	B	106	27			N
Mat	B	0031-0123-NO1	0123	N	006	BL	L	S	35.1	28.5	SBS	Mat	B	106	27			N
Mat	B	0031-0005-NO1	0005	S	004	BL	L	S	36.1	27.1	All_Other	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0134-NO1	0134	N	004	BL	L	S	36.1	26	SBS	Mat	B	106	27			N
Mat	B	0031-0012-NO1	0012	N	007	BL	L	S	36.2	25.7	All_Other	Mat	B	106	27			N
Mat	B	0031-0151-NO1	0151	W	007	BL	L	S	37	28.5	SBS	Old	B	106	27			N
Mat	B	0031-0019-NO1	0019	N	005	BL	L	S	37.6	23.9	All_Other	Old	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0134-NO1	0134	N	002	BL	L	S	37.6	27	SBS	Mat	B	106	27			N
Mat	B	0031-0118-NO1	0118	W	001	BL	L	S	38.9	23.2	SBS	Mat	B	106	27			N
Mat	B	0031-0121-NO1	0121	W	004	BL	L	S	39.8	28.8	SBS	Mat	B	106	27			N
Mat	B	0031-0007-NO1	0007	E	008	BA	L	S	40.2	29.3	All_Other	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0019-NO1	0019	W	008	BL	L	S	40.2	23.3	All_Other	Old	B	106	27			N
Mat	B	0031-0151-NO1	0151	S	001	BL	L	S	40.6	24.2	SBS	Old	B	106	27			N
Mat	B	0031-0123-NO1	0123	S	006	BL	L	S	40.8	23.8	SBS	Mat	B	106	27			N
Mat	B	0031-0151-NO1	0151	N	009	BL	L	S	43.2	26.6	SBS	Old	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0007-NO1	0007	N	009	BL	L	S	44.5	26	All_Other	Mat	B	106	27			N

Mat	B	0031-0123-NO1	0123	N	008	BL	L	S	44.6	31.4	SBS	Mat	B	106	27			N
Mat	B	0031-0140-NO1	0140	E	001	BL	L	S	44.9	30.8	SBS	Mat	B	106	27			N
Mat	B	0031-0140-NO1	0140	E	002	BL	L	S	45	33.9	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0011-NO1	0011	N	001	BL	L	S	45.1	24.9	All_Other	Mat	B	106	27			N
Mat	B	0031-0007-NO1	0007	W	003	BL	L	S	45.3	26	All_Other	Mat	B	106	27			N
Mat	B	0031-0123-NO1	0123	E	001	BL	L	S	48	28	SBS	Mat	B	106	27			N
Mat	B	0031-0134-NO1	0134	S	004	BL	L	S	48.4	31.5	SBS	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0151-NO1	0151	S	004	BL	L	S	50	33.9	SBS	Old	B	106	27			N
Mat	B	0031-0151-NO1	0151	S	002	BL	L	S	50.9	33.5	SBS	Old	B	106	27			N
Mat	B	0031-0123-NO1	0123	S	005	BL	L	S	52.3	31.8	SBS	Mat	B	106	27			N
Mat	B	0031-0007-NO1	0007	E	005	BA	L	S	55.5	29.8	All_Other	Mat	B	106	27	0.254717	3.925925926	Y
Mat	B	0031-0134-NO1	0134	E	002	BL	L	S	58	33.9	SBS	Mat	B	106	27			N
Mat	B	0031-0151-NO1	0151	W	004	BL	L	S	58	33.7	SBS	Old	B	106	27			N
Mat	B	0031-0123-NO1	0123	E	003	BL	L	S	60.8	33.2	SBS	Mat	B	106	27			N
Mat	B	0031-0151-NO1	0151	S	006	BL	L	S	65.1	37.6	SBS	Old	B	106	27	0.254717	3.925925926	Y
Mat	Ot	0031-0028-NO1	0028	N	006	HM	L	S	12.6	8.2	ESSF	Mat	H	66	20			N
Mat	Ot	0031-0009-NO1	0009	N	001	HW	L	S	12.7	13.6	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0136-NO1	0136	N	004	AT	L	S	15.8	16.4	SBS	Mat	AT	66	20			N
Mat	Ot	0031-0009-NO1	0009	N	007	HW	L	S	16.7	18.1	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0083-NO1	0083	N	006	HM	L	S	17.1	9	ESSF	Old	H	66	20			N
Mat	Ot	0031-0009-NO1	0009	N	005	HW	L	S	17.5	21.7	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0083-NO1	0083	N	002	HM	L	S	17.6	9.7	ESSF	Old	H	66	20			N
Mat	Ot	0031-0028-NO1	0028	E	008	HM	L	S	20	5	ESSF	Mat	H	66	20			N
Mat	Ot	0031-0028-NO1	0028	N	008	HM	L	S	20.9	13.8	ESSF	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0028-NO1	0028	N	007	HM	L	S	22.1	13	ESSF	Mat	H	66	20			N
Mat	Ot	0031-0019-NO1	0019	S	005	HM	L	S	22.3	8.9	All_Other	Old	H	66	20			N
Mat	Ot	0031-0028-NO1	0028	E	004	HM	L	S	22.4	11.1	ESSF	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0136-NO1	0136	W	003	AT	L	S	22.4	21.2	SBS	Mat	AT	66	20			N
Mat	Ot	0031-0028-NO1	0028	E	006	HM	L	S	23.6	9.3	ESSF	Mat	H	66	20			N
Mat	Ot	0031-0007-NO1	0007	S	005	HW	L	S	23.9	16.8	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0083-NO1	0083	N	005	HM	L	S	24.3	11.5	ESSF	Old	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0083-NO1	0083	N	004	HM	L	S	25	11.8	ESSF	Old	H	66	20			N
Mat	Ot	0031-0007-NO1	0007	S	003	HW	L	S	25.5	14	All_Other	Mat	H	66	20			N

Mat	Ot	0031-0009-NO1	0009	N	002	HW	L	S	27.2	28.3	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0028-NO1	0028	E	002	HM	L	S	27.2	6	ESSF	Mat	H	66	20			N
Mat	Ot	0031-0028-NO1	0028	W	001	HM	L	S	27.4	12.5	ESSF	Mat	H	66	20			N
Mat	Ot	0031-0136-NO1	0136	W	001	AT	L	S	27.6	22.5	SBS	Mat	AT	66	20	0.30303	3.3	Y
Mat	Ot	0031-0011-NO1	0011	S	002	HW	L	S	29.3	19.2	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0151-NO1	0151	N	001	HW	L	S	31.5	19.9	SBS	Old	H	66	20			N
Mat	Ot	0031-0028-NO1	0028	E	003	HM	L	S	32	1.5	ESSF	Mat	H	66	20			N
Mat	Ot	0031-0011-NO1	0011	W	005	HW	L	S	32.6	24.1	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0011-NO1	0011	W	003	HW	L	S	33	25.9	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0083-NO1	0083	S	006	HM	L	S	34	16.3	ESSF	Old	H	66	20			N
Mat	Ot	0031-0011-NO1	0011	S	005	HW	L	S	35	24.2	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0007-NO1	0007	N	006	HW	L	S	36.8	24.6	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0007-NO1	0007	S	004	HW	L	S	36.8	24.2	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0009-NO1	0009	N	011	HW	L	S	38.1	33.6	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0011-NO1	0011	S	008	HW	L	S	38.3	28.2	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0012-NO1	0012	S	005	ACT	L	S	39.2	30.4	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0009-NO1	0009	N	008	HW	L	S	39.8	31.3	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0007-NO1	0007	E	001	HW	L	S	41.6	20.3	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0011-NO1	0011	N	003	HW	L	S	42.8	28.1	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0131-NO1	0131	W	007	AT	L	S	43.3	24.2	SBS	Mat	AT	66	20			N
Mat	Ot	0031-0007-NO1	0007	E	003	HW	L	S	43.7	27.5	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0007-NO1	0007	N	001	HW	L	S	45.2	25	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0007-NO1	0007	S	002	HW	L	S	47.8	21.4	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0012-NO1	0012	N	008	ACT	L	S	48.7	32.6	All_Other	Mat	AC	66	20	0.30303	3.3	Y
Mat	Ot	0031-0012-NO1	0012	S	007	ACT	L	S	48.7	32.1	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0011-NO1	0011	E	001	HW	L	S	49	30.2	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0007-NO1	0007	N	007	HW	L	S	49.4	27.8	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0012-NO1	0012	N	003	ACT	L	S	50	22.2	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0012-NO1	0012	N	002	ACT	L	S	51	31.8	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0083-NO1	0083	E	005	PA	L	S	51	16.8	ESSF	Old	PA	66	20			N
Mat	Ot	0031-0126-NO1	0126	N	003	AT	L	S	51.9	26.3	SBS	Mat	AT	66	20	0.30303	3.3	Y
Mat	Ot	0031-0012-NO1	0012	E	003	ACT	L	S	52.2	33.4	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0011-NO1	0011	W	004	HW	L	S	55	29.4	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0011-NO1	0011	N	002	HW	L	S	55.5	30.1	All_Other	Mat	H	66	20	0.30303	3.3	Y

Mat	Ot	0031-0007-NO1	0007	W	005	HW	L	S	56.3	26.3	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0011-NO1	0011	W	002	HW	L	S	58.3	31.2	All_Other	Mat	H	66	20			N
Mat	Ot	0031-0007-NO1	0007	S	007	HW	L	S	59.5	29.4	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0012-NO1	0012	N	001	ACT	L	S	59.5	39.5	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0012-NO1	0012	E	006	ACT	L	S	61.2	34.2	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0012-NO1	0012	E	001	ACT	L	S	61.6	38.2	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0007-NO1	0007	E	004	HW	L	S	61.9	24.3	All_Other	Mat	H	66	20	0.30303	3.3	Y
Mat	Ot	0031-0012-NO1	0012	S	003	ACT	L	S	62.5	37.6	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0012-NO1	0012	E	005	ACT	L	S	66.1	37.4	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0012-NO1	0012	E	004	ACT	L	S	67	34	All_Other	Mat	AC	66	20	0.30303	3.3	Y
Mat	Ot	0031-0012-NO1	0012	W	004	ACT	L	S	70	40	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0012-NO1	0012	N	004	ACT	L	S	73.9	38.4	All_Other	Mat	AC	66	20			N
Mat	Ot	0031-0005-NO1	0005	N	002	ACT	L	S	83	36.9	All_Other	Mat	AC	66	20	0.30303	3.3	Y
Mat	Ot	0031-0005-NO1	0005	S	002	ACT	L	S	83.4	33	All_Other	Mat	AC	66	20			N
Mat	PL	0031-0126-NO1	0126	S	004	PLI	L	S	14.5	22.1	SBS	Mat	PL	40	15			N
Mat	PL	0031-0135-NO1	0135	N	007	PLI	L	S	21.1	23.2	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0126-NO1	0126	S	002	PLI	L	S	21.8	25.1	SBS	Mat	PL	40	15			N
Mat	PL	0031-0126-NO1	0126	N	006	PLI	L	S	22.4	23.8	SBS	Mat	PL	40	15			N
Mat	PL	0031-0135-NO1	0135	N	005	PLI	L	S	22.9	23.6	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0126-NO1	0126	S	001	PLI	L	S	23.9	23.5	SBS	Mat	PL	40	15			N
Mat	PL	0031-0136-NO1	0136	N	002	PLI	L	S	24	22.8	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0135-NO1	0135	N	003	PLI	L	S	24.1	22.8	SBS	Mat	PL	40	15			N
Mat	PL	0031-0126-NO1	0126	S	003	PLI	L	S	25	25.1	SBS	Mat	PL	40	15			N
Mat	PL	0031-0122-NO1	0122	N	003	PLI	L	S	25.3	20	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0122-NO1	0122	N	007	PLI	L	S	25.6	19	SBS	Mat	PL	40	15			N
Mat	PL	0031-0126-NO1	0126	N	001	PLI	L	S	25.8	26.2	SBS	Mat	PL	40	15			N
Mat	PL	0031-0135-NO1	0135	N	006	PLI	L	S	26.3	23	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0136-NO1	0136	S	002	PLI	L	S	27.6	25.9	SBS	Mat	PL	40	15			N
Mat	PL	0031-0135-NO1	0135	N	002	PLI	L	S	28.4	23	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0126-NO1	0126	W	001	PLI	L	S	29.8	22.9	SBS	Mat	PL	40	15			N
Mat	PL	0031-0108-NO1	0108	W	008	PLI	L	S	30.2	16.2	SBS	Mat	PL	40	15			N
Mat	PL	0031-0136-NO1	0136	S	005	PLI	L	S	30.7	24.3	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0135-NO1	0135	N	001	PLI	L	S	31.4	23	SBS	Mat	PL	40	15			N

Mat	PL	0031-0134-NO1	0134	W	003	PLI	L	S	31.5	23.7	SBS	Mat	PL	40	15			N
Mat	PL	0031-0136-NO1	0136	N	006	PLI	L	S	31.5	22.4	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0009-NO1	0009	N	006	PLI	L	S	31.7	28.9	All_Other	Mat	PL	40	15			N
Mat	PL	0031-0063-NO1	0063	S	001	PLI	L	S	31.8	22.7	ESSF	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0126-NO1	0126	E	002	PLI	L	S	32.1	19.7	SBS	Mat	PL	40	15			N
Mat	PL	0031-0136-NO1	0136	S	003	PLI	L	S	32.3	26.4	SBS	Mat	PL	40	15			N
Mat	PL	0031-0123-NO1	0123	W	004	PLI	L	S	33	28.2	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0063-NO1	0063	S	006	PLI	L	S	33.9	21.5	ESSF	Mat	PL	40	15			N
Mat	PL	0031-0123-NO1	0123	W	007	PLI	L	S	34.5	27.6	SBS	Mat	PL	40	15			N
Mat	PL	0031-0063-NO1	0063	S	004	PLI	L	S	34.7	23.4	ESSF	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0131-NO1	0131	W	002	PLI	L	S	35.6	27.3	SBS	Mat	PL	40	15			N
Mat	PL	0031-0005-NO1	0005	W	001	PLI	L	S	36.8	30	All_Other	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0108-NO1	0108	S	006	PLI	L	S	37.2	23.3	SBS	Mat	PL	40	15			N
Mat	PL	0031-0134-NO1	0134	W	002	PLI	L	S	38.2	29.8	SBS	Mat	PL	40	15			N
Mat	PL	0031-0108-NO1	0108	N	002	PLI	L	S	38.3	19.2	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0136-NO1	0136	E	001	PLI	L	S	38.4	27.8	SBS	Mat	PL	40	15			N
Mat	PL	0031-0063-NO1	0063	N	002	PLI	L	S	39.6	26.8	ESSF	Mat	PL	40	15			N
Mat	PL	0031-0126-NO1	0126	N	008	PLI	L	S	41.9	27.7	SBS	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0005-NO1	0005	S	006	PLI	L	S	43.3	31.6	All_Other	Mat	PL	40	15			N
Mat	PL	0031-0063-NO1	0063	N	004	PLI	L	S	44.7	27.5	ESSF	Mat	PL	40	15	0.375	2.666666667	Y
Mat	PL	0031-0122-NO1	0122	E	001	PLI	L	S	45.2	27.7	SBS	Mat	PL	40	15			N
Mat	S	0031-0136-NO1	0136	N	003	S	L	S	12.5	9.6	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	S	003	SB	L	S	12.9	6.7	SBS	Mat	S	111	20			N
Mat	S	0031-0019-NO1	0019	W	004	S	L	S	14.5	9.5	All_Other	Old	S	111	20			N
Mat	S	0031-0118-NO1	0118	E	005	S	L	S	15	13	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	N	003	SB	L	S	15.9	12.5	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0108-NO1	0108	E	004	SB	L	S	16.8	13.4	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	W	007	SB	L	S	17.1	11.3	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	E	007	SB	L	S	17.6	12.1	SBS	Mat	S	111	20			N
Mat	S	0031-0126-NO1	0126	W	007	S	L	S	18.6	17.1	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	W	003	SB	L	S	19	13.7	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0126-NO1	0126	W	003	S	L	S	19.3	15.3	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	E	009	SB	L	S	19.5	13.2	SBS	Mat	S	111	20			N

Mat	S	0031-0009-NO1	0009	E	010	S	L	S	19.7	24	All_Other	Mat	S	111	20			N
Mat	S	0031-0126-NO1	0126	W	009	S	L	S	20.2	18.2	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	E	008	SB	L	S	20.7	19.3	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	E	006	SB	L	S	20.8	15.8	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0126-NO1	0126	N	002	S	L	S	20.8	16	SBS	Mat	S	111	20			N
Mat	S	0031-0126-NO1	0126	E	007	S	L	S	21.1	19.5	SBS	Mat	S	111	20			N
Mat	S	0031-0134-NO1	0134	W	004	S	L	S	21.1	18.1	SBS	Mat	S	111	20			N
Mat	S	0031-0126-NO1	0126	E	006	S	L	S	21.2	18.8	SBS	Mat	S	111	20			N
Mat	S	0031-0122-NO1	0122	E	002	S	L	S	21.7	18.3	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0131-NO1	0131	W	010	S	L	S	21.7	19.4	SBS	Mat	S	111	20			N
Mat	S	0031-0126-NO1	0126	W	008	S	L	S	23	12.7	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	E	003	SB	L	S	23.2	16.8	SBS	Mat	S	111	20			N
Mat	S	0031-0126-NO1	0126	W	002	S	L	S	23.6	16.3	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	S	008	SB	L	S	24.3	14.2	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	N	004	SB	L	S	24.5	18.3	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0108-NO1	0108	E	001	SB	L	S	25.2	19.2	SBS	Mat	S	111	20			N
Mat	S	0031-0126-NO1	0126	N	005	S	L	S	25.5	18.7	SBS	Mat	S	111	20			N
Mat	S	0031-0126-NO1	0126	E	005	S	L	S	25.7	20.6	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	E	002	SB	L	S	25.8	15.1	SBS	Mat	S	111	20			N
Mat	S	0031-0123-NO1	0123	W	002	S	L	S	27.5	24.1	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0122-NO1	0122	S	007	S	L	S	28.2	18.7	SBS	Mat	S	111	20			N
Mat	S	0031-0123-NO1	0123	N	002	S	L	S	28.3	19.3	SBS	Mat	S	111	20			N
Mat	S	0031-0063-NO1	0063	S	005	S	L	S	28.8	16.9	ESSF	Mat	S	111	20			N
Mat	S	0031-0135-NO1	0135	S	002	S	L	S	29	22.4	SBS	Mat	S	111	20			N
Mat	S	0031-0009-NO1	0009	N	010	S	L	S	30.1	31.4	All_Other	Mat	S	111	20			N
Mat	S	0031-0136-NO1	0136	E	003	S	L	S	30.7	22.9	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0108-NO1	0108	S	007	SB	L	S	31	19.4	SBS	Mat	S	111	20			N
Mat	S	0031-0123-NO1	0123	W	001	S	L	S	31.1	28.5	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	W	004	SB	L	S	31.6	19.1	SBS	Mat	S	111	20			N
Mat	S	0031-0135-NO1	0135	W	008	S	L	S	32.1	25.3	SBS	Mat	S	111	20			N
Mat	S	0031-0131-NO1	0131	E	003	S	L	S	32.4	27.2	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0135-NO1	0135	E	001	S	L	S	32.4	22.7	SBS	Mat	S	111	20			N
Mat	S	0031-0056-NO1	0056	S	001	S	L	S	32.5	23.2	ESSF	Mat	S	111	20			N
Mat	S	0031-0140-NO1	0140	W	003	S	L	S	32.5	25.9	SBS	Mat	S	111	20			N

Mat	S	0031-0122-NO1	0122	E	008	S	L	S	33.3	22.7	SBS	Mat	S	111	20			N
Mat	S	0031-0063-NO1	0063	S	002	S	L	S	33.6	19.5	ESSF	Mat	S	111	20			N
Mat	S	0031-0131-NO1	0131	N	001	S	L	S	33.9	27.9	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0108-NO1	0108	S	002	SB	L	S	34	23.7	SBS	Mat	S	111	20			N
Mat	S	0031-0108-NO1	0108	N	001	SB	L	S	34.3	20.5	SBS	Mat	S	111	20			N
Mat	S	0031-0123-NO1	0123	W	003	S	L	S	34.3	29.2	SBS	Mat	S	111	20			N
Mat	S	0031-0135-NO1	0135	W	002	S	L	S	34.6	24	SBS	Mat	S	111	20			N
Mat	S	0031-0005-NO1	0005	E	007	S	L	S	34.7	25.2	All_Other	Mat	S	111	20			N
Mat	S	0031-0131-NO1	0131	N	005	S	L	S	35.4	25.6	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0131-NO1	0131	N	003	S	L	S	36.3	30.4	SBS	Mat	S	111	20			N
Mat	S	0031-0140-NO1	0140	N	005	S	L	S	36.4	27.2	SBS	Mat	S	111	20			N
Mat	S	0031-0009-NO1	0009	E	004	S	L	S	36.8	31.3	All_Other	Mat	S	111	20			N
Mat	S	0031-0121-NO1	0121	W	008	S	L	S	37.4	26.9	SBS	Mat	S	111	20			N
Mat	S	0031-0121-NO1	0121	W	007	S	L	S	37.8	28.1	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0118-NO1	0118	E	004	S	L	S	38.5	25.9	SBS	Mat	S	111	20			N
Mat	S	0031-0056-NO1	0056	W	001	S	L	S	39	24.6	ESSF	Mat	S	111	20			N
Mat	S	0031-0009-NO1	0009	W	002	S	L	S	39.8	29.6	All_Other	Mat	S	111	20			N
Mat	S	0031-0009-NO1	0009	E	007	S	L	S	40.1	29.9	All_Other	Mat	S	111	20			N
Mat	S	0031-0123-NO1	0123	N	003	S	L	S	40.2	32.5	SBS	Mat	S	111	20			N
Mat	S	0031-0135-NO1	0135	W	004	S	L	S	41.1	27.2	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0131-NO1	0131	N	002	S	L	S	41.6	32.9	SBS	Mat	S	111	20			N
Mat	S	0031-0135-NO1	0135	W	006	S	L	S	41.6	27.8	SBS	Mat	S	111	20			N
Mat	S	0031-0009-NO1	0009	W	007	S	L	S	42	33.8	All_Other	Mat	S	111	20			N
Mat	S	0031-0123-NO1	0123	N	001	S	L	S	42.2	27.4	SBS	Mat	S	111	20			N
Mat	S	0031-0131-NO1	0131	E	002	S	L	S	42.2	32.1	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0121-NO1	0121	W	005	S	L	S	42.5	28	SBS	Mat	S	111	20			N
Mat	S	0031-0131-NO1	0131	S	001	S	L	S	42.5	33.1	SBS	Mat	S	111	20			N
Mat	S	0031-0009-NO1	0009	W	004	S	L	S	42.8	36.8	All_Other	Mat	S	111	20			N
Mat	S	0031-0131-NO1	0131	E	004	S	L	S	44.1	32.7	SBS	Mat	S	111	20			N
Mat	S	0031-0140-NO1	0140	E	005	S	L	S	44.9	31.2	SBS	Mat	S	111	20			N
Mat	S	0031-0134-NO1	0134	S	001	S	L	S	45.3	14.3	SBS	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0140-NO1	0140	S	006	S	L	S	45.3	37.4	SBS	Mat	S	111	20			N
Mat	S	0031-0086-NO1	0086	N	004	S	L	S	45.8	31.3	ESSF	Old	S	111	20			N
Mat	S	0031-0011-NO1	0011	W	001	S	L	S	46.2	31.6	All_Other	Mat	S	111	20			N

Mat	S	0031-0135-NO1	0135	E	003	S	L	S	46.6	29.5	SBS	Mat	S	111	20			N
Mat	S	0031-0009-NO1	0009	S	005	S	L	S	46.7	33.9	All_Other	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0011-NO1	0011	S	006	S	L	S	47.5	34.3	All_Other	Mat	S	111	20			N
Mat	S	0031-0056-NO1	0056	E	007	S	L	S	47.6	33.3	ESSF	Mat	S	111	20			N
Mat	S	0031-0086-NO1	0086	W	008	S	L	S	48.7	33.5	ESSF	Old	S	111	20			N
Mat	S	0031-0151-NO1	0151	N	003	S	L	S	48.9	24.6	SBS	Old	S	111	20			N
Mat	S	0031-0086-NO1	0086	W	001	S	L	S	49.4	33.5	ESSF	Old	S	111	20			N
Mat	S	0031-0009-NO1	0009	E	009	S	L	S	49.7	34.1	All_Other	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0123-NO1	0123	W	005	S	L	S	50.1	28.2	SBS	Mat	S	111	20			N
Mat	S	0031-0019-NO1	0019	N	008	S	L	S	50.4	27.8	All_Other	Old	S	111	20			N
Mat	S	0031-0086-NO1	0086	N	003	S	L	S	50.8	32.1	ESSF	Old	S	111	20			N
Mat	S	0031-0151-NO1	0151	S	009	S	L	S	51.5	29.5	SBS	Old	S	111	20			N
Mat	S	0031-0086-NO1	0086	N	008	S	L	S	52	30.4	ESSF	Old	S	111	20	0.18018	5.55	Y
Mat	S	0031-0151-NO1	0151	N	002	S	L	S	52.1	31.3	SBS	Old	S	111	20			N
Mat	S	0031-0009-NO1	0009	W	006	S	L	S	52.3	35.6	All_Other	Mat	S	111	20			N
Mat	S	0031-0044-NO1	0044	W	002	S	L	S	53.8	29.8	ESSF	Mat	S	111	20			N
Mat	S	0031-0009-NO1	0009	S	004	S	L	S	55.1	35.4	All_Other	Mat	S	111	20			N
Mat	S	0031-0140-NO1	0140	S	009	S	L	S	55.2	40.9	SBS	Mat	S	111	20			N
Mat	S	0031-0012-NO1	0012	S	001	S	L	S	59.2	39.8	All_Other	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0131-NO1	0131	S	004	S	L	S	60	33.3	SBS	Mat	S	111	20			N
Mat	S	0031-0012-NO1	0012	E	007	S	L	S	60.6	38.2	All_Other	Mat	S	111	20			N
Mat	S	0031-0123-NO1	0123	S	001	S	L	S	62.2	26	SBS	Mat	S	111	20			N
Mat	S	0031-0140-NO1	0140	N	001	S	L	S	63.2	31.2	SBS	Mat	S	111	20			N
Mat	S	0031-0151-NO1	0151	W	006	S	L	S	64.4	30.1	SBS	Old	S	111	20	0.18018	5.55	Y
Mat	S	0031-0151-NO1	0151	E	002	S	L	S	65.1	33.9	SBS	Old	S	111	20			N
Mat	S	0031-0034-NO1	0034	S	004	S	L	S	66.3	19.3	ESSF	Mat	S	111	20			N
Mat	S	0031-0056-NO1	0056	E	001	S	L	S	66.8	32.2	ESSF	Mat	S	111	20			N
Mat	S	0031-0040-NO1	0040	N	001	S	L	S	74.2	28.7	ESSF	Mat	S	111	20			N
Mat	S	0031-0134-NO1	0134	N	003	S	L	S	74.3	30.9	SBS	Mat	S	111	20			N
Mat	S	0031-0063-NO1	0063	W	001	S	L	S	75.3	39.8	ESSF	Mat	S	111	20	0.18018	5.55	Y
Mat	S	0031-0034-NO1	0034	N	002	S	L	S	88.1	28	ESSF	Mat	S	111	20			N
Imm	Ot	0031-0097-NO1	0097	S	003	DR	L	S	12.6	10.5	SBS	Imm	D	42	10	0.238095	4.2	Y
Imm	Ot	0031-0090-NO1	0090	E	004	S	L	S	12.8	11.8	SBS	Imm	S	42	10			N

Imm	Ot	0031-0022-NO1	0022	W	002	BL	L	S	14.6	7.8	ESSF	Imm	B	42	10			N
Imm	Ot	0031-0090-NO1	0090	S	003	S	L	S	15.1	14.6	SBS	Imm	S	42	10			N
Imm	Ot	0031-0090-NO1	0090	E	003	S	L	S	15.5	16.2	SBS	Imm	S	42	10			N
Imm	Ot	0031-0090-NO1	0090	N	004	S	L	S	16.2	14.3	SBS	Imm	S	42	10	0.238095	4.2	Y
Imm	Ot	0031-0097-NO1	0097	N	002	S	L	S	16.9	10.5	SBS	Imm	S	42	10			N
Imm	Ot	0031-0022-NO1	0022	W	004	BL	L	S	19.3	11.8	ESSF	Imm	B	42	10			N
Imm	Ot	0031-0102-NO1	0102	W	003	S	L	S	19.7	22.5	SBS	Imm	S	42	10			N
Imm	Ot	0031-0090-NO1	0090	N	001	S	L	S	21.6	15.6	SBS	Imm	S	42	10	0.238095	4.2	Y
Imm	Ot	0031-0022-NO1	0022	S	001	BL	L	S	22.5	8.8	ESSF	Imm	B	42	10			N
Imm	Ot	0031-0097-NO1	0097	N	001	S	L	S	22.8	17.4	SBS	Imm	S	42	10			N
Imm	Ot	0031-0097-NO1	0097	N	007	S	L	S	23.6	17.3	SBS	Imm	S	42	10			N
Imm	Ot	0031-0102-NO1	0102	N	002	EP	L	S	24.2	20.5	SBS	Imm	E	42	10	0.238095	4.2	Y
Imm	Ot	0031-0102-NO1	0102	W	001	S	L	S	25	22.3	SBS	Imm	S	42	10			N
Imm	Ot	0031-0102-NO1	0102	W	004	S	L	S	25	23	SBS	Imm	S	42	10			N
Imm	Ot	0031-0022-NO1	0022	S	007	BL	L	S	25.4	7.9	ESSF	Imm	B	42	10			N
Imm	Ot	0031-0090-NO1	0090	W	001	PLI	L	S	25.5	17.1	SBS	Imm	PL	42	10	0.238095	4.2	Y
Imm	Ot	0031-0102-NO1	0102	E	001	AT	L	S	25.5	16.4	SBS	Imm	AT	42	10			N
Imm	Ot	0031-0090-NO1	0090	E	001	S	L	S	25.8	19.5	SBS	Imm	S	42	10			N
Imm	Ot	0031-0097-NO1	0097	N	009	S	L	S	25.9	18.7	SBS	Imm	S	42	10			N
Imm	Ot	0031-0097-NO1	0097	N	010	S	L	S	27.7	17	SBS	Imm	S	42	10	0.238095	4.2	Y
Imm	Ot	0031-0102-NO1	0102	N	004	EP	L	S	27.8	20.8	SBS	Imm	E	42	10			N
Imm	Ot	0031-0022-NO1	0022	E	002	BL	L	S	27.9	2.5	ESSF	Imm	B	42	10			N
Imm	Ot	0031-0102-NO1	0102	N	003	S	L	S	31.5	16.6	SBS	Imm	S	42	10			N
Imm	Ot	0031-0097-NO1	0097	N	008	S	L	S	32	18.8	SBS	Imm	S	42	10			N
Imm	Ot	0031-0090-NO1	0090	S	004	PLI	L	S	33.5	19.1	SBS	Imm	PL	42	10	0.238095	4.2	Y
Imm	Ot	0031-0022-NO1	0022	S	004	BL	L	S	34.3	14.1	ESSF	Imm	B	42	10			N
Imm	Ot	0031-0102-NO1	0102	N	001	AT	L	S	34.3	23.8	SBS	Imm	AT	42	10			N
Imm	Ot	0031-0022-NO1	0022	W	005	BL	L	S	35	14	ESSF	Imm	B	42	10			N
Imm	Ot	0031-0102-NO1	0102	W	007	EP	L	S	37	25.1	SBS	Imm	E	42	10	0.238095	4.2	Y
Imm	Ot	0031-0102-NO1	0102	E	002	AT	L	S	37.1	23.6	SBS	Imm	AT	42	10			N
Imm	Ot	0031-0102-NO1	0102	W	005	S	L	S	38.9	21.8	SBS	Imm	S	42	10			N
Imm	Ot	0031-0097-NO1	0097	S	006	S	L	S	39.8	21.4	SBS	Imm	S	42	10			N
Imm	Ot	0031-0097-NO1	0097	E	005	EP	L	S	40	20.1	SBS	Imm	E	42	10	0.238095	4.2	Y
Imm	Ot	0031-0097-NO1	0097	W	001	S	L	S	42.4	18.9	SBS	Imm	S	42	10			N

Imm	Ot	0031-0097-NO1	0097	E	003	S	L	S	47.1	30.6	SBS	Imm	S	42	10			N
Imm	Ot	0031-0097-NO1	0097	S	008	S	L	S	52.9	21.4	SBS	Imm	S	42	10			N
Imm	Ot	0031-0097-NO1	0097	E	002	S	L	S	56.9	29.2	SBS	Imm	S	42	10	0.238095	4.2	Y
Imm	Ot	0031-0097-NO1	0097	S	007	EP	L	S	63.9	19	SBS	Imm	E	42	10			N
Imm	Ot	0031-0097-NO1	0097	E	001	S	L	S	65.6	30.8	SBS	Imm	S	42	10			N
Imm	Ot	0031-0097-NO1	0097	E	004	S	L	S	70.3	27.4	SBS	Imm	S	42	10			N
ESSF	B	0031-0040-NO1	0040	E	005	BL	L	S	12.5	10.6	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0083-NO1	0083	E	010	BL	L	S	12.6	4.5	ESSF	Old	B	188	18			N
ESSF	B	0031-0044-NO1	0044	E	005	BL	L	S	12.7	8.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	W	002	BL	L	S	13	11	ESSF	Mat	B	188	18			N
ESSF	B	0031-0045-NO1	0045	W	002	BL	L	S	13	5.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	S	008	BL	L	S	13.3	8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	W	012	BL	L	S	13.3	5.8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	N	004	BL	L	S	13.6	2.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0044-NO1	0044	S	006	BL	L	S	13.7	6.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	W	005	BL	L	S	13.9	11.7	ESSF	Mat	B	188	18			N
ESSF	B	0031-0028-NO1	0028	E	001	BL	L	S	14.1	7.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0086-NO1	0086	N	002	BL	L	S	14.2	8.2	ESSF	Old	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0040-NO1	0040	S	002	BL	L	S	14.3	13.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0040-NO1	0040	N	007	BL	L	S	14.4	11.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	E	006	BL	L	S	14.5	2.7	ESSF	Old	B	188	18			N
ESSF	B	0031-0047-NO1	0047	W	009	BL	L	S	14.7	9.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	N	006	BL	L	S	15.2	9.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0086-NO1	0086	E	004	BL	L	S	15.2	12.4	ESSF	Old	B	188	18			N
ESSF	B	0031-0036-NO1	0036	N	002	BL	L	S	16	13.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	E	001	BL	L	S	16.4	12.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0086-NO1	0086	N	007	BL	L	S	16.4	9.3	ESSF	Old	B	188	18			N
ESSF	B	0031-0057-NO1	0057	N	005	BL	L	S	16.8	13.4	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0036-NO1	0036	S	002	BL	L	S	17.1	15.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0086-NO1	0086	W	005	BL	L	S	17.1	12.9	ESSF	Old	B	188	18			N
ESSF	B	0031-0040-NO1	0040	E	006	BL	L	S	17.5	11.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0056-NO1	0056	N	004	BL	L	S	17.7	8.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0056-NO1	0056	N	007	BL	L	S	18	10.9	ESSF	Mat	B	188	18			N

ESSF	B	0031-0047-NO1	0047	W	004	BL	L	S	18.1	13	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	S	005	BL	L	S	18.1	8.9	ESSF	Old	B	188	18			N
ESSF	B	0031-0065-NO1	0065	W	001	BL	L	S	18.3	10.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0056-NO1	0056	S	003	BL	L	S	18.8	18.4	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	W	002	BL	L	S	19.2	9.5	ESSF	Old	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0060-NO1	0060	W	003	BL	L	S	19.3	10.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	N	009	BL	L	S	19.4	6.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0040-NO1	0040	S	001	BL	L	S	19.5	14.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0086-NO1	0086	N	001	BL	L	S	19.5	8.4	ESSF	Old	B	188	18			N
ESSF	B	0031-0040-NO1	0040	W	003	BL	L	S	19.6	12	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	S	006	BL	L	S	19.6	9.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0045-NO1	0045	S	002	BL	L	S	19.7	12.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0083-NO1	0083	E	004	BL	L	S	19.8	11.2	ESSF	Old	B	188	18			N
ESSF	B	0031-0073-NO1	0073	N	002	BL	L	S	20.4	7.5	ESSF	Old	B	188	18			N
ESSF	B	0031-0063-NO1	0063	E	001	BL	L	S	20.5	12.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0040-NO1	0040	W	002	BL	L	S	20.6	13.4	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0047-NO1	0047	W	016	BL	L	S	20.6	13.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0073-NO1	0073	W	007	BL	L	S	20.6	9.1	ESSF	Old	B	188	18			N
ESSF	B	0031-0082-NO1	0082	N	003	BL	L	S	20.7	18.6	ESSF	Old	B	188	18			N
ESSF	B	0031-0082-NO1	0082	N	002	BL	L	S	20.8	11.6	ESSF	Old	B	188	18			N
ESSF	B	0031-0083-NO1	0083	S	001	BA	L	S	20.8	14.2	ESSF	Old	B	188	18			N
ESSF	B	0031-0062-NO1	0062	N	006	BL	L	S	20.9	15.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	N	006	BL	L	S	21	15.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0086-NO1	0086	S	005	BL	L	S	21	18.8	ESSF	Old	B	188	18			N
ESSF	B	0031-0036-NO1	0036	E	007	BL	L	S	21.8	18.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0083-NO1	0083	S	004	BL	L	S	22.4	11	ESSF	Old	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0056-NO1	0056	W	003	BL	L	S	22.6	18	ESSF	Mat	B	188	18			N
ESSF	B	0031-0056-NO1	0056	N	003	BL	L	S	22.7	14.4	ESSF	Mat	B	188	18			N
ESSF	B	0031-0057-NO1	0057	S	003	BL	L	S	22.7	18.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0040-NO1	0040	N	006	BL	L	S	23	15.8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0083-NO1	0083	S	002	BA	L	S	23	13.1	ESSF	Old	B	188	18			N
ESSF	B	0031-0040-NO1	0040	E	002	BL	L	S	23.3	15.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	W	007	BL	L	S	23.7	16.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0057-NO1	0057	N	004	BL	L	S	23.8	8.7	ESSF	Mat	B	188	18			N

ESSF	B	0031-0073-NO1	0073	W	010	BL	L	S	24.1	11.5	ESSF	Old	B	188	18			N
ESSF	B	0031-0063-NO1	0063	N	001	BL	L	S	24.5	12	ESSF	Mat	B	188	18			N
ESSF	B	0031-0083-NO1	0083	E	008	BL	L	S	24.6	12.1	ESSF	Old	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0060-NO1	0060	S	007	BL	L	S	25	18.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0062-NO1	0062	N	003	BL	L	S	25	17.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0073-NO1	0073	S	001	BL	L	S	25	8	ESSF	Old	B	188	18			N
ESSF	B	0031-0056-NO1	0056	S	006	BL	L	S	25.1	22.7	ESSF	Mat	B	188	18			N
ESSF	B	0031-0044-NO1	0044	S	005	BL	L	S	25.4	19.7	ESSF	Mat	B	188	18			N
ESSF	B	0031-0056-NO1	0056	S	005	BL	L	S	25.4	20.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	S	008	BL	L	S	26	17	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	N	003	BL	L	S	26.2	21.8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0086-NO1	0086	E	005	BL	L	S	26.2	19.3	ESSF	Old	B	188	18			N
ESSF	B	0031-0082-NO1	0082	W	001	BL	L	S	26.4	10.4	ESSF	Old	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0086-NO1	0086	E	003	BL	L	S	26.6	18.9	ESSF	Old	B	188	18			N
ESSF	B	0031-0047-NO1	0047	S	007	BL	L	S	26.8	14.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0056-NO1	0056	W	005	BL	L	S	27	18.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	W	004	BL	L	S	27.3	20.1	ESSF	Old	B	188	18			N
ESSF	B	0031-0082-NO1	0082	S	002	BL	L	S	27.4	16.7	ESSF	Old	B	188	18			N
ESSF	B	0031-0065-NO1	0065	E	001	BL	L	S	27.5	17.7	ESSF	Mat	B	188	18			N
ESSF	B	0031-0057-NO1	0057	W	006	BL	L	S	27.7	20.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	S	007	BL	L	S	28	22.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	W	005	BL	L	S	28.3	21.8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	W	006	BL	L	S	28.4	13.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0028-NO1	0028	W	002	BL	L	S	28.5	13.8	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0056-NO1	0056	E	004	BL	L	S	28.9	25.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0057-NO1	0057	S	004	BL	L	S	29.1	18.8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	S	001	BL	L	S	29.4	22.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	N	001	BL	L	S	29.4	17.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	E	004	BL	L	S	29.5	18.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	S	004	BL	L	S	29.6	19.4	ESSF	Old	B	188	18			N
ESSF	B	0031-0028-NO1	0028	N	009	BL	L	S	29.7	12.8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	E	002	BL	L	S	29.9	17.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	W	006	BL	L	S	29.9	19.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0060-NO1	0060	W	002	BL	L	S	29.9	9.3	ESSF	Mat	B	188	18	0.095745	10.44444444	Y

ESSF	B	0031-0056-NO1	0056	E	008	BL	L	S	30.6	19.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	N	005	BL	L	S	30.8	22	ESSF	Mat	B	188	18			N
ESSF	B	0031-0063-NO1	0063	W	002	BL	L	S	31	20.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0057-NO1	0057	E	002	BL	L	S	31.2	21.7	ESSF	Mat	B	188	18			N
ESSF	B	0031-0073-NO1	0073	N	001	BL	L	S	31.2	5.5	ESSF	Old	B	188	18			N
ESSF	B	0031-0060-NO1	0060	S	004	BL	L	S	31.3	19.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0045-NO1	0045	W	004	BL	L	S	31.8	19.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0045-NO1	0045	W	005	BL	L	S	31.8	16	ESSF	Mat	B	188	18			N
ESSF	B	0031-0073-NO1	0073	W	011	BL	L	S	31.8	7.2	ESSF	Old	B	188	18			N
ESSF	B	0031-0047-NO1	0047	N	002	BL	L	S	31.9	20.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	S	009	BL	L	S	31.9	20.4	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0082-NO1	0082	E	007	BL	L	S	31.9	20.6	ESSF	Old	B	188	18			N
ESSF	B	0031-0036-NO1	0036	E	005	BL	L	S	32	21.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0073-NO1	0073	E	004	BL	L	S	32	15.8	ESSF	Old	B	188	18			N
ESSF	B	0031-0082-NO1	0082	W	009	BL	L	S	32	18.1	ESSF	Old	B	188	18			N
ESSF	B	0031-0047-NO1	0047	W	002	BL	L	S	32.1	17.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0056-NO1	0056	E	002	BL	L	S	32.1	19.8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	E	006	BL	L	S	32.1	24.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0086-NO1	0086	W	004	BL	L	S	32.1	23.8	ESSF	Old	B	188	18			N
ESSF	B	0031-0056-NO1	0056	N	006	BL	L	S	32.5	24.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	W	010	BL	L	S	32.5	19	ESSF	Old	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0060-NO1	0060	S	002	BL	L	S	32.7	21.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0036-NO1	0036	N	004	BL	L	S	32.8	20.7	ESSF	Mat	B	188	18			N
ESSF	B	0031-0057-NO1	0057	N	003	BL	L	S	32.9	20.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0028-NO1	0028	N	002	BL	L	S	33.2	15.7	ESSF	Mat	B	188	18			N
ESSF	B	0031-0086-NO1	0086	S	003	BL	L	S	33.3	20.1	ESSF	Old	B	188	18			N
ESSF	B	0031-0047-NO1	0047	W	014	BL	L	S	33.4	22.7	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	W	007	BL	L	S	33.5	18.9	ESSF	Old	B	188	18			N
ESSF	B	0031-0060-NO1	0060	E	010	BL	L	S	34	23.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0073-NO1	0073	S	002	BL	L	S	34	12.6	ESSF	Old	B	188	18			N
ESSF	B	0031-0057-NO1	0057	N	002	BL	L	S	34.2	22	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0086-NO1	0086	E	001	BL	L	S	34.5	25.1	ESSF	Old	B	188	18			N
ESSF	B	0031-0045-NO1	0045	S	009	BL	L	S	34.6	19.4	ESSF	Mat	B	188	18			N
ESSF	B	0031-0057-NO1	0057	W	002	BL	L	S	34.8	25.2	ESSF	Mat	B	188	18			N

ESSF	B	0031-0073-NO1	0073	E	005	BL	L	S	35	15.8	ESSF	Old	B	188	18			N
ESSF	B	0031-0082-NO1	0082	N	006	BL	L	S	35.4	18.9	ESSF	Old	B	188	18			N
ESSF	B	0031-0047-NO1	0047	N	007	BL	L	S	36	14.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0034-NO1	0034	N	001	BL	L	S	36.4	19.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0028-NO1	0028	S	001	BL	L	S	36.8	15.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	N	005	BL	L	S	37	22.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	W	009	BL	L	S	38.2	14.8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	S	001	BL	L	S	38.4	18.1	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0045-NO1	0045	S	007	BL	L	S	38.7	18.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0056-NO1	0056	S	002	BL	L	S	38.7	21	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	E	010	BL	L	S	38.7	22.8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0062-NO1	0062	W	004	BL	L	S	38.8	24.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	W	002	BL	L	S	38.8	23.4	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	S	005	BL	L	S	39	16.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0044-NO1	0044	E	007	BL	L	S	39.1	26.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0045-NO1	0045	S	008	BL	L	S	39.2	17.5	ESSF	Mat	B	188	18			N
ESSF	B	0031-0060-NO1	0060	S	005	BL	L	S	39.5	22.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0060-NO1	0060	W	001	BL	L	S	39.5	24.1	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0065-NO1	0065	W	003	BL	L	S	39.5	24.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0060-NO1	0060	E	002	BL	L	S	39.6	27	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	W	008	BL	L	S	39.7	24.4	ESSF	Mat	B	188	18			N
ESSF	B	0031-0047-NO1	0047	E	001	BL	L	S	39.8	18.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0060-NO1	0060	E	005	BL	L	S	40.1	25.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0073-NO1	0073	E	001	BL	L	S	40.4	15.1	ESSF	Old	B	188	18			N
ESSF	B	0031-0057-NO1	0057	E	001	BL	L	S	40.5	27.8	ESSF	Mat	B	188	18			N
ESSF	B	0031-0062-NO1	0062	E	003	BL	L	S	40.6	20.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0028-NO1	0028	S	002	BL	L	S	40.8	21.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	S	006	BL	L	S	41.4	22.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0065-NO1	0065	N	007	BL	L	S	42.6	22.1	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0082-NO1	0082	N	005	BL	L	S	43.1	22.2	ESSF	Old	B	188	18			N
ESSF	B	0031-0045-NO1	0045	W	001	BL	L	S	43.3	17.4	ESSF	Mat	B	188	18			N
ESSF	B	0031-0083-NO1	0083	S	007	BL	L	S	43.8	19.6	ESSF	Old	B	188	18			N
ESSF	B	0031-0060-NO1	0060	W	006	BL	L	S	44	23.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0057-NO1	0057	W	004	BL	L	S	44.1	28.7	ESSF	Mat	B	188	18			N

ESSF	B	0031-0057-NO1	0057	S	001	BL	L	S	46.5	24.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0062-NO1	0062	S	001	BL	L	S	46.7	22	ESSF	Mat	B	188	18			N
ESSF	B	0031-0060-NO1	0060	W	005	BL	L	S	47.2	24.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	E	001	BL	L	S	48.1	28.3	ESSF	Old	B	188	18			N
ESSF	B	0031-0047-NO1	0047	E	004	BL	L	S	48.3	19.2	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0036-NO1	0036	W	001	BL	L	S	48.8	22.4	ESSF	Mat	B	188	18			N
ESSF	B	0031-0062-NO1	0062	N	009	BL	L	S	49.6	24.4	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	S	006	BL	L	S	50.4	28.9	ESSF	Old	B	188	18			N
ESSF	B	0031-0065-NO1	0065	W	007	BL	L	S	51.6	8.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0044-NO1	0044	S	004	BL	L	S	52.5	22	ESSF	Mat	B	188	18			N
ESSF	B	0031-0060-NO1	0060	E	001	BL	L	S	52.5	24.1	ESSF	Mat	B	188	18			N
ESSF	B	0031-0073-NO1	0073	E	006	BL	L	S	52.6	4.5	ESSF	Old	B	188	18			N
ESSF	B	0031-0060-NO1	0060	N	003	BL	L	S	52.7	20.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0073-NO1	0073	E	002	BL	L	S	54	20.9	ESSF	Old	B	188	18			N
ESSF	B	0031-0047-NO1	0047	W	011	BL	L	S	54.4	25.7	ESSF	Mat	B	188	18			N
ESSF	B	0031-0056-NO1	0056	E	003	BL	L	S	55.5	29.9	ESSF	Mat	B	188	18	0.095745	10.44444444	Y
ESSF	B	0031-0036-NO1	0036	S	006	BL	L	S	55.8	25.3	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	E	002	BL	L	S	57.5	27.4	ESSF	Old	B	188	18			N
ESSF	B	0031-0065-NO1	0065	E	002	BL	L	S	58.7	25.2	ESSF	Mat	B	188	18			N
ESSF	B	0031-0073-NO1	0073	E	003	BL	L	S	62	18.1	ESSF	Old	B	188	18			N
ESSF	B	0031-0057-NO1	0057	E	004	BL	L	S	62.7	32.9	ESSF	Mat	B	188	18			N
ESSF	B	0031-0034-NO1	0034	S	003	BL	L	S	66	29	ESSF	Mat	B	188	18			N
ESSF	B	0031-0082-NO1	0082	W	005	BL	L	S	66.2	28.5	ESSF	Old	B	188	18			N
ESSF	B	0031-0062-NO1	0062	E	002	BL	L	S	68.6	20.6	ESSF	Mat	B	188	18			N
ESSF	B	0031-0034-NO1	0034	S	001	BL	L	S	73.8	23.6	ESSF	Mat	B	188	18			N
Dead	B	0031-0019-NO1	0019	S	004	BL	D	S	14.8	4.5	All_Other	Old	B	113	10	0.088496	11.3	Y
Dead	B	0031-0047-NO1	0047	S	010	BL	D	S	15	8.6	ESSF	Mat	B	113	10			N
Dead	B	0031-0083-NO1	0083	W	001	B	D	S	15	6	ESSF	Old	B	113	10			N
Dead	B	0031-0083-NO1	0083	W	002	B	D	S	15	1.8	ESSF	Old	B	113	10			N
Dead	B	0031-0047-NO1	0047	W	008	BL	D	S	15.3	5.8	ESSF	Mat	B	113	10			N
Dead	B	0031-0009-NO1	0009	N	009	BL	D	S	15.7	21.3	All_Other	Mat	B	113	10			N
Dead	B	0031-0134-NO1	0134	E	001	BL	D	S	15.9	7.7	SBS	Mat	B	113	10			N
Dead	B	0031-0151-NO1	0151	N	004	BL	D	F	16.7	10.2	SBS	Old	B	113	10			N

Dead	B	0031-0151-NO1	0151	N	007	BL	D	S	16.7	4.8	SBS	Old	B	113	10			N
Dead	B	0031-0009-NO1	0009	N	004	BL	D	S	16.8	22.6	All_Other	Mat	B	113	10			N
Dead	B	0031-0009-NO1	0009	N	003	BL	D	S	17.4	19.1	All_Other	Mat	B	113	10			N
Dead	B	0031-0019-NO1	0019	E	004	BL	D	S	17.8	7.2	All_Other	Old	B	113	10			N
Dead	B	0031-0122-NO1	0122	N	006	BL	D	S	17.8	13.3	SBS	Mat	B	113	10	0.088496	11.3	Y
Dead	B	0031-0040-NO1	0040	E	004	BL	D	S	17.9	14.3	ESSF	Mat	B	113	10			N
Dead	B	0031-0122-NO1	0122	W	002	BL	D	S	19	10.7	SBS	Mat	B	113	10			N
Dead	B	0031-0060-NO1	0060	S	006	BL	D	S	19.4	12	ESSF	Mat	B	113	10			N
Dead	B	0031-0122-NO1	0122	W	005	BL	D	S	20.3	14	SBS	Mat	B	113	10			N
Dead	B	0031-0060-NO1	0060	S	001	BL	D	S	20.8	12.9	ESSF	Mat	B	113	10			N
Dead	B	0031-0056-NO1	0056	E	005	BL	D	S	20.9	13.9	ESSF	Mat	B	113	10			N
Dead	B	0031-0040-NO1	0040	E	003	BL	D	S	21.5	15.4	ESSF	Mat	B	113	10			N
Dead	B	0031-0086-NO1	0086	S	004	BL	D	S	21.7	15.5	ESSF	Old	B	113	10			N
Dead	B	0031-0056-NO1	0056	N	008	BL	D	S	21.8	17.4	ESSF	Mat	B	113	10			N
Dead	B	0031-0122-NO1	0122	N	001	BL	D	S	21.8	16	SBS	Mat	B	113	10			N
Dead	B	0031-0122-NO1	0122	N	009	BL	D	S	22	11.5	SBS	Mat	B	113	10	0.088496	11.3	Y
Dead	B	0031-0063-NO1	0063	N	003	BL	D	S	22.3	19.8	ESSF	Mat	B	113	10			N
Dead	B	0031-0047-NO1	0047	N	003	BL	D	S	23.1	15.6	ESSF	Mat	B	113	10			N
Dead	B	0031-0083-NO1	0083	S	008	B	D	S	23.8	15.1	ESSF	Old	B	113	10			N
Dead	B	0031-0121-NO1	0121	S	001	BL	D	S	24	17.2	SBS	Mat	B	113	10			N
Dead	B	0031-0047-NO1	0047	N	001	BL	D	S	24.5	15.8	ESSF	Mat	B	113	10			N
Dead	B	0031-0121-NO1	0121	N	003	BL	D	S	24.5	8.7	SBS	Mat	B	113	10			N
Dead	B	0031-0118-NO1	0118	W	004	BL	D	S	24.6	16	SBS	Mat	B	113	10			N
Dead	B	0031-0086-NO1	0086	E	002	BL	D	S	25.5	16.9	ESSF	Old	B	113	10			N
Dead	B	0031-0009-NO1	0009	E	001	BL	D	S	26.5	19.5	All_Other	Mat	B	113	10			N
Dead	B	0031-0019-NO1	0019	N	007	BL	D	S	27.2	15	All_Other	Old	B	113	10			N
Dead	B	0031-0083-NO1	0083	E	003	B	D	S	28.8	14.1	ESSF	Old	B	113	10	0.088496	11.3	Y
Dead	B	0031-0121-NO1	0121	W	006	BL	D	S	29.2	20.1	SBS	Mat	B	113	10			N
Dead	B	0031-0151-NO1	0151	W	010	BL	D	S	29.2	25.7	SBS	Old	B	113	10			N
Dead	B	0031-0047-NO1	0047	W	015	BL	D	S	29.9	19.2	ESSF	Mat	B	113	10			N
Dead	B	0031-0082-NO1	0082	E	004	BL	D	S	30.1	9	ESSF	Old	B	113	10			N
Dead	B	0031-0086-NO1	0086	S	006	BL	D	S	30.1	22.8	ESSF	Old	B	113	10			N
Dead	B	0031-0083-NO1	0083	S	003	B	D	S	30.2	13	ESSF	Old	B	113	10			N
Dead	B	0031-0047-NO1	0047	W	005	BL	D	S	30.5	15.8	ESSF	Mat	B	113	10			N

Dead	B	0031-0007-NO1	0007	N	005	B	D	S	30.6	23.1	All_Other	Mat	B	113	10			N
Dead	B	0031-0019-NO1	0019	S	002	BL	D	S	30.8	16.5	All_Other	Old	B	113	10			N
Dead	B	0031-0121-NO1	0121	E	003	BL	D	S	30.8	18.2	SBS	Mat	B	113	10			N
Dead	B	0031-0060-NO1	0060	E	009	BL	D	S	31	19.6	ESSF	Mat	B	113	10	0.088496	11.3	Y
Dead	B	0031-0121-NO1	0121	W	001	BL	D	S	31.6	20.5	SBS	Mat	B	113	10			N
Dead	B	0031-0065-NO1	0065	W	004	BL	D	F	31.9	3.5	ESSF	Mat	B	113	10			N
Dead	B	0031-0121-NO1	0121	E	005	BL	D	S	32.3	16.4	SBS	Mat	B	113	10			N
Dead	B	0031-0140-NO1	0140	N	006	BL	D	S	32.7	29.2	SBS	Mat	B	113	10			N
Dead	B	0031-0019-NO1	0019	E	002	BL	D	S	33	18.2	All_Other	Old	B	113	10			N
Dead	B	0031-0065-NO1	0065	N	004	BL	D	S	33	2.4	ESSF	Mat	B	113	10			N
Dead	B	0031-0047-NO1	0047	W	003	BL	D	S	33.1	16.6	ESSF	Mat	B	113	10			N
Dead	B	0031-0140-NO1	0140	S	007	BL	D	S	33.1	32.1	SBS	Mat	B	113	10			N
Dead	B	0031-0007-NO1	0007	E	006	B	D	S	33.2	23	All_Other	Mat	B	113	10			N
Dead	B	0031-0121-NO1	0121	W	003	BL	D	S	33.9	25.6	SBS	Mat	B	113	10			N
Dead	B	0031-0009-NO1	0009	S	002	BL	D	S	34.3	21.5	All_Other	Mat	B	113	10			N
Dead	B	0031-0065-NO1	0065	S	004	BL	D	S	34.4	10.5	ESSF	Mat	B	113	10	0.088496	11.3	Y
Dead	B	0031-0151-NO1	0151	W	009	BL	D	S	34.6	24.8	SBS	Old	B	113	10			N
Dead	B	0031-0056-NO1	0056	N	005	BL	D	S	35.1	22.6	ESSF	Mat	B	113	10			N
Dead	B	0031-0065-NO1	0065	N	008	BL	D	S	35.2	20.7	ESSF	Mat	B	113	10			N
Dead	B	0031-0007-NO1	0007	N	010	B	D	S	35.4	24.1	All_Other	Mat	B	113	10			N
Dead	B	0031-0140-NO1	0140	S	005	BL	D	S	35.4	28.9	SBS	Mat	B	113	10			N
Dead	B	0031-0007-NO1	0007	E	007	B	D	S	36.8	28.7	All_Other	Mat	B	113	10			N
Dead	B	0031-0060-NO1	0060	S	003	BL	D	S	36.8	9.7	ESSF	Mat	B	113	10			N
Dead	B	0031-0083-NO1	0083	E	007	B	D	S	36.8	11.5	ESSF	Old	B	113	10			N
Dead	B	0031-0083-NO1	0083	N	008	B	D	S	36.9	13.3	ESSF	Old	B	113	10			N
Dead	B	0031-0121-NO1	0121	E	004	BL	D	S	38.5	30	SBS	Mat	B	113	10			N
Dead	B	0031-0086-NO1	0086	S	002	BL	D	S	40.2	23.8	ESSF	Old	B	113	10	0.088496	11.3	Y
Dead	B	0031-0121-NO1	0121	E	009	BL	D	S	40.3	5.4	SBS	Mat	B	113	10			N
Dead	B	0031-0086-NO1	0086	W	003	BL	D	S	40.6	26.3	ESSF	Old	B	113	10			N
Dead	B	0031-0082-NO1	0082	N	004	BL	D	S	41	22	ESSF	Old	B	113	10			N
Dead	B	0031-0056-NO1	0056	N	009	BL	D	S	41.3	11.4	ESSF	Mat	B	113	10			N
Dead	B	0031-0140-NO1	0140	N	004	BL	D	S	41.4	28.1	SBS	Mat	B	113	10			N
Dead	B	0031-0056-NO1	0056	N	001	BL	D	S	41.5	21.9	ESSF	Mat	B	113	10			N
Dead	B	0031-0060-NO1	0060	N	002	BL	D	S	41.8	24.8	ESSF	Mat	B	113	10			N

Dead	B	0031-0086-NO1	0086	W	007	BL	D	S	42.3	9.5	ESSF	Old	B	113	10			N
Dead	B	0031-0097-NO1	0097	N	005	BL	D	S	42.3	25.5	SBS	Imm	B	113	10			N
Dead	B	0031-0082-NO1	0082	S	001	BL	D	S	42.8	22.5	ESSF	Old	B	113	10			N
Dead	B	0031-0134-NO1	0134	E	007	BL	D	S	42.8	8.5	SBS	Mat	B	113	10	0.088496	11.3	Y
Dead	B	0031-0082-NO1	0082	W	008	BL	D	S	42.9	18.1	ESSF	Old	B	113	10			N
Dead	B	0031-0065-NO1	0065	N	005	BL	D	S	43.3	24.4	ESSF	Mat	B	113	10			N
Dead	B	0031-0060-NO1	0060	N	001	BL	D	S	43.5	24.5	ESSF	Mat	B	113	10			N
Dead	B	0031-0140-NO1	0140	S	003	BL	D	S	44.7	27.6	SBS	Mat	B	113	10			N
Dead	B	0031-0019-NO1	0019	N	002	BL	D	S	45	23.3	All_Other	Old	B	113	10			N
Dead	B	0031-0151-NO1	0151	N	010	BL	D	S	45.6	29.5	SBS	Old	B	113	10			N
Dead	B	0031-0065-NO1	0065	S	003	BL	D	S	46.4	14.6	ESSF	Mat	B	113	10			N
Dead	B	0031-0065-NO1	0065	E	007	BL	D	S	46.5	14.9	ESSF	Mat	B	113	10			N
Dead	B	0031-0057-NO1	0057	E	003	BL	D	S	47.3	14.6	ESSF	Mat	B	113	10			N
Dead	B	0031-0019-NO1	0019	W	007	BL	D	S	47.4	19	All_Other	Old	B	113	10			N
Dead	B	0031-0028-NO1	0028	N	003	BL	D	S	47.5	19.9	ESSF	Mat	B	113	10			N
Dead	B	0031-0082-NO1	0082	W	003	BL	D	S	48.1	23.6	ESSF	Old	B	113	10	0.088496	11.3	Y
Dead	B	0031-0065-NO1	0065	E	008	BL	D	S	48.2	25.8	ESSF	Mat	B	113	10			N
Dead	B	0031-0065-NO1	0065	W	010	BL	D	S	48.5	2	ESSF	Mat	B	113	10			N
Dead	B	0031-0065-NO1	0065	E	004	BL	D	S	49	21.7	ESSF	Mat	B	113	10			N
Dead	B	0031-0007-NO1	0007	N	008	B	D	S	49.8	28.7	All_Other	Mat	B	113	10			N
Dead	B	0031-0065-NO1	0065	E	005	BL	D	S	50.2	30.8	ESSF	Mat	B	113	10			N
Dead	B	0031-0151-NO1	0151	W	005	BL	D	S	50.3	33.2	SBS	Old	B	113	10			N
Dead	B	0031-0019-NO1	0019	N	001	BL	D	S	50.9	26.3	All_Other	Old	B	113	10			N
Dead	B	0031-0151-NO1	0151	S	008	BL	D	S	51.1	32.9	SBS	Old	B	113	10			N
Dead	B	0031-0151-NO1	0151	E	003	BL	D	S	52.1	18.7	SBS	Old	B	113	10			N
Dead	B	0031-0151-NO1	0151	W	001	BL	D	S	53.9	29.5	SBS	Old	B	113	10			N
Dead	B	0031-0151-NO1	0151	W	003	BL	D	S	53.9	29.8	SBS	Old	B	113	10	0.088496	11.3	Y
Dead	B	0031-0019-NO1	0019	W	001	BL	D	S	55.3	31.1	All_Other	Old	B	113	10			N
Dead	B	0031-0082-NO1	0082	E	005	BL	D	S	57	27	ESSF	Old	B	113	10			N
Dead	B	0031-0065-NO1	0065	N	003	BL	D	S	60.4	16.1	ESSF	Mat	B	113	10			N
Dead	B	0031-0082-NO1	0082	W	006	BL	D	S	61	23.3	ESSF	Old	B	113	10			N
Dead	B	0031-0060-NO1	0060	E	008	BL	D	S	62	23.3	ESSF	Mat	B	113	10			N
Dead	B	0031-0151-NO1	0151	W	008	BL	D	S	64	34.9	SBS	Old	B	113	10			N
Dead	B	0031-0019-NO1	0019	N	006	BL	D	S	67.6	37.5	All_Other	Old	B	113	10			N

Dead	B	0031-0019-NO1	0019	W	003	BL	D	S	70.8	26.6	All_Other	Old	B	113	10			N
Dead	B	0031-0019-NO1	0019	N	003	BL	D	S	72.9	34	All_Other	Old	B	113	10			N
Dead	B	0031-0011-NO1	0011	S	003	B	D	S	91.6	38.2	All_Other	Mat	B	113	10			N
Dead	Ot	0031-0131-NO1	0131	N	004	S	D	S	13	13.5	SBS	Mat	S	30	10	0.333333	3	Y
Dead	Ot	0031-0136-NO1	0136	W	005	S	D	S	13.4	8.6	SBS	Mat	S	30	10			N
Dead	Ot	0031-0126-NO1	0126	S	005	PLI	D	S	13.5	20.7	SBS	Mat	PL	30	10			N
Dead	Ot	0031-0028-NO1	0028	W	003	HM	D	S	13.9	1.6	ESSF	Mat	H	30	10	0.333333	3	Y
Dead	Ot	0031-0090-NO1	0090	N	005	XC	D	F	14.5	2.8	SBS	Imm	F	30	10			N
Dead	Ot	0031-0135-NO1	0135	W	003	S	D	S	15.5	6.5	SBS	Mat	S	30	10			N
Dead	Ot	0031-0126-NO1	0126	W	005	S	D	S	19	11.5	SBS	Mat	S	30	10	0.333333	3	Y
Dead	Ot	0031-0083-NO1	0083	W	004	HM	D	S	20.4	6.2	ESSF	Old	H	30	10			N
Dead	Ot	0031-0108-NO1	0108	N	005	SB	D	S	20.6	3.2	SBS	Mat	S	30	10			N
Dead	Ot	0031-0108-NO1	0108	W	009	SB	D	F	21	11.6	SBS	Mat	S	30	10	0.333333	3	Y
Dead	Ot	0031-0007-NO1	0007	S	006	HW	D	S	21.3	11.1	All_Other	Mat	H	30	10			N
Dead	Ot	0031-0063-NO1	0063	S	008	PLI	D	S	22.1	12.8	ESSF	Mat	PL	30	10			N
Dead	Ot	0031-0131-NO1	0131	W	006	AT	D	S	22.8	17.4	SBS	Mat	AT	30	10	0.333333	3	Y
Dead	Ot	0031-0136-NO1	0136	W	004	S	D	S	23.5	19.5	SBS	Mat	S	30	10			N
Dead	Ot	0031-0123-NO1	0123	W	006	S	D	S	26.4	14.3	SBS	Mat	S	30	10			N
Dead	Ot	0031-0108-NO1	0108	W	001	SB	D	F	27.9	17	SBS	Mat	S	30	10	0.333333	3	Y
Dead	Ot	0031-0108-NO1	0108	W	010	XC	D	F	31	10.5	SBS	Mat	F	30	10			N
Dead	Ot	0031-0012-NO1	0012	S	006	ACT	D	S	34.6	17.3	All_Other	Mat	AC	30	10			N
Dead	Ot	0031-0090-NO1	0090	S	002	PLI	D	S	34.7	17.8	SBS	Imm	PL	30	10	0.333333	3	Y
Dead	Ot	0031-0123-NO1	0123	N	004	S	D	S	35	9.9	SBS	Mat	S	30	10			N
Dead	Ot	0031-0007-NO1	0007	N	002	HW	D	S	35.7	21.3	All_Other	Mat	H	30	10			N
Dead	Ot	0031-0090-NO1	0090	N	003	PLI	D	S	36.9	24.2	SBS	Imm	PL	30	10	0.333333	3	Y
Dead	Ot	0031-0122-NO1	0122	S	005	XC	D	S	37.6	13.7	SBS	Mat	F	30	10			N
Dead	Ot	0031-0090-NO1	0090	E	005	PLI	D	S	38.2	4.9	SBS	Imm	PL	30	10			N
Dead	Ot	0031-0122-NO1	0122	E	006	XC	D	S	39	8.3	SBS	Mat	F	30	10	0.333333	3	Y
Dead	Ot	0031-0131-NO1	0131	S	003	S	D	S	43	21.6	SBS	Mat	S	30	10			N
Dead	Ot	0031-0122-NO1	0122	W	007	XC	D	S	45.7	9.8	SBS	Mat	F	30	10			N
Dead	Ot	0031-0056-NO1	0056	N	002	S	D	S	48.1	16.3	ESSF	Mat	S	30	10	0.333333	3	Y
Dead	Ot	0031-0140-NO1	0140	S	004	S	D	S	48.4	9.6	SBS	Mat	S	30	10			N
Dead	Ot	0031-0123-NO1	0123	S	007	S	D	S	84	8.9	SBS	Mat	S	30	10			N