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U. S. Nuclear Regulatory Commission

Attn: Document Control Desk
Washington, DC 20555-0001

## Seabrook Station

## Steam Generator Tube Inspection Report

Enclosed is the Seabrook Station Steam Generator Tube Inspection Report. NextEra Energy Seabrook, LLC is submitting this report in accordance with Seabrook Station Technical Specification 6.8.1.7, Steam Generator Tube Inspection Report. This report provides the results of the steam generator tube inspections conducted during refueling outage 13 in October 2009.

If you have any questions regarding this submittal, please contact me at (603) 773-7745.
Sincerely,
NextEra Energy Seabrook, LLC.


Enclosure

cc: S. J. Collins, NRC Region I Administrator<br>G. E. Miller, NRC Project Manager<br>W. J. Raymond, NRC Senior Resident Inspector

## Enclosure

Steam Generator Tube Inspection Report

## Steam Generator Tube Inspection Report

### 1.0 Introduction

During Seabrook's thirteenth refueling outage (OR13) in October 2009, Steam Generators (SG) A, B, C, and D were inspected. This was accomplished in accordance with Seabrook Station Technical Specification (TS) 6.7.6.k, Steam Generator (SG) Program. This report presents the results of the inspection pursuant to TS 6.8.1.7, "Steam Generator Tube Inspection Report."

Seabrook Station is a Westinghouse four-loop pressurized water reactor with Model F SGs. The SGs are U-bend heat exchangers with tube bundles fabricated using thermally treated Alloy 600 tubing. A row and column number identifies each tube. There are 59 rows and 122 columns in each SG, for a total of 5,626 tubes. Nominal tube outside diameter (OD) is $0.688^{\prime \prime}$ with a $0.040^{\prime \prime}$ nominal wall.

Seabrook TS 6.7.6.k and EPRI Steam Generator Examination Guidelines, Revision 7, define the required inspection periods and their duration. For Alloy 600TT tubing, the first inspection interval is up to 120 effective full power months (EFPM); the second inspection interval is 90 EFPM; the third and subsequent inspection intervals are 60 EFPM. OR13 was the last scheduled inspection of the second inspection interval ( 90 EFPM) at Seabrook. The requirement to complete inspection of $100 \%$ of the tubes by the end-point of the inspection interval is met by the inspections performed in OR13.

Appendix A provides a list of acronyms used in this report.

### 2.0 Scope of Inspections Performed

The inspection program required by the Seabrook Station TS and the EPRI Steam Generator Examination Guidelines, Revision 7, addresses the known degradation mechanisms observed in Seabrook in prior inspections and potential degradation mechanisms. The defined scope implemented in all 4 SGs during OR13 included the following percentages indicating the inspection sample needed to satisfy the end-point requirements:

- $100 \%$ Bobbin examination of tubes, full length except for Rows 1 and 2 , which are inspected with the bobbin from tube end to TSP\#7 on both HL and CL.
- $50 \%$ of the U-bends in each of Rows 1 and 2 with + Point to complete $100 \%$ of all tubes during the second inspection interval.
- $50 \%$ of Ding/Dents $>5 \mathrm{~V}$ on the hot straight leg including the U-bend with + Point.
- $50 \%$ of Dings/Dents $>2 \mathrm{~V}$ and $<5 \mathrm{~V}$ in the hot leg straight leg with the bobbin probe.
- $50 \%$ of Dings/Dents $>2 \mathrm{~V}$ on the hot leg at structures and in the U-bend with + Point
- $50 \%$ Hot leg TTS, $\pm 3$ ", + Point examination.
- 50\% hot leg , TTS -13.1 OXP/BLG + Point examination
- Special interest, +Point tests at hot leg and cold leg bobbin possible flaw locations (including Ubends), including all "I-code" indications that were new or not resolved after history review.
- Visual inspection of mechanical and weld plugs.
- +Point inspection bounding the tubes exhibiting possible loose parts (PLP) signals during the inspection.
- $100 \%$ inspection of previously reported wear indications.
- Slippage monitoring

The NRC granted Seabrook Station a one-time TS change that effectively changed the definition of where a SG tube starts in the tube sheet. This allowed the inspection program to not consider or inspect the portion of the SG tubing below 13.1 inches from the top of the tubesheet.

## Inspection Expansion

As a result of finding a single axial crack indication during the top of hot leg tubesheet +point inspection program in SG-C, the inspection scope was increased to perform $100 \%$ top of tubesheet + point in that steam generator. Scope increase in the other SGs was not required.

## Secondary Side

The following work was performed on the secondary side of the SGs:

- Full bundle iron Advanced Scale Conditioning Agents (ASCA).
- Sludge Lancing.
- FOSAR (Foreign Object Search and Retrieval) in the tube lane and annulus areas.
- Upper Bundle in Bundle (UBIB) of tube support plates in SG-C.


### 3.0 Degradation Mechanisms Found

The following degradation mechanisms were observed in the Seabrook Station SGs during OR13:

- A single indication of stress corrosion cracking (SCC) was detected in SG-C, R27C61, at the top of tube sheet (TTS) during the + Point TTS $\pm 3$ inch inspection program.
- Anti-vibration bar (AVB) wear continues to be an existing degradation mechanism in all four Seabrook SGs. AVB indications were detected in all 4 SGs as expected.
- New volumetric indications were reported in SG-B in tube R5C86 at 04H-0.38", in SG-C in tube R18C116 at $07 \mathrm{H}+0^{\prime \prime}$ and in SG-D in tube R1C32 at $01 \mathrm{H}+0.06$ ".
- Wear at Flow Distribution Baffle (FDB)


### 4.0 NDE Techniques for Damage Mechanisms

The following is the list of EPRI technique sheets used for detection for the degradation modes that may be present during the SG inspection in OR13.

- Tube Wear @ AVB's.
- ODSCC@TSP,
- Wear due to Foreign Objects
- FDB/ Support Plate Wear
- U-Bend PWSCC
- Ding PWSCC or ODSCC
- Sludge Pile ODSCC
- Tubesheet Expansion ODSCC

EPRI ETSS \#96004.1
EPRI ETSS \#96008.1, I28411, I28413
EPRI ETSS \#27091.2 for Bobbin and \# 21998.1 for RPC
EPRI ETSS \#96004.1
EPRI ETSS \#96511.1 and \#96511.2
EPRI ETSS \#20510.1, 96703.1 and \#20511.1-A for RPC ID ETSS\#21409.1, I28424, 128425, 24013.1-A and \#21410.1C for RPC-OD
EPRI ETSS \#96008.1, I28413
EPRI ETSS \#21409.1 and \#21410.1 for RPC-OD

- Tubesheet Expansion PWSCC
- OD Pitting

EPRI ETSS \#20510.1-A and \#20511.1-C for RPC-ID EPRI ETSS \#96005.2

### 5.0 Service Induced Flaws

## AVB Wear

AVB wear continues to be an existing degradation mechanism in all four Seabrook SGs. Appendix A summarizes the current inspection results for AVB wear. The total number of AVB indications is typical among the population of Model F SGs.

## Outside Diameter Stress Corrosion Cracking (ODSCC)

A single indication of SCC was detected in SG-C, R27C61, at the TTS in the expansion transition during the + Point TTS $\pm 3$ inch inspection program. The indication was confirmed using the Ghent probe and was also detected with the pancake probes. The signal was compared to the signal from ODSCC at TTS detected in a similar SG at another site and therefore was confidently characterized as ODSCC.

SG C R27C61

| Probe | Call | Vpp | Phase <br> Angle | Crack <br> Length |
| :---: | :---: | :---: | :---: | :---: |
| +Point coil | SAI @ TSH-0.26" | 0.44 V | $46^{\circ}$ | 0.12 inch |

## Volumetric Indications

Volumetric indications reported during OR13 are summarized (Table 1) below, which also includes prior calls, if any, at OR11 and OR09.

New volumetric indications were reported in SG-B in tube R5C86 at 04H-0.38", in SG-C in tube R18C116 at $07 \mathrm{H}+0$ " and in SG-D in tube R1C32 at $01 \mathrm{H}+0.06$ ". All other volumetric indications were reported previously at OR11 and, in most cases, at OR09 without change in the wear depth of the indication. (Small changes are within the uncertainty range of the EC technique.) The new indications are all located at tube support plates, widely distributed over the axial height of the bundle, but in locations near the periphery of the bundle or near the tube lane where foreign objects would likely be encountered. These indications are not considered as evidence of wear at tube support plates, but rather, are attributed to small transient foreign objects which are no longer present at the affected locations.

In SGs A, B and C, indications reported in Row 1, Columns 36, 87 and 112 are all located at approximately 18 inches above the top of the tubesheet. These indications are all maintenance operation induced and are attributed to interaction of the tubes with the sludge lance rail at a prior outage. The sludge lance rail has been re-designed to prevent future tube interaction or aggravation of the existing wear condition. The depths of these indications have been non-variant since at least OR09. Indications of this type have been observed in SGs in other operating plants.

In SGs-A , B and C, several volumetric indications just above the tube sheet, previously reported at OR09 and OR11, and attributed to transient foreign objects, were re-inspected at OR13. These indications were sized for depth using the procedure of EPRI ETSS 21998.1, the same technique used at OR09 and OR11. These indications have not grown and are not expected to grow since no foreign objects are resident at these locations.

Table 1
Volumetric Indications

| SG | Row | Col | Location <br> (@OR13) | EC Code | Depth (\%TWD) per ETSS 21998.1 |  | OR13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | OR09 | OR11 |  |
| A | 1 | 87 | TSC+18.67 ${ }^{\prime \prime}$ | PCT | 22\% | 26\% | 30\% |
|  | 1 | 36 | TSC+18.62" | PCT | 19\% | 27\% | 26\% |
|  | 49 | 29 | TSH $+0.15^{\prime \prime}$ | PCT/PRC | 18\% | 22\% | 22\% |
|  | 50 | 29 | TSH +0.20 " | PCT/PRC | 8\% | 11\% | 11\% |
| B | 1 | 87 | TSH+18.2" | PCT/PCT | 36\% | 32\% | 38\% |
|  | 1 | 87 | TSC+19.1" | PCT | 35\% | 37\% | 38\% |
|  | 1 | 112 | TSH+18.17" | PCT/PCT | NA | 19\% | 18\% |
|  | 2 | 98 | 06C-0.75" | PCT | NA | 32\% | 33\% |
|  | 5 | 86 | 04H-0.38" | VOL/PCT | NA | NA | 21\% |
|  | 43 | 96 | TSH $+0.11^{\prime \prime}$ | PCT/PCT | NA | 22\% | 21\% |
| C | 1 | 87 | TSH+18.33" | PCT/PCT | 33\% | 37\% | 35\% |
|  | 1 | 87 | TSC+18.4" | PCT | 28\% | 34\% | 31\% |
|  | 1 | 112 | TSH+18.24" | PCT/PCT | 21\% | 25\% | 23\% |
|  | 43 | 26 | TSH+0.15" | PCT/PCT | 20\% | 21\% | 23\% |
|  | 44 | 26 | TSH+0.16" | PCT/PCT | 10\% | 13\% | 13\% |
|  | 3 | 113 | 05C-0.56" | PCT | 29\% | 34\% | 32\% |
|  | 18 | 116 | $07 \mathrm{H}+0$ | VOL/PCT | NA | NA | 16\% |
| D | 13 | 4 | $01 \mathrm{C}+0.45^{\prime \prime}$ | PCT | 23\% | 26\% | 22\% |
|  | 1 | 32 | 01H+0.06" | WAR/PCT | NA | NA | 23\% |

## Flow Distribution Baffle Wear

In each of SG-A and D (Table 2), a single wear indication was originally reported at OR09 at the flow distribution baffle (FDB). These signals are attributed to a prior pressure pulse cleaning (PPC) of the SGs, based on the location of the indications relative to the PPC pulser locations. Similar indications have been observed in other Model F SGs at other plants that have applied PPC. These indications are seen consistently in Row 1 at Columns 31-33 and Columns 91-93 at the FDB, and depth typically from $5 \%$ TWD to $25 \%$ TWD based on sizing by the technique of EPRI ETSS\#21998.1 which generally yields overestimates of the true depths.

These indications were re-tested at OR13 to determine if there was any progression of the wear. The reexamination of these indications at OR13 resulted in no degradation found at the location in SG-A and no progression of the wear of the indication in SG-D, confirming the results of the OR11 inspection.

Table 2
Table: OR13 Wear Indications at the Flow Distribution Baffle

| SG |  | Field Sizing per ETSS 21998.1(\% TWD) |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :---: |
|  |  |  | Location | OR09 | OR11 | OR13 |
| A |  |  | $01 \mathrm{C}-0.28$ | 16 | DSS/NDF | DSS |
| B |  |  | None |  |  |  |  |  |
| C |  |  | None |  |  |  |  |  |
| D |  | 32 | $01 \mathrm{H}+0.25$ | 26 | 23 | 23 |

## Foreign Objects/PLP

Wear due to impingement of foreign objects on the tubes is an existing degradation mechanism due to the confirmation of loose parts in the current and prior inspections at Seabrook. Foreign objects may be identified by both visual inspection from the secondary side and by EC inspection from the primary side.

During the visual inspection (FOSAR Appendix C) of the Seabrook SGs, two foreign objects were identified for review. In SG-C, during OR11, fourteen tubes were plugged to provide a safe boundary around a foreign object identified by eddy current in SG-C at R58C55 above the cold leg flow distribution baffle. Visual inspection was performed at OR13 to identify if the foreign object was still in place and if so, if it could be removed allowing the potential for recovery of the surrounding plugged tubes. The foreign object, a nail, was found in the same location and was determined to be fixed in that location. An assessment was made if the nail could be removed and it was determined that the risk involved in removal was too great. Because the object is fixed in place and because it is bounded by surrounding plugged tubes, the object does not represent a potential for continuing wear on active tubes.

In SG-A, a sludge rock was identified at R1C9 on the top of the tubesheet. The presence of this object was subsequently confirmed by EC testing from the primary side. An attempt to remove the object was not successful; this item remains in the SG. There is no degradation associated with this object.

In SG-B, a sludge rock was identified at R55C75 on the top of the tubesheet on the cold leg. During an attempt at retrieval of this sludge rock, it appeared to break and move. This item remains in SG-B and there is no degradation associated with this object.

Table 3 summarizes the possible loose parts (PLP) indications found in the SGs during the TTS ( $\pm 3$ ") 3coil + Point RPC program and the $100 \%$ bobbin inspection of the tubes in the primary side EC inspection. Also shown on Table 3 are the results of prior inspections (OR09 and OR11) at the same locations.

In SG-A, PLPs were reported on tubes at, or near, the periphery of the bundle on the hot leg of the tubesheet. All of the indications had been reported previously at OR11 and most at OR09, without evidence of tube damage at any of the inspections. These PLPs are interpreted as sludge, or sludge rocks, which are benign to the tubes. A PLP indication reported at OR11 in R52C60 was found to be not reportable at OR13 in accordance with the inspection/reporting guidelines. All tubes with PLP signals were bounded by + Point inspections of the surrounding tubes and no wear degradation was present. All tubes with PLP indications at OR13 (and OR11) remain in service.

In SG-B, 10 PLP indications were reported, principally at, or near, the periphery of the bundle. All but 2 of the indications were also reported at OR11; no damage to any tube was detected. Twelve of these PLPs are at, or near, the TTS in an axial range of approximately 0 to 8 inches above the TTS. Five additional PLP signals were found at higher elevations in the SG from TSP3 to TSP5 on both the hot leg and cold leg. One of these 2 PLP signals had been previously reported at OR11. None of the PLP signals were associated with any damage. Inspection of the adjacent tubes confirmed the absence of PLP signals in the surrounding tubes. Because of their history and location, the PLPs are attributed to sludge rocks and scale which are benign to the tubes. These tubes remain in service.

In SG-C one tube was reported with a PLP signal at TSH +0.05 . A PLP previously reported at OR11 at TSP5 on the HL was not reported (indication not recordable (INR)) at OR13. The location of these tubes is typical for expected accumulation of deposits. No evidence of tube damage was found. The tubes remain in service.

In SG-D, 6 tubes were reported with PLP signals. Three of the signals had been reported previously at OR11 and OR09. Three pairs of adjacent tubes constitute the 6 signals, suggesting an accumulation of deposits between tubes. Bounding +Point probe tests were performed that confirmed that the potential for a foreign object in residence at these locations is limited. No damage was associated with any of the PLP signals and the tubes were left in service.

Table 3
Seabrook Steam Generator Potential Foreign Objects (PLP)

| SG | Row | Col | Location (OR13) | OR09 | OR11 | OR13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 1 | 9 | TSH+0.43" | NDD | NDD | PLP/NDD |
|  | 1 | 10 | TSH $+0.18^{\prime \prime}$ | NDD | NDD | PLP/NDD |
|  | 1 | 11 | TSH+0.26" | NDD | NDD | PLP/NDD |
|  | 52 | 60 | TSH+0.34 | NR | PLP | INR |
| B | 3 | 104 | TSH +0.09 | NR | NR | PLP |
|  | 17 | 34 | TSH+1.49 | NR | NR | PLP/NDF |
|  | 14 | 66 | TSH+1.35 | NDD | NDF | PLP/NDF |
|  | 22 | 6 | TSC+8.5" | NDD | PLP | PLP |
|  | 23 | 6 | TSC+8.53" | NDD | PLP | PLP |
|  | 24 | 11 | TSC+3.83" | NDD | PLP | INF |
|  | 24 | 12 | TSC+3.73" | NDD | PLP | PLP/INR |
|  | 24 | 12 | $03 \mathrm{H}+18.96$ | NR | NR | PLP/NDF |
|  | 27 | 15 | TSC+0.86" | NDD | FSD/NDD | PLP/INR |
|  | 39 | 31 | TSH +1.07 | NDD | PLP | INR |
|  | 39 | 32 | TSH+1.11" | NDD | PLP | INR |
|  | 52 | 33 | TSC+3.85 | NDD | PLP | PLP/NDD |
|  | 53 | 33 | TSC+3.87" | NDD | PLP | PLP/NDD |
|  | 17 | 25 | $05 \mathrm{H}+0.82$ | NR | NR | NDF |
|  | 4 | 101 | $06 \mathrm{C}+1.24$ | NR | NDD | INR |
|  | 4 | 103 | $02 \mathrm{C}+0.66$ | NR | NDD | INR/NDD |
|  | 2 | 103 | 02C+0.62" | NR | NDF | INR/NDD |
| C. | 5 | 81 | $05 \mathrm{H}+1.51$ " | NR | NDF | INR |
|  | 40 | 92 | TSH +0.05 | NR | NR | PLP |
| D | 20 | 28 | TSC+. 74 | NDD | PLP | PLP/NDD |
|  | 20 | 29 | TSC+0.95 | NDD | NDD | PLP |


| SG | Row | Col | Location (OR13) | OR09 | OR11 | OR13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 21 | 29 | TSC+0.98 | NDD | NDD | PLP |
|  | 21 | 28 | TSC +0.71 | NR | NR | PLP/NDD |
|  | 41 | 27 | TSH +0.15 | NR | NR | PLP |
|  | 42 | 27 | TSH +0.18 | NR | NR | PLP | | NR: Not Reported |
| :--- |
| INR: Indication not Reportable |
| NDF: No Degradation Found |

### 6.0 Plugging

In OR13 the following tubes were plugged:
Table 4: OR13 Plugged Tubes

| SG | Tube | Degradation | Notes |
| :---: | :---: | :---: | :--- |
| A | R49C67 | AVB Wear | $42 \% @ A V 3$ |
|  | R43C77 | AVB Wear | $41 \% @ A V 4$ |
|  | R40C90 | AVB Wear | $40 \% @$ AV5 |
|  | R46C50 | AVB Wear | $40 \% @ A V 5$ |
| $\mathbf{C}$ | R51C51 | AVB Wear | $45 \% @ A V 5$ |
|  | R48C96 | AVB Wear | $42 \% @ A V 4$ |
|  | R35C39 | AVB Wear | $40 \% @ A V 5$ |
|  | R27C61 | SAI | ODSCC at TTS |
| D | R47C59 | AVB Wear | $40 \% @ A V 2$ |
|  | R46C51 | AVB Wear | $42 \% @ A V 4 ; 41 \% @ A V 5$ |
|  | R37C36 | AVB Wear | $41 \% @ A V 5$ |
|  | R48C28 | AVB Wear | $41 \% @ A V 3 ; 41 \% @ A V 4$ |

Table 5 shows the total number of tubes plugged by steam generator as well as the plugging percentages in each steam generator. The effective plugging percentage is equal to the plugging percentage as there are no sleeves installed or blocked tubes.

Table 5
Total Tubes Plugged and Plugging Percentage

|  | S/G A | S/G B | S/G C | S/G D | Total |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Tubes Plugged | 34 | $\mathbf{2 5}$ | $\mathbf{5 0}$ | 64 | $\mathbf{1 7 3}$ |
| Percent <br> Plugged | $\mathbf{0 . 6 \%}$ | $\mathbf{0 . 4 \%}$ | $\mathbf{0 . 8 \%}$ | $\mathbf{1 . 1 \%}$ | $\mathbf{0 . 7 \%}$ |

### 6.0 Condition Monitoring Assessment Results.

All indications found in OR13 satisfy the condition monitoring requirements of Seabrook TS 6.7.6.k and NEI 97-06 for structural and leakage integrity. No indications were found to exceed structural limits. These conclusions are:

1. A single indication of axial outside diameter cracking was detected in SG-C, R27C61 at the top of the tubesheet. This indication did not exceed the screening criteria for in situ proof or leak testing. The length and depth of the crack were determined to be below a condition that would pose a challenge to structural and leakage integrity.
2. The maximum observed AVB wear indication ( $45 \%$ TWD) meets the condition monitoring requirements at $95 \%$ probability when all uncertainties are considered at their $95 \%$ probability values
3. AVB wear continues to be an existing degradation mechanism at Seabrook. The overall incidence of AVB wear in the Seabrook SGs is consistent with the Model F SG operating experience.
4. The previously reported wear at the flow distribution baffle was reported again during OR13. Examination of the prior inspection signals shows that the signals are not changing. FDB wear is attributed to the application of pressure pulse cleaning of the SGs and is observed in other Model F SGs at the same locations and depths. The magnitude of the wear does not challenge the requirements for condition monitoring.
5. Volumetric indications meet the requirements for Condition Monitoring at $95 \%$ probability and $50 \%$ confidence. The maximum observed indication was $38 \%$ TWD.
6. Wear due to foreign objects meets the performance requirements for Condition Monitoring. The maximum wear observed due to foreign objects was $33 \%$ TWD; the structural limit for the local wear is $70 \% \mathrm{TWD}$. The evaluation of the observed wear flaw shows that the requirements for condition monitoring are met.
7. No pitting was observed.
8. No degradation indications were observed related to potential precursor signals such as dents and dings, or to interferences such as permeability variations, etc.
9. No DSI (precursor) signals were reported at any of the tubes identified as tubes with potentially elevated residual stress (See Appendix C).
10. No degradation was observed in the tubesheet expansion zone in the $\mathrm{H}^{*}$ distance (TTS-13.1").
11. The predicted accident induced leakage meets the Condition Monitoring leakage requirements. In SG-B, in which operating leakage has been observed, the predicted leakage from the tubesheet expansion region is $1.75 \mathrm{gpd}(.00122 \mathrm{gpm})$. The indication of ODSCC in SG-C was predicted to not leak. SGs A and D are free from indications with the potential to leak and have no reportable normal operating leakage.
12. The OR13 inspection results validate the projections and conclusions of the Operational Assessment of the previous inspection at OR11.
13. No tubes were pulled in OR13.
14. No in-situ testing was performed in OR13.

### 7.0 Observed Leak Rates

The only observed operational leakage is in SG B. The leakage fluctuates between 0.2 and 0.7 gpd . There is no observed leakage in SGs A, C, and D

### 8.0 Calculated Accident Induced Leakage

Accident induced leakage for the tubesheet expansion region is predicted as a ratio of observed normal operating leakage that cannot be attributed to a source other than the tubesheet expansion region.
Seabrook has been monitoring a low level of leakage between 0.2 gpd and 0.7 gpd in SG-B. There are no degradation mechanisms in SG-B that have the potential for leakage; therefore, the entire observed leakage is assumed to come from the tubesheet expansion region.

For Seabrook, normal operating leakage from the tubesheet expansion region is multiplied by a factor of 2.5 to determine the accident induced leakage. Therefore, since the observed leakage in SG-B is 0.7 gpd (high end of observed range for conservatism), the predicted accident induced leakage from the tubesheet expansion region is:

$$
\mathrm{Q}_{\mathrm{DBA}}=2.5 \times(0.7 \mathrm{gpd})=1.75 \mathrm{gpd}
$$

If SG-B is assumed to be the faulted SG under DBA conditions, the total predicted leakage in SG-B is predicted to be 1.75 gpd . The predicted accident induced leakage is well below the accident leakage assumption of 500 gpd in the faulted steam generator.

For SGs-A, C, and D, there is no contribution to accident induced leakage from the tubesheet expansion region because there is no observed leakage in these SGs. Therefore, neither the normal operating leakage limit nor the accident induced leakage limits will be challenged at the end of Cycle 14.

Based on application of very conservative probability of detection (POD) and growth rate, the predicted maximum depth of an undetected ODSCC crack, such as observed at OR13, is less than 100\% TWD at EOC14. Pop-through of the remaining ligament and potential crack opening are not an issue because the crack is entirely constrained by the tubesheet and growth is predicted to occur into the tubesheet expansion region. Therefore, no leakage due to ODSCC is projected at the end of Cycle 14.

Therefore, neither the normal operating leakage limit nor the accident induced leakage limits will be challenged at the end of Cycle 14.

### 9.0 Slippage Monitoring Results

A commitment was made to monitor for tube slippage within the tubesheet region. This was accomplished in accordance with the slippage monitoring guidance. There was no evidence of tube slippage.

### 10.0 Secondary Side Inspections/Cleaning

Full ASCAs were applied to all four steam generators. Approximately 550 lbs of iron were removed from each steam generator.

Sludge lancing removed approximately 164 lbs from the top of tubesheet area.
An UBIB was performed in two columns in SG "C". The visual inspection looked at the condition of the $4^{\text {th }}$ to $7^{\text {th }}$ support plates.

## Appendix A Accronyms

| ASCA | Advanced Scale Conditioning Agents |
| :--- | :--- |
| AVB | Anti Vibration Bar |
| DBA | Design Bases Accident |
| EC | Eddy Current |
| EFPM | Effective Full Power Months |
| EPRI | Electric Power Research Institute |
| ETSS | Examination Technique |
| FDB | Flow Distribution Baffle |
| FOSAR | Foreign Object Search and Retrieval |
| DSI | Distorted Support Indication |
| DSS | Distorted Support Signal |
| GPD(gpd) | Gallons per Day |
| HL | Hot Leg |
| ID | Inner Diameter |
| INR | Indication Not Recordable |
| NDD | No Degradation Detectable |
| NDF | No Degradation Found |
| NEI | Nuclear Energy Institute |
| OD | Outside Diameter |
| ODSCC | Outside Diameter Stress Corrosion Cracking |
| PCT | Percent |
| PLP | Possible Loose Part |
| PWSCC | Primary Water Stress Corrosion Cracking |
| SAI | Single Axial Indication |
| SCC | Stress Corrosion Cracking |
| TS | Technical Specifications |
| TSP | Tube Support Plate |
| TTS | Top of Tube Sheet |
| TWD | Though Wall Distance |
| VOL | Volumetric |

## APPENDIX B

## Seabrook OR13 List of Imperfections

SG-A

| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 49 | 67 | PCT | 42 | AV3 | 0 |
| A | 43 | 77 | PCT | 41 | AV4 | 0 |
| A | 40 | 90 | PCT | 40 | AV5 | 0 |
| A | 43 | 77 | PCT | 39 | AV5 | 0 |
| A | 49 | 63 | PCT | 38 | AV5 | 0 |
| A | 36 | 81 | PCT | 37 | AV2 | 0 |
| A | 42 | 72 | PCT | 36 | AV3 | 0 |
| A | 31 | 12 | PCT | 35 | AV5 | 0 |
| A | 50 | 79 | PCT | 34 | AV4 | 0 |
| A | 45 | 74 | PCT | 34 | AV4 | 0 |
| A | 40 | 90 | PCT | 33 | AV2 | 0 |
| A | 41 | 68 | PCT | 33 | AV3 | 0 |
| A | 49 | 65 | PCT | 33 | AV3 | 0 |
| A | 50 | 65 | PCT | 33 | AV4 | 0 |
| A | 35 | 61 | PCT | 33 | AV4 | 0 |
| A | 50 | 95 | PCT | 33 | AV5 | 0 |
| A | 35 | 58 | PCT | 32 | AV2 | 0 |
| A | 50 | 79 | PCT | 32 | AV3 | 0.03 |
| A | 35 | 58 | PCT | 32 | AV3 | 0 |
| A | 52 | 88 | PCT | 32 | AV4 | 0 |
| A | 49 | 67 | PCT | 32 | AV4 | 0 |
| A | 52 | 89 | PCT | 32 | AV5 | 0 |
| A | 49 | 67 | PCT | 31 | AV2 | 0 |
| A | 52 | 89 | PCT | 31 | AV6 | -0.03 |
| A | 43 | 77 | PCT | 30 | AV3 | 0 |
| A | 35 | 61 | PCT | 30 | AV5 | 0 |
| A | 40 | 90 | PCT | 29 | AV3 | 0 |
| A | 49 | 88 | PCT | 29 | AV5 | 0 |
| A | 50 | 95 | PCT | 29 | AV6 | 0 |
| A | 41 | 59 | PCT | 28 | AV2 | 0 |
| A | 50 | 85 | PCT | 28 | AV3 | 0 |
| A | 42 | 80 | PCT | 28 | AV3 | 0 |
| A | 41 | 68 | PCT | 28 | AV4 | 0 |
| A | 35 | 58 | PCT | 28 | AV4 | 0 |
| A | 52 | 88 | PCT | 28 | AV5 | 0 |
| A | 42 | 72 | PCT | 28 | AV5 | 0 |
| A | 26 | 107 | PCT | 28 | AV6 | 0 |
| A | 19 | 40 | PCT | 27 | AV1 | 0.08 |
| A | 40 | 90 | PCT | 27 | AV4 | 0 |
| A | 50 | 85 | PCT | 27 | AV4 | 0 |
| A | 53 | 45 | PCT | 26 | AV2 | 0.08 |
| A | 44 | 98 | PCT | 26 | AV3 | 0 |
| A | 47 | 85 | PCT | 26 | AV5 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 43 | 77 | PCT | 26 | AV6 | 0 |
| A | 42 | 80 | PCT | 25 | AV2 | 0 |
| A | 40 | 71 | PCT | 25 | AV2 | 0 |
| A | 49 | 88 | PCT | 25 | AV3 | 0 |
| A | 52 | 89 | PCT | 25 | AV4 | 0 |
| A | 42 | 80 | PCT | 25 | AV6 | 0 |
| A | 48 | 60 | PCT | 25 | AV6 | 0 |
| A | 36 | 81 | PCT | 24 | AV3 | 0 |
| A | 42 | 58 | PCT | 24 | AV3 | 0 |
| A | 49 | 88 | PCT | 24 | AV4 | 0 |
| A | 49 | 63 | PCT | 24 | AV4 | 0 |
| A | 48 | 63 | PCT | 24 | AV4 | 0 |
| A | 41 | 50 | PCT | 24 | AV5 | 0.05 |
| A | 46 | 95 | PCT | 24 | AV6 | 0 |
| A | 49 | 64 | PCT | 23 | AV1 | 0 |
| A | 19 | 54 | PCT | 23 | AV1 | 0 |
| A | 49 | 76 | PCT | 23 | AV2 | 0 |
| A | 28 | 59 | PCT | 23 | AV2 | 0 |
| A | 41 | 54 | PCT | 23 | AV2 | 0 |
| A | 47 | 95 | PCT | 23 | AV3 | 0 |
| A | 45 | 74 | PCT | 23 | AV3 | 0 |
| A | 49 | 63 | PCT | 23 | AV3 | 0 |
| A | 48 | 63 | PCT | 23 | AV3 | 0 |
| A | 40 | 103 | PCT | 23 | AV4 | 0.03 |
| A | 41 | 68 | PCT | 23 | AV5 | 0 |
| A | 46 | 65 | PCT | 23 | AV5 | 0 |
| A | 41 | 53 | PCT | 23 | AV5 | 0 |
| A | 48 | 96 | PCT | 23 | AV6 | 0 |
| A | 40 | 94 | PCT | 22 | AV2 | 0.06 |
| A | 51 | 86 | PCT | 22 | AV2 | 0 |
| A | 49 | 65 | PCT | 22 | AV2 | 0 |
| A | 48 | 64 | PCT | 22 | AV2 | 0 |
| A | 46 | 98 | PCT | 22 | AV4 | 0 |
| A | 50 | 95 | PCT | 22 | AV4 | 0 |
| A | 39 | 79 | PCT | 22 | AV4 | -0.16 |
| A | 46 | 77 | PCT | 22 | AV4 | -0.05 |
| A | 41 | 53 | PCT | 22 | AV4 | -0.08 |
| A | 51 | 90 | PCT | 22 | AV5 | 0 |
| A | 35 | 58 | PCT | 22 | AV5 | 0 |
| A | 30 | 11 | PCT | 22 | AV5 | 0 |
| A | 48 | 95 | PCT | 22 | AV6 | 0 |
| A | 52 | 88 | PCT | 22 | AV6 | 0 |
| A | 50 | 88 | PCT | 22 | AV6 | 0 |
| A | 31 | 12 | PCT | 22 | AV6 | 0 |
| A | 29 | 82 | PCT | 21 | AV2 | 0 |
| A | 42 | 72 | PCT | 21 | AV2 | 0 |
| A | 41 | 78 | PCT | 21 | AV3 | 0 |
| A | 41 | 54 | PCT | 21 | AV3 | 0 |
| A | 40 | 102 | PCT | 21 | AV4 | 0 |
| A | 47 | 95 | PCT | 21 | AV4 | 0 |
| A | 51 | 90 | PCT | 21 | AV4 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 34 | 87 | PCT | 21. | AV4 | 0 |
| A | 48 | 83 | PCT | 21 | AV4 | 0 |
| A | 40 | 103 | PCT | 21 | AV5 | 0 |
| A | 39 | 79 | PCT | 21 | AV5 | 0 |
| A | 33 | 15 | PCT | 21 | AV5 | 0 |
| A | 41 | 103 | PCT | 20 | AV1 | 0 |
| A | 37 | 102 | PCT | 20 | AV1 | 0 |
| A | 45 | 74 | PCT | 20 | AV1 | 0 |
| A | 29 | 94 | PCT | 20 | AV2 | 0 |
| A | 40 | 86 | PCT | 20 | AV2 | 0 |
| A | 41 | 78 | PCT | 20 | AV2 | 0 |
| A | 45 | 74 | PCT | 20 | AV2 | 0 |
| A | 45 | 68 | PCT | 20 | AV2 | 0 |
| A | 41 | 68 | PCT | 20 | AV2 | 0.08 |
| A | 41 | 53 | PCT | 20 | AV2 | -0.08 |
| A | 51 | 86 | PCT | 20 | AV3 | 0 |
| A | 39 | 80 | PCT | 20 | AV3 | 0 |
| A | 41 | 50 | PCT | 20 | AV3 | -0.23 |
| A | 42 | 81 | PCT | 20 | AV4 | 0 |
| A | 49 | 65 | PCT | 20 | AV4 | 0 |
| A | 46 | 65 | PCT | 20 | AV4 | 0 |
| A | 41 | 103 | PCT | 20 | AV5 | -0.08 |
| A | 41 | 102 | PCT | 20 | AV5 | 0 |
| A | 48 | 95 | PCT | 20 | AV5 | 0 |
| A | 46 | 95 | PCT | 20 | AV5 | 0 |
| A | 50 | 85 | PCT | 20 | AV5 | 0 |
| A | 46 | 71 | PCT | 20 | AV5 | 0 |
| A | 49 | 67 | PCT | 20 | AV5 | 0 |
| A | 50 | 65 | PCT | 20 | AV5 | 0 |
| A | 49 | 65 | PCT | 20 | AV5 | 0 |
| A | 28 | 59 | PCT | 20 | AV5 | -0.09 |
| A | 31 | 11 | PCT | 20 | AV5 | 0 |
| A | 35 | 58 | PCT | 19 | AV1 | 0 |
| A | 44 | 98 | PCT | 19 | AV2 | 0.05 |
| A | 47 | 95 | PCT | 19 | AV2 | 0 |
| A | 25 | 56 | PCT | 19 | AV2 | 0 |
| A | 43 | 55 | PCT | 19 | AV2 | -0.16 |
| A | 34 | 51 | PCT | 19 | AV2 | 0.15 |
| A | 41 | 50 | PCT | 19 | AV2 | -0.1 |
| A | 50 | 65 | PCT | 19 | AV3 | 0 |
| A | 41 | 102 | PCT | 19 | AV4 | 0 |
| A | 36 | 81 | PCT | 19 | AV4 | 0 |
| A | 42 | 72 | PCT | 19 | AV4 | 0 |
| A | 46 | 98 | PCT | 19 | AV5 | 0 |
| A | 44 | 98 | PCT | 19 | AV5 | 0 |
| A | 35 | 31 | PCT | 19 | AV5 | 0 |
| A | 35 | 14 | PCT | 19 | AV5 | -0.09 |
| A | 48 | 94 | PCT | 19 | AV6 | 0 |
| A | 52 | 90 | PCT | 19 | AV6 | 0 |
| A | 50 | 85 | PCT | 19 | AV6 | 0 |
| A | 48 | 31 | PCT | 19 | AV6 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 44 | 98 | PCT | 18 | AV1 | 0.06 |
| A | 33 | 92 | PCT | 18 | AV1 | -0.11 |
| A | 40 | 86 | PCT | 18 | AV1 | 0 |
| A | 19 | 58 | PCT | 18 | AV1 | 0 |
| A | 18 | 58 | PCT | 18 | AV1 | 0 |
| A | 46 | 77 | PCT | 18 | AV2 | 0.05 |
| A | 35 | 73 | PCT | 18 | AV2 | 0 |
| A | 45 | 67 | PCT | 18 | AV2 | 0 |
| A | 48 | 63 | PCT | 18 | AV2 | 0 |
| A | 50 | 95 | PCT | 18 | AV3 | 0 |
| A | 44 | 94 | PCT | 18 | AV3 | 0 |
| A | 51 | 90 | PCT | 18 | AV3 | 0 |
| A | 47 | 89 | PCT | 18 | AV3 | 0 |
| A | 39 | 79 | PCT | 18 | AV3 | 0 |
| A | 39 | 63 | PCT | 18 | AV3 | 0 |
| A | 41 | 53 | PCT | 18 | AV3 | -0.16 |
| A | 48 | 31 | PCT | 18 | AV3 | 0 |
| A | 37 | 105 | PCT | 18 | AV4 | 0 |
| A | 41 | 103 | PCT | 18 | AV4 | 0 |
| A | 44 | 94 | PCT | 18 | AV4 | 0 |
| A | 53 | 90 | PCT | 18 | AV4 | 0 |
| A | 42 | 80 | PCT | 18 | AV4 | 0 |
| A | 41 | 58 | PCT | 18 | AV4 | 0 |
| A | 44 | 100 | PCT | 18 | AV5 | 0 |
| A | 51 | 75 | PCT | 18 | AV5 | 0 |
| A | 52 | 73 | PCT | 18 | AV5 | -0.1 |
| A | 24 | 59 | PCT | 18 | AV5 | -0.13 |
| A | 30 | 58 | PCT | 18 | AV5 | 0 |
| A | 51 | 90 | PCT | 18 | AV6 | 0 |
| A | 40 | 90 | PCT | 18 | AV6 | 0 |
| A | 44 | 101 | PCT | 17 | AV1 | 0 |
| A | 40 | 90 | PCT | 17 | AV1 | 0 |
| A | 42 | 72 | PCT | 17 | AV1 | 0 |
| A | 30 | 68 | PCT | 17 | AV1 | 0 |
| A | 49 | 67 | PCT | 17 | AV1 | 0 |
| A | 30 | 68 | PCT | 17 | AV2 | 0.08 |
| A | 35 | 61 | PCT | 17 | AV2 | -0.1 |
| A | 23 | 59 | PCT | 17 | AV2 | 0 |
| A | 23 | 52 | PCT | 17 | AV2 | 0 |
| A | 50 | 29 | PCT | 17 | AV2 | 0 |
| A | 35 | 14 | PCT | 17 | AV2 | 0 |
| A | 29 | 11 | PCT | 17 | AV2 | 0.12 |
| A | 40 | 102 | PCT | 17 | AV3 | 0 |
| A | 32 | 89 | PCT | 17 | AV3 | 0 |
| A | 52 | 88 | PCT | 17 | AV3 | 0 |
| A | 41 | 59 | PCT | 17 | AV3 | 0 |
| A | 41 | 58 | PCT | 17 | AV3 | 0 |
| A | 44 | 98 | PCT | 17 | AV4 | 0 |
| A | 42 | 58 | PCT | 17 | AV4 | 0 |
| A | 47 | 98 | PCT | 17 | AV5 | 0 |
| A | 47 | 95 | PCT | 17 | AV5 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 24 | 71 | PCT | 17 | AV5 | 0 |
| A | 53 | 69 | PCT | 17 | AV5 | 0 |
| A | 48 | 63 | PCT | 17 | AV5 | -0.28 |
| A | 50 | 38 | PCT | 17 | AV5 | 0 |
| A | 51 | 31 | PCT | 17 | AV5 | 0 |
| A | 49 | 30 | PCT | 17 | AV5 | 0 |
| A | 30 | 12 | PCT | 17 | AV5 | 0 |
| A | 46 | 98 | PCT | 17 | AV6 | 0 |
| A | 42 | 72 | PCT | 17 | AV6 | 0 |
| A | 41 | 68 | PCT | 17 | AV6 | -0.06 |
| A | 49 | 67 | PCT | 17 | AV6 | 0 |
| A | 30 | 58 | PCT | 17 | AV6 | 0 |
| A | 23 | 42 | PCT | 17 | AV6 | 0.03 |
| A | 33 | 106 | PCT | 16 | AV1 | -0.03 |
| A | 40 | 96 | PCT | 16 | AV1 | -0.1 |
| A | 32 | 89 | PCT | 16 | AV1 | 0.09 |
| A | 49 | 65 | PCT | 16 | AV1 | -0.18 |
| A | 24 | 7 | PCT | 16 | AV1 | 0 |
| A | 41 | 53 | PCT | 16 | AV1 | 0 |
| A | 57 | 52 | PCT | 16 | AV1 | 0 |
| A | 31 | 68 | PCT | 16 | AV2 | 0 |
| A | 50 | 66 | PCT | 16 | AV2 | 0 |
| A | 50 | 65 | PCT | 16 | AV2 | -0.1 |
| A | 27 | 63 | PCT | 16 | AV2 | 0 |
| A | 57 | 61 | PCT | 16 | AV2 | 0 |
| A | 24 | 59 | PCT | 16 | AV2 | 0 |
| A | 41 | 58 | PCT | 16 | AV2 | 0 |
| A | 44 | 102 | PCT | 16 | AV3 | 0 |
| A | 37 | 99 | PCT | 16 | AV3 | 0 |
| A | 50 | 80 | PCT | 16 | AV3 | 0 |
| A | 34 | 51 | PCT | 16 | AV3 | -0.13 |
| A | 35 | 31 | PCT | 16 | AV3 | 0 |
| A | 46 | 71 | PCT | 16 | AV4 | 0 |
| A | 48 | 31 | PCT | 16 | AV4 | 0 |
| A | 35 | 14 | PCT | 16 | AV4 | -0.16 |
| A | 37 | 102 | PCT | 16 | AV5 | 0 |
| A | 43 | 98 | PCT | 16 | AV5 | 0 |
| A | 23 | 59 | PCT | 16 | AV5 | 0.16 |
| A | 23 | 45 | PCT | 16 | AV5 | 0 |
| A | 30 | 31 | PCT | 16 | AV5 | -0.19 |
| A | 47 | 95 | PCT | 16 | AV6 | 0 |
| A | 30 | 95 | PCT | 16 | AV6 | 0 |
| A | 46 | 94 | PCT | 16 | AV6 | 0 |
| A | 49 | 90 | PCT | 16 | AV6 | 0 |
| A | 47 | 89 | PCT | 16 | AV6 | 0 |
| A | 35 | 61 | PCT | 16 | AV6 | 0 |
| A | 58 | 50 | PCT | 16 | AV6 | 0 |
| A | 55 | 41 | PCT | 16 | AV6 | -0.22 |
| A | 42 | 103 | PCT | 15 | AV1 | 0 |
| A | 44 | 100 | PCT | 15 | AV1 | 0 |
| A | 51 | 86 | PCT | 15 | AV1 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 45 | 76 | PCT | 15 | AV1 | 0 |
| A | 59 | 58 | PCT | 15 | AV1 | 0 |
| A | 41 | 58 | PCT | 15 | AV1 | 0 |
| A | 20 | 48 | PCT | 15 | AV1 | 0 |
| A | 48 | 31 | PCT | 15 | AV1 | 0 |
| A | 33 | 14 | PCT | 15 | AV1 | 0 |
| A | 37 | 87 | PCT | 15 | AV2 | 0 |
| A | 50 | 85 | PCT | 15 | AV2 | 0 |
| A | 24 | 71 | PCT | 15 | AV2 | 0 |
| A | 35 | 70 | PCT | 15 | AV2 | 0 |
| A | 39 | 63 | PCT | 15 | AV2 | -0.03 |
| A | 25 | 59 | PCT | 15 | AV2 | 0.08 |
| A | 28 | 44 | PCT | 15 | AV2 | 0 |
| A | 47 | 31 | PCT | 15 | AV2 | 0 |
| A | 49 | 28 | PCT | 15 | AV2 | 0 |
| A | 52 | 89 | PCT | 15 | AV3 | 0 |
| A | 34 | 87 | PCT | 15 | AV3 | 0 |
| A | 35 | 61 | PCT | 15 | AV3 | 0 |
| A | 46 | 95 | PCT | 15 | AV4 | 0 |
| A | 48 | 94 | PCT | 15 | AV4 | 0 |
| A | 45 | 80 | PCT | 15 | AV4 | 0 |
| A | 41 | 50 | PCT | 15 | AV4 | -0.03 |
| A | 50 | 38 | PCT | 15 | AV4 | 0 |
| A | 30 | 111 | PCT | 15 | AV5 | 0 |
| A | 49 | 90 | PCT | 15 | AV5 | 0 |
| A | 42 | 80 | PCT | 15 | AV5 | 0 |
| A | 42 | 58 | PCT | 15 | AV5 | 0 |
| A | 41 | 58 | PCT | 15 | AV5 | 0 |
| A | 28 | 44 | PCT | 15 | AV5 | 0 |
| A | 51 | 86 | PCT | 15 | AV6 | 0 |
| A | 24 | 7 | PCT | 15 | AV6 | 0 |
| A | 35 | 58 | PCT | 15 | AV6 | 0 |
| A | 23 | 37 | PCT | 15 | AV6 | 0 |
| A | 34 | 17 | PCT | 15 | AV6 | 0 |
| A | 33 | 15 | PCT | 15 | AV6 | 0 |
| A | 31 | 13 | PCT | 15 | AV6 | -0.15 |
| A | 30 | 12 | PCT | 15 | AV6 | 0 |
| A | 27 | 12 | PCT | 15 | AV6 | 0 |
| A | 37 | 105 | PCT | 14 | AV1 | 0 |
| A | 41 | 102 | PCT | 14 | AV1 | 0 |
| A | 47 | 95 | PCT | 14 | AV1 | 0 |
| A | 19 | 61 | PCT | 14 | AV1 | 0 |
| A | 25 | 7 | PCT | 14 | AV1 | 0 |
| A | 44 | 102 | PCT | 14 | AV2 | -0.13 |
| A | 54 | 86 | PCT | 14 | AV2 | 0 |
| A | 33 | 71 | PCT | 14 | AV2 | -0.1 |
| A | 29 | 71 | PCT | 14 | AV2 | 0 |
| A | 31 | 64 | PCT | 14 | AV2 | 0 |
| A | 49 | 63 | PCT | 14 | AV2 | 0 |
| A | 36 | 60 | PCT | 14 | AV2 | 0 |
| A | 34 | 59 | PCT | 14 | AV2 | 0 |

$\left.\begin{array}{|c|c|c|c|c|c|c|}\hline \text { SG } & \text { Row } & \text { Col } & \text { Ind } & \text { Per Cent } & \text { Location } & \text { Inch1 } \\ \hline \text { A } & 56 & 57 & \text { PCT } & 14 & \text { AV2 } & 0 \\ \hline \text { A } & 52 & 53 & \text { PCT } & 14 & \text { AV2 } & 0 \\ \hline \text { A } & 50 & 28 & \text { PCT } & 14 & \text { AV2 } & 0 \\ \hline \text { A } & 38 & 28 & \text { PCT } & 14 & \text { AV2 } & -0.1 \\ \hline \text { A } & 37 & 21 & \text { PCT } & 14 & \text { AV2 } & 0 \\ \hline \text { A } & 41 & 103 & \text { PCT } & 14 & \text { AV3 } & 0 \\ \hline \text { A } & 40 & 103 & \text { PCT } & 14 & \text { AV3 } & 0 \\ \hline \text { A } & 46 & 71 & \text { PCT } & 14 & \text { AV3 } & -0.16 \\ \hline \text { A } & 52 & 57 & \text { PCT } & 14 & \text { AV3 } & -0.05 \\ \hline \text { A } & 47 & 40 & \text { PCT } & 14 & \text { AV3 } & 0 \\ \hline \text { A } & 35 & 14 & \text { PCT } & 14 & \text { AV3 } & -0.13 \\ \hline \text { A } & 37 & 102 & \text { PCT } & 14 & \text { AV4 } & 0 \\ \hline \text { A } & 40 & 86 & \text { PCT } & 14 & \text { AV4 } & 0 \\ \hline \text { A } & 56 & 81 & \text { PCT } & 14 & \text { AV4 } & 0 \\ \hline \text { A } & 50 & 80 & \text { PCT } & 14 & \text { AV4 } & 0 \\ \hline \text { A } & 49 & 57 & \text { PCT } & 14 & \text { AV4 } & -0.15 \\ \hline \text { A } & 47 & 30 & \text { PCT } & 14 & \text { AV4 } & 0 \\ \hline \text { A } & 40 & 86 & \text { PCT } & 14 & \text { AV5 } & 0 \\ \hline \text { A } & 29 & 84 & \text { PCT } & 14 & \text { AV5 } & 0 \\ \hline \text { A } & 41 & 78 & \text { PCT } & 14 & \text { AV5 } & 0 \\ \hline \text { A } & 50 & 28 & \text { PCT } & 14 & \text { AV5 } & 0 \\ \hline \text { A } & 37 & 18 & \text { PCT } & 13 & \text { AV5 } & 0 \\ \hline \text { A } & 30 & 109 & \text { PCT } & 14 & \text { AV6 } & 0 \\ \hline \text { A } & 49 & 57 & \text { PCT } & 14 & \text { AV6 } & 0 \\ \hline \text { A } & 23 & 45 & \text { PCT } & 14 & \text { AV6 } & 0 \\ \hline \text { A } & 37 & 21 & \text { PCT } & 13 & \text { AV4 } & 0 \\ \hline \text { A } & 30 & 109 & \text { PCT } & 13 & \text { AV5 } & 0 \\ \hline \text { A } & 50 & 80 & \text { PCT } & 13 & \text { AV5 } & 0 \\ \hline \text { A } & 35 & 14 & \hline 37 & \text { PCT } & 13 & \text { AV5 }\end{array}\right] 0$

| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 49 | 88 | PCT | 13 | AV6 | 0 |
| A | 29 | 82 | PCT | 13 | AV6 | -0.03 |
| A | 24 | 59 | PCT | 13 | AV6 | -0.14 |
| A | 31 | 11 | PCT | 13 | AV6 | 0 |
| A | 30 | 109 | PCT | 12 | AV1 | 0 |
| A | 31 | 105 | PCT | 12 | AV1 | 0 |
| A | 27 | 93 | PCT | 12 | AV1 | -0.03 |
| A | 33 | 71 | PCT | 12 | AV1 | 0 |
| A | 48 | 63 | PCT | 12 | AV1 | 0 |
| A | 57 | 53 | PCT | 12 | AV1 | 0 |
| A | 28 | 44 | PCT | 12 | AV1 | 0 |
| A | 23 | 36 | PCT | 12 | AV1 | 0.03 |
| A | 30 | 11 | PCT | 12 | AV1 | 0.07 |
| A | 36 | 110 | PCT | 12 | AV2 | 0 |
| A | 39 | 79 | PCT | 12 | AV2 | 0 |
| A | 33 | 14 | PCT | 12 | AV2 | 0 |
| A | 31 | 11 | PCT | 12 | AV2 | 0 |
| A | 30 | 11 | PCT | 12 | AV2 | 0 |
| A | 45 | 80 | PCT | 12 | AV3 | 0 |
| A | 49 | 60 | PCT | 12 | AV3 | 0 |
| A | 37 | 40 | PCT | 12 | AV3 | 0 |
| A | 41 | 21 | PCT | 11 | AV4 | 0 |
| A | 41 | 35 | PCT | 12 | AV3 | 0 |
| A | 47 | 34 | PCT | 12 | AV3 | 0 |
| A | 33 | 31 | PCT | 11 | AV1 | 0 |
| A | 30 | 12 | PCT | 11 | AV1 | 0.07 |
| A | 34 | 59 | PCT | 11 | AV3 | 0 |
| A | 42 | 26 | PCT | 11 | AV3 | 0 |
| A | 34 | 17 | PCT | 12 | AV3 | 0 |
| A | 51 | 79 | 71 | PCT | 12 | AV4 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 27 | 112 | PCT | 11 | AV5 | -0.2 |
| A | 48 | 31 | PCT | 11 | AV5 | 0 |
| A | 42 | 26 | PCT | 10 | AV5 | 0 |
| A | 29 | 11 | PCT | 10 | AV6 | 0 |
|  |  |  |  |  |  |  |
| A | 1 | 87 | PCT | 30 | TSC | 18.62 |
| A | 1 | 36 | PCT | 26 | TSC | 18.13 |
| A | 49 | 29 | PCT | 23 | TSH | 0.12 |
| A | 50 | 29 | PCT | 13 | TSH | 0.2 |
| A | 35 | 80 | PCT | 8 | $03 H$ | -0.38 |
| A | 40 | 90 | PCT | 5 | $03 H$ | -0.52 |
| A | 35 | 88 | PCT | 5 | $03 H$ | -1.05 |

## Seabrook OR13 List of Imperfections

SG-B

| SG | Row | Col | Ind | PerCent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B | 22 | 116 | PCT | 13 | AV1 | 0 |
| B | 29 | 113 | PCT | 21 | AV1 | 0 |
| B | 27 | 112 | PCT. | 18 | AV1 | 0 |
| B | 30 | 106 | PCT | 16 | AV1 | 0 |
| B | 45 | 86 | PCT | 21 | AV1 | 0 |
| B | 30 | 80 | PCT | 17 | AV1 | 0.23 |
| B | 29 | 79 | PCT | 33 | AV1 | 0 |
| B | 21 | 77 | PCT | 16 | AV1 | 0.2 |
| B | 17 | 77 | PCT | 16 | AV1 | 0.11 |
| B | 58 | 76 | PCT | 16 | AV1 | 0 |
| B | 18 | 74 | PCT | 20 | AV1 | 0 |
| B | 47 | 71 | PCT | 16 | AV1 | 0.34 |
| B | 22 | 69 | PCT | 18 | AV1 | 0 |
| B | 35 | 68 | PCT | 15 | AV1 | 0 |
| B | 21 | 68 | PCT | 17 | AV1 | -0.28 |
| B | 15 | 68 | PCT | 15 | AV1 | -0.03 |
| B | 38 | 66 | PCT | 15 | AV1 | 0 |
| B | 30 | 66 | PCT | 20 | AV1 | 0 |
| B | 19 | 66 | PCT | 20 | AV1 | 0.03 |
| B | 18 | 66 | PCT | 18 | AV1 | 0.27 |
| B | 12 | 65 | PCT | 18 | AV1 | 0 |
| B | 17 | 64 | PCT | 17 | AV1 | 0.13 |
| B | 39 | 60 | PCT | 17 | AV1 | 0 |
| B | 39 | 59 | PCT | 20 | AV1 | 0 |
| B | 35 | 59 | PCT | 16 | AV1 | 0 |
| B | 39 | 56 | PCT | 18 | AV1 | 0 |
| B | 23 | 56 | PCT | 21 | AV1 | 0.14 |
| B | 39 | 54 | PCT | 17 | AV1 | 0 |
| B | 31 | 52 | PCT | 16 | AV1 | 0 |
| B | 25 | 51 | PCT | 17 | AV1 | 0 |
| B | 39 | 49 | PCT | 19 | AV1 | 0 |
| B | 40 | 48 | PCT | 12 | AV1 | 0 |
| B | 23 | 47 | PCT | 22 | AV1 | 0 |
| B | 35 | 44 | PCT | 14 | AV1 | 0 |
| B | 31 | 112 | PCT | 23 | AV2 | 0 |
| B | 30 | 112 | PCT | 21 | AV2 | 0 |
| B | 30 | 111 | PCT | 19 | AV2 | 0 |
| B | 50 | 93 | PCT | 14 | AV2 | 0 |
| 8 | 29 | 89 | PCT | 20 | AV2 | 0 |
| B | 22 | 89 | PCT | 19 | AV2 | 0.11 |
| B | 32 | 88 | PCT | 18 | AV2 | 0.19 |
| B | 37 | 87 | PCT | 19 | AV2 | 0.13 |
| B | 30 | 87 | PCT | 22 | AV2 | 0.15 |
| B | 32 | 86 | PCT | 19 | AV2 | 0.16 |
| B | 22 | 86 | PCT | 16 | AV2 | 0.14 |
| B | 32 | 83 | PCT | 19 | AV2 | 0.16 |
| B | 32 | 82 | PCT | 24 | AV2 | 0 |
| B | 42 | 81 | PCT | 25 | AV2 | 0.16 |
| 20 |  |  |  |  |  |  |


| SG | Row | Col | Ind | PerCent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B | 32 | 81 | PCT | 15 | AV2 | 0.05 |
| B | 30 | 81 | PCT | 28 | AV2 | 0.28 |
| B | 30 | 80 | PCT | 21 | AV2 | 0.18 |
| B | 30 | 79 | PCT | 19 | AV2 | 0 |
| B | 29 | 79 | PCT | 29 | AV2 | 0.28 |
| B | 49 | 78 | PCT | 20 | AV2 | 0 |
| B | 28 | 78 | PCT | 21 | AV2 | 0 |
| B | 43 | 75 | PCT | 26 | AV2 | 0.16 |
| B | 41 | 75 | PCT | 24 | AV2 | 0 |
| B | 30 | 75 | PCT | 30 | AV2 | 0 |
| B | 45 | 74 | PCT | 19 | AV2 | 0.16 |
| B | 40 | 74 | PCT | 15 | AV2 | 0 |
| B | 34 | 72 | PCT | 20 | AV2 | 0 |
| B | 56 | 71 | PCT | 14 | AV2 | 0.1 |
| B | 47 | 71 | PCT | 21 | AV2 | 0 |
| B | 34 | 70 | PCT | 19 | AV2 | 0.14 |
| B | 57 | 69 | PCT | 20 | AV2 | 0.15 |
| B | 55 | 69 | PCT | 13 | AV2 | -0.05 |
| B | 43 | 69 | PCT | 21 | AV2 | 0.11 |
| B | 37 | 69 | PCT | 25 | AV2 | 0.19 |
| B | 58 | 68 | PCT | 16 | AV2 | 0 |
| B | 56 | 68 | PCT | 17 | AV2 | 0 |
| B | 35 | 68 | PCT | 18 | AV2 | -0.03 |
| B | 35 | 67 | PCT | 24 | AV2 | -0.19 |
| B | 30 | 66 | PCT | 17 | AV2 | 0 |
| B | 36 | 65 | PCT | 35 | AV2 | 0 |
| B | 42 | 64 | PCT | 17 | AV2 | 0 |
| B | 30 | 62 | PCT | 20 | AV2 | 0.21 |
| B | 41 | 61 | PCT | 23 | AV2 | -0.03 |
| B | 30 | 61 | PCT | 25 | AV2 | -0.03 |
| B | 39 | 60 | PCT | 16 | AV2 | 0.08 |
| B | 36 | 59 | PCT | 21 | AV2 | 0.16 |
| B | 35 | 59 | PCT | 21 | AV2 | 0 |
| B | 35 | 58 | PCT | 21 | AV2 | 0 |
| B | 39 | 57 | PCT | 18 | AV2 | 0 |
| B | 27 | 57 | PCT | 18 | AV2 | 0 |
| B | 39 | 56 | PCT | 17 | AV2 | -0.03 |
| B | 23 | 56 | PCT | 21 | AV2 | 0.05 |
| B | 39 | 54 | PCT | 20 | AV2 | 0 |
| B | 37 | 54 | PCT | 17 | AV2 | 0 |
| B | 38 | 52 | PCT | 16 | AV2 | 0 |
| B | 29 | 51 | PCT | 16 | AV2 | 0 |
| B | 25 | 51 | PCT | 21 | AV2 | 0.16 |
| B | 46 | 50 | PCT | 20 | AV2 | 0 |
| B | 39 | 49 | PCT | 23 | AV2 | 0 |
| B | 30 | 49 | PCT | 16 | AV2 | 0 |
| B | 40 | 48 | PCT | 19 | AV2 | 0.48 |
| B | 40 | 48 | PCT | 33 | AV2 | 0 |
| B | 39 | 48 | PCT | 13 | AV2 | 0 |
| B | 23 | 47 | PCT | 17 | AV2 | -0.11 |
| B | 35 | 44 | PCT | 15 | AV2 | 0.23 |
| B | 30 | 43 | PCT | 18 | AV2 | 0 |
| B | 45 | 41 | PCT | 22 | AV2 | -0.03 |
| 21 |  |  |  |  |  |  |


| SG | Row | Col | Ind | PerCent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B | 29 | 38 | PCT | 18 | AV2 | 0.16 |
| B | 45 | 33 | PCT | 19 | AV2 | 0 |
| B | 43 | 20 | PCT | 16 | AV2 | 0 |
| B | 33 | 107 | PCT | 12 | AV3 | -0.06 |
| B | 40 | 105 | PCT | 16 | AV3 | 0 |
| B | 34 | 98 | PCT | 20 | AV3 | 0 |
| B | 47 | 94 | PCT | 15 | AV3 | 0 |
| B | 32 | 88 | PCT | 22 | AV3 | 0.35 |
| B | 54 | 87 | PCT | 17 | AV3 | -0.08 |
| B | 37 | 87 | PCT | 20 | AV3 | 0.23 |
| B | 54 | 86 | PCT | 15 | AV3 | -0.03 |
| B | 32 | 86 | PCT | 19 | AV3 | 0.18 |
| B | 58 | 76 | PCT | 16 | AV3 | 0 |
| B | 43 | 75 | PCT | 23 | AV3 | 0.05 |
| B | 41 | 75 | PCT | 24 | AV3 | 0.18 |
| B | 47 | 71 | PCT | 27 | AV3 | 0.16 |
| B | 35 | 71 | PCT | 19 | AV3 | 0.22 |
| B | 43 | 70 | PCT | 15 | AV3 | 0.11 |
| B | 34 | 70 | PCT | 15 | AV3 | 0 |
| B | 43 | 69 | PCT | 17 | AV3 | 0.16 |
| B | 59 | 68 | PCT | 12 | AV3 | -0.13 |
| B | 50 | 68 | PCT | 17 | AV3 | 0 |
| B | 35 | 68 | PCT | 25 | AV3 | 0.25 |
| B | 54 | 66 | PCT | 20 | AV3 | 0 |
| B | 46 | 66 | PCT | 18 | AV3 | 0 |
| B | 36 | 65 | PCT | 26 | AV3 | 0 |
| B | 36 | 64 | PCT | 19 | AV3 | 0 |
| B | 39 | 60 | PCT | 25 | AV3 | -0.05 |
| B | 35 | 59 | PCT | 19 | AV3 | 0 |
| B | 37 | 58 | PCT | 17 | AV3 | 0.03 |
| B | 35 | 58 | PCT | 24 | AV3 | 0 |
| B | 39 | 54 | PCT | 24 | AV3 | 0 |
| B | 46 | 50 | PCT | 32 | AV3 | 0 |
| B | 39 | 49 | PCT | 28 | AV3 | 0 |
| B | 40 | 48 | PCT | 39 | AV3 | 0 |
| B | 39 | 48 | PCT | 20 | AV3 | 0 |
| B | 45 | 41 | PCT | 19 | AV3 | 0.16 |
| B | 33 | 109 | PCT | 16 | AV4 | 0 |
| B | 40 | 105 | PCT | 18 | AV4 | 0 |
| B | 33 | 104 | PCT | 18 | AV4 | 0 |
| B | 49 | 96 | PCT | 19 | AV4 | 0 |
| B | 50 | 93 | PCT | 16 | AV4 | 0 |
| B | 32 | 86 | PCT | 19 | AV4 | 0.15 |
| B | 49 | 78 | PCT | 19 | AV4 | 0 |
| B | 58 | 76 | PCT | 16 | AV4 | 0 |
| B | 43 | 75 | PCT | 32 | AV4 | 0.05 |
| B | 41 | 75 | PCT | 22 | AV4 | 0.26 |
| B | 47 | 71 | PCT | 19 | AV4 | 0.11 |
| B | 34 | 70 | PCT | 17 | AV4 | 0 |
| B | 43 | 69 | PCT | 24 | AV4 | 0.38 |
| B | 35 | 68 | PCT | 28 | AV4 | 0 |
| B | 36 | 65 | PCT | 15 | AV4 | 0 |
| B | 36 | 64 | PCT | 21 | AV4 | 0 |
| 22 |  |  |  |  |  |  |


| SG | Row | Col | Ind | PerCent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B | 44 | 62 | PCT | 16 | AV4 | 0 |
| B | 41 | 61 | PCT | 24 | AV4 | 0.1 |
| B | 39 | 60 | PCT | 20 | AV4 | -0.08 |
| B | 35 | 59 | PCT | 17 | AV4 | 0 |
| B | 35 | 58 | PCT | 25 | AV4 | 0 |
| B | 39 | 57 | PCT | 16 | AV4 | 0 |
| B | 35 | 55 | PCT | 21 | AV4 | 0 |
| B | 39 | 54 | PCT | 24 | AV4 | 0 |
| B | 37 | 54 | PCT | 23 | AV4 | 0 |
| B | 46 | 50 | PCT | 32 | AV4 | 0 |
| B | 39 | 49 | PCT | 19 | AV4 | 0.03 |
| B | 40 | 48 | PCT | 33 | AV4 | 0.1 |
| B | 39 | 48 | PCT | 20 | AV4 | 0 |
| B | 45 | 41 | PCT | 18 | AV4 | 0.05 |
| B | 28 | 115 | PCT | 18 | AV5 | 0 |
| B | 29 | 113 | PCT | 20 | AV5 | 0 |
| B | 30 | 112 | PCT | 19 | AV5 | 0.03 |
| B | 31 | 111 | PCT | 25 | AV5 | 0 |
| B | 30 | 111 | PCT | 22 | AV5 | 0 |
| B | 33 | 109 | PCT | 36 | AV5 | 0 |
| B | 32 | 109 | PCT | 21 | AV5 | 0.12 |
| B | 33 | 107 | PCT | 19 | AV5 | -0.31 |
| B | 34 | 103 | PCT | 18 | AV5 | 0 |
| B | 34 | 94 | PCT | 18 | AV5 | 0 |
| B | 53 | 90 | PCT | 23 | AV5 | 0 |
| B | 32 | 88 | PCT | 17 | AV5 | 0 |
| B | 54 | 87 | PCT | 24 | AV5 | 0 |
| B | 30 | 87 | PCT | 31 | AV5 | 0.26 |
| B | 54 | 86 | PCT | 20 | AV5 | 0.05 |
| B | 22 | 86 | PCT | 19 | AV5 | 0.08 |
| B | 32 | 83 | PCT | 20 | AV5 | 0 |
| B | 56 | 82 | PCT | 22 | AV5 | 0 |
| B | 32 | 82 | PCT | 20 | AV5 | 0 |
| B | 30 | 81 | PCT | 32 | AV5 | 0 |
| B | 27 | 81 | PCT | 17 | AV5 | 0.05 |
| B | 30 | 80 | PCT | 21 | AV5 | 0.08 |
| B | 29 | 79 | PCT | 24 | AV5 | 0 |
| B | 48 | 78 | PCT | 18 | AV5 | -0.08 |
| B | 43 | 75 | PCT | 31 | AV5 | 0.18 |
| B | 30 | 75 | PCT | 24 | AV5 | 0.05 |
| B | 30 | 73 | PCT | 21 | AV5 | -0.39 |
| B | 51 | 70 | PCT | 20 | AV5 | 0 |
| B | 43 | 69 | PCT | 26 | AV5 | -0.05 |
| B | 57 | 68 | PCT | 19 | AV5 | 0.03 |
| B | 35 | 68 | PCT | 29 | AV5 | 0 |
| B | 30 | 66 | PCT | 22 | AV5 | 0 |
| B | 36 | 65 | PCT | 26 | AV5 | 0 |
| B | 27 | 63 | PCT | 18 | AV5 | 0 |
| B | 41 | 61 | PCT | 23 | AV5 | 0 |
| B | 30 | 61 | PCT | 36 | AV5 | 0 |
| B | 35 | 58 | PCT | 23 | AV5 | 0 |
| B | 30 | 58 | PCT | 20 | AV5 | 0 |
| B | 39 | 54 | PCT | 21 | AV5 | 0 |
| 23 |  |  |  |  |  |  |


| SG | Row | Col | Ind | PerCent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B | 48 | 52 | PCT | 17 | AV5 | 0 |
| B | 31 | 52 | PCT | 18 | AV5 | 0 |
| B | 25 | 51 | PCT | 21 | AV5 | -0.03 |
| B | 46 | 50 | PCT | 40 | AV5 | 0.15 |
| B | 40 | 48 | PCT | 30 | AV5 | 0.37 |
| B | 39 | 48 | PCT | 22 | AV5 | 0 |
| B | 45 | 47 | PCT | 19 | AV5 | -0.05 |
| B | 42 | 47 | PCT | 17 | AV5 | 0 |
| B | 55 | 43 | PCT | 17 | AV5 | 0 |
| B | 54 | 43 | PCT | 17 | AV5 | 0.02 |
| B | 30 | 43 | PCT | 23 | AV5 | 0 |
| B | 28 | 42 | PCT | 11 | AV5 | 0 |
| B | 54 | 36 | PCT | 19 | AV5 | -0.05 |
| B | 50 | 36 | PCT | 16 | AV5 | 0.13 |
| B | 48 | 25 | PCT | 20 | AV5 | 0.17 |
| B | 34 | 14 | PCT | 18 | AV5 | 0 |
| B | 32 | 109 | PCT | 17 | AV6 | 0 |
| B | 30 | 106 | PCT | 18 | AV6 | 0 |
| B | 34 | 105 | PCT | 18 | AV6 | 0 |
| B | 34 | 103 | PCT | 22 | AV6 | 0 |
| B | 50 | 95 | PCT | 22 | AV6 | 0 |
| B | 22 | 89 | PCT | 20 | AV6 | 0 |
| B | 38 | 87 | PCT | 17 | AV6 | -0.27 |
| B | 33 | 87 | PCT | 16 | AV6 | 0 |
| B | 30 | 87 | PCT | 19 | AV6 | 0.09 |
| B | 34 | 85 | PCT | 13 | AV6 | -0.5 |
| B | 32 | 82 | PCT | 16 | AV6 | -0.24 |
| B | 29 | 79 | PCT | 16 | AV6 | 0.24 |
| B | 58 | 76 | PCT | 19 | AV6 | 0 |
| B | 51 | 70 | PCT | 25 | AV6 | 0 |
| B | 31 | 66 | PCT | 16 | AV6 | 0 |
| B | 30 | 66 | PCT | 19 | AV6 | 0.05 |
| B | 57 | 55 | PCT | 18 | AV6 | 0 |
| B | 46 | 50 | PCT | 20 | AV6 | 0 |
| B | 58 | 48 | PCT | 19 | AV6 | 0 |
| B | 40 | 48 | PCT | 21 | AV6 | 0 |
| B | 53 | 44 | PCT | 17 | AV6 | -0.32 |
| B | 30 | 43 | PCT | 23 | AV6 | 0 |
| B | 50 | 36 | PCT | 16 | AV6 | -0.27 |
| B | 53 | 34 | PCT | 25 | AV6 | 0 |
| B | 45 | 27 | PCT | 16 | AV6 | 0 |
| B | 34 | 14 | PCT | 21 | AV6 | -0.08 |
|  |  |  |  |  |  |  |
| B | 5 | 86 | PCT | 13 | 04H | -0.32 |
| B | 2 | 98 | PCT | 34 | 06C | -0.81 |
| B | 1 | 87 | PCT | 38 | TSC | 17.64 |
| B | 1 | 87 | PCT | 38 | TSH | 18.23 |
| B | 1 | 11 | PCT | 33 | TSC | 18.23 |
| B | 1 | 112 | PCT | 18 | TSH | 18.31 |
| B | 43 | 96 | PCT | 21 | TSH | 0.05 |

## Seabrook OR13 List of Imperfections

SG-C

| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C | 27 | 61 | SAI |  | TSH | -0.26 |
| C | 51 | 51 | PCT | 45 | AV5 | 0 |
| C | 48 | 96 | PCT | 42 | AV4 | 0 |
| C | 35 | 39 | PCT | 40 | AV5 | 0 |
| C | 35 | 39 | PCT | 35 | AV2 | 0 |
| C | 51 | 51 | PCT | 35 | AV4 | 0 |
| C | 47 | 67 | PCT | 34 | AV3 | 0.02 |
| C | 39 | 53 | PCT | 34 | AV4 | 0 |
| C | 53 | 67 | PCT | 33 | AV2 | -0.02 |
| C | 47 | 67 | PCT | 33 | AV2 | 0.02 |
| C | 39 | 49 | PCT | 33 | AV2 | 0 |
| C | 42 | 66 | PCT | 33 | AV3 | 0 |
| C | 48 | 96 | PCT | 33 | AV6 | 0 |
| C | 51 | 84 | PCT | 32 | AV2 | 0 |
| C | 42 | 66 | PCT | 32 | AV2 | 0 |
| C | 53 | 67 | PCT | 32 | AV3 | -0.14 |
| C | 43 | 102 | PCT | 32 | AV4 | 0 |
| C | 43 | 100 | PCT | 32 | AV4 | 0 |
| C | 47 | 99 | PCT | 32 | AV5 | 0.02 |
| C | 47 | 93 | PCT | 32 | AV5 | 0 |
| C | 39 | 49 | PCT | 32 | AV5 | 0.05 |
| C | 39 | 53 | PCT | 32 | AV6 | 0 |
| C | 42 | 102 | PCT | 31 | AV3 | 0 |
| C | 35 | 39 | PCT | 31 | AV4 | -0.1 |
| C | 39 | 45 | PCT | 31 | AV5 | 0.17 |
| C | 41 | 41 | PCT | 30 | AV2 | 0.15 |
| C | 41 | 80 | PCT | 30 | AV3 | 0 |
| C | 47 | 67 | PCT | 30 | AV4 | 0 |
| C | 43 | 102 | PCT | 30 | AV5 | 0 |
| C | 44 | 100 | PCT | 30 | AV5 | 0 |
| C | 48 | 96 | PCT | 30 | AV5 | 0 |
| C | 39 | 53 | PCT | 30 | AV5 | 0.05 |
| C | 47 | 99 | PCT | 30 | AV6 | 0.03 |
| C | 39 | 49 | PCT | 29 | AV3 | 0 |
| C | 42 | 102 | PCT | 29 | AV4 | 0 |
| C | 44 | 100 | PCT | 29 | AV4 | 0 |
| C | 49 | 95 | PCT | 29 | AV5 | -0.1 |
| C | 47 | 67 | PCT | 29 | AV5 | 0 |
| C | 40 | 46 | PCT | 29 | AV5 | 0 |
| C | 39 | 69 | PCT | 28 | AV4 | -0.09 |
| C | 42 | 66 | PCT | 28 | AV4 | 0 |
| C | 39 | 49 | PCT | 28 | AV4 | 0 |
| C | 42 | 66 | PCT | 27 | AV1 | 0 |
| C | 39 | 53 | PCT | 27 | AV3 | 0.09 |
| C | 35 | 39 | PCT | 27 | AV3 | 0.03 |
| C | 39 | 45 | PCT | 27 | AV4 | 0.05 |
| C | 46 | 36 | PCT | 27 | AV4 | 0.17 |
| C | 35 | 13 | PCT | 27 | AV5 | 0 |
| C | 39 | 45 | PCT | 26 | AV3 | -0.05 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C | 43 | 23 | PCT | 26 | AV3 | 0 |
| C | 47 | 93 | PCT | 26 | AV4 | -0.12 |
| C | 41 | 43 | PCT | 26 | AV4 | 0 |
| C | 47 | 35 | PCT | 25 | AV3 | 0 |
| C | 42 | 23 | PCT | 25 | AV5 | 0 |
| C | 53 | 70 | PCT | 24 | AV2 | 0 |
| C | 35 | 13 | PCT | 24 | AV2 | 0.07 |
| C | 46 | 79 | PCT | 24 | AV4 | 0.09 |
| C | 53 | 67 | PCT | 24 | AV4 | -0.16 |
| C | 39 | 69 | PCT | 23 | AV2 | -0.12 |
| C | 39 | 45 | PCT | 23 | AV2 | 0.02 |
| C | 42 | 31 | PCT | 23 | AV2 | 0 |
| C | 47 | 93 | PCT | 23 | AV3 | -0.19 |
| C | 46 | 97 | PCT | 23 | AV4 | -0.02 |
| C | 47 | 35 | PCT | 23 | AV4 | 0 |
| C | 42 | 23 | PCT | 23 | AV4 | 0 |
| C | 41 | 100 | PCT | 23 | AV5 | 0 |
| C | 54 | 87 | PCT | 23 | AV5 | -0.09 |
| C | 37 | 85 | PCT | 23 | AV5 | -0.1 |
| C | 48 | 33 | PCT | 23 | AV5 | 0 |
| C | 41 | 39 | PCT | 22 | AV2 | 0.03 |
| C | 43 | 102 | PCT | 22 | AV3 | 0 |
| C | 46 | 79 | PCT | 22 | AV3 | 0 |
| C | 56 | 65 | PCT | 22 | AV3 | -0.02 |
| C | 46 | 36 | PCT | 22 | AV3 | 0.38 |
| C | 47 | 94 | PCT | 22 | AV4 | 0 |
| C | 42 | 71 | PCT | 21 | AV2 | -0.05 |
| C | 47 | 35 | PCT | 21 | AV2 | 0 |
| C | 37 | 85 | PCT | 21 | AV4 | 0.1 |
| C | 41 | 23 | PCT | 21 | AV5 | 0 |
| C | 46 | 79 | PCT | 21 | AV6 | -0.08 |
| C | 41 | 39 | PCT | 21 | AV6 | -0.19 |
| C | 44 | 75 | PCT | 20 | AV1 | 0.05 |
| C | 15 | 67 | PCT | 20 | AV1 | 0 |
| C | 19 | 62 | PCT | 20 | AV1 | 0 |
| C | 41 | 41 | PCT | 20 | AV1 | 0 |
| C | 41 | 23 | PCT | 20 | AV1 | 0 |
| C | 30 | 113 | PCT | 20 | AV2 | -0.18 |
| C | 42 | 92 | PCT | 20 | AV2 | 0 |
| C | 37 | 85 | PCT | 20 | AV2 | 0.02 |
| C | 41 | 80 | PCT | 20 | AV2 | 0.34 |
| C | 51 | 51 | PCT | 20 | AV2 | 0 |
| C | 39 | 42 | PCT | 20 | AV2 | -0.37 |
| C | 39 | 69 | PCT | 20 | AV3 | 0 |
| C | 41 | 41 | PCT | 20 | AV3 | 0.03 |
| C | 39 | 42 | PCT | 20 | AV4 | -0.27 |
| C | 48 | 35 | PCT | 20 | AV4 | 0 |
| C | 43 | 100 | PCT | 20 | AV5 | -0.11 |
| C | 41 | 93 | PCT | 20 | AV5 | -0.07 |
| C | 39 | 69 | PCT | 20 | AV5 | -0.09 |
| C | 47 | 67 | PCT | 19 | AV1 | -0.24 |
| C | 46 | 79 | PCT | 19 | AV2 | 0 |
| C | 44 | 75 | PCT | 19 | AV2 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C | 39 | 53 | PCT | 19 | AV2 | 0.03 |
| C | 51 | 49 | PCT | 19 | AV2 | 0 |
| C | 41 | 43 | PCT | 19 | AV2 | 0 |
| C | 44 | 100 | PCT | 19 | AV3 | 0 |
| C | 48 | 96 | PCT | 19 | AV3 | 0 |
| C | 42 | 92 | PCT | 19 | AV3 | 0 |
| C | 37 | 85 | PCT | 19 | AV3 | 0.04 |
| C | 41 | 41 | PCT | 19 | AV4 | 0.12 |
| C | 46 | 79 | PCT | 19 | AV5 | 0.14 |
| C | 37 | 23 | PCT | 19 | AV5 | 0 |
| C | 37 | 85 | PCT | 19 | AV6 | 0 |
| C | 54 | 68 | PCT | 18 | AV2 | 0 |
| C | 37 | 55 | PCT | 18 | AV2 | 0 |
| C | 36 | 43 | PCT | 18 | AV2 | -0.08 |
| C | 47 | 94 | PCT | 18 | AV3 | 0 |
| C | 51 | 51 | PCT | 18 | AV3 | 0 |
| C | 41 | 93 | PCT | 18 | AV4 | -0.1 |
| C | 37 | 47 | PCT | 18 | AV4 | 0 |
| C | 40 | 46 | PCT | 18 | AV4 | -0.08 |
| C | 43 | 23 | PCT | 18 | AV4 | 0 |
| C | 47 | 94 | PCT | 18 | AV5 | 0 |
| C | 47 | 83 | PCT | 18 | AV5 | 0 |
| C | 42 | 71 | PCT | 18 | AV5 | 0 |
| C | 42 | 66 | PCT | 18 | AV5 | 0 |
| C | 42 | 25 | PCT | 18 | AV5 | 0 |
| C | 41 | 22 | PCT | 18 | AV5 | -0.27 |
| C | 30 | 11 | PCT | 18 | AV5 | 0 |
| C | 42 | 102 | PCT | 18 | AV6 | 0 |
| C | 47 | 94 | PCT | 18 | AV6 | 0 |
| C | 42 | 66 | PCT | 18 | AV6 | 0 |
| C | 39 | 45 | PCT | 18 | AV6 | -0.12 |
| C | 42 | 25 | PCT | 18 | AV6 | 0 |
| C | 35 | 13 | PCT | 18 | AV6 | 0 |
| C | 47 | 76 | PCT | 17 | AV1 | -0.1 |
| C | 53 | 70 | PCT | 17 | AV1 | 0 |
| C | 30 | 11 | PCT | 17 | AV1 | 0 |
| C | 48 | 96 | PCT | 17 | AV2 | 0 |
| C | 38 | 79 | PCT | 17 | AV2 | 0 |
| C | 47 | 76 | PCT | 17 | AV2 | 0.14 |
| C | 53 | 35 | PCT | 17 | AV2 | 0 |
| C | 42 | 25 | PCT | 17 | AV2 | 0 |
| C | 41 | 43 | PCT | 17 | AV3 | 0 |
| C | 41 | 22 | PCT | 17 | AV3 | -0.07 |
| C | 33 | 106 | PCT | 17 | AV4 | 0 |
| C | 47 | 98 | PCT | 17 | AV4 | 0 |
| C | 54 | 87 | PCT | 17 | AV4 | -0.16 |
| C | 38 | 102 | PCT | 17 | AV5 | 0 |
| C | 41 | 39 | PCT | 17 | AV5 | -0.05 |
| C | 47 | 30 | PCT | 17 | AV5 | -0.11 |
| C | 41 | 30 | PCT | 17 | AV5 | -0.18 |
| C | 43 | 102 | PCT | 17 | AV6 | 0.03 |
| C | 53 | 67 | PCT | 16 | AV1 | -0.05 |
| C | 40 | 46 | PCT | 16 | AV1 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C | 42 | 31 | PCT | 16 | AV1 | 0 |
| C | 32 | 17 | PCT | 16 | AV1 | -0.09 |
| C | 42 | 102 | PCT | 16 | AV2 | 0 |
| C | 28 | 66 | PCT | 16 | AV2 | 0 |
| C | 22 | 34 | PCT | 16 | AV2 | 0 |
| C | 48 | 97 | PCT | 16 | AV3 | -0.05 |
| C | 46 | 97 | PCT | 16 | AV3 | 0 |
| C | 53 | 70 | PCT | 16 | AV3 | 0 |
| C | 38 | 102 | PCT | 16 | AV4 | 0 |
| C | 41 | 100 | PCT | 16 | AV4 | 0 |
| C | 42 | 25 | PCT | 16 | AV4 | 0 |
| C | 37 | 23 | PCT | 16 | AV4 | 0 |
| C | 35 | 13 | PCT | 16 | AV4 | 0 |
| C | 33 | 111 | PCT | 16 | AV5 | 0 |
| C | 47 | 96 | PCT | 16 | AV5 | 0 |
| C | 42 | 92 | PCT | 16 | AV5 | 0 |
| C | 47 | 86 | PCT | 16 | AV5 | -0.25 |
| C | 37 | 17 | PCT | 16 | AV5 | 0 |
| C | 38 | 101 | PCT | 16 | AV6 | -0.08 |
| C | 47 | 67 | PCT | 16 | AV6 | 0 |
| C | 11 | 67 | PCT | 15 | AV1 | -0.05 |
| C | 10 | 64 | PCT | 15 | AV1 | 0.14 |
| C | 43 | 102 | PCT | 15 | AV2 | 0 |
| C | 48 | 97 | PCT | 15 | AV2 | -0.02 |
| C | 47 | 94 | PCT | 15 | AV2 | 0 |
| C | 46 | 36 | PCT | 15 | AV2 | 0.1 |
| C | 41 | 22 | PCT | 15 | AV2 | 0.02 |
| C | 47 | 98 | PCT | 15 | AV3 | 0 |
| C | 35 | 13 | PCT | 15 | AV3 | 0 |
| C | 47 | 99 | PCT | 15 | AV4 | 0 |
| C | 42 | 92 | PCT | 15 | AV4 | 0 |
| C | 41 | 80 | PCT | 15 | AV4 | -0.02 |
| C | 34 | 28 | PCT | 15 | AV4 | -0.05 |
| C | 41 | 80 | PCT | 15 | AV5 | -0.18 |
| C | 41 | 43 | PCT | 15 | AV5 | -0.68 |
| C | 43 | 23 | PCT | 15 | AV5 | 0 |
| C | 44 | 100 | PCT | 15 | AV6 | 0 |
| C | 41 | 100 | PCT | 15 | AV6 | 0 |
| C | 26 | 8 | PCT | 14 | AV1 | 0 |
| C | 30 | 114 | PCT | 14 | AV2 | 0 |
| C | 33 | 111 | PCT | 14 | AV2 | 0 |
| C | 43 | 100 | PCT | 14 | AV2 | -0.17 |
| C | 41 | 93 | PCT | 14 | AV2 | 0 |
| C | 40 | 46 | PCT | 14 | AV2 | 0.07 |
| C | 41 | 100 | PCT | 14 | AV3 | 0 |
| C | 54 | 87 | PCT | 14 | AV3 | -0.25 |
| C | 35 | 73 | PCT | 14 | AV3 | -0.05 |
| C | 37 | 40 | PCT | 14 | AV3 | -0.05 |
| C | 42 | 31 | PCT | 14 | AV3 | 0.02 |
| C | 42 | 25 | PCT | 14 | AV3 | 0 |
| C | 48 | 97 | PCT | 14 | AV4 | 0 |
| C | 35 | 73 | PCT | 14 | AV4 | 0 |
| C | 48 | 30 | PCT | 14 | AV4 | 0.02 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C | 31 | 111 | PCT | 14 | AV5 | 0 |
| C | 47 | 92 | PCT | 14 | AV5 | -0.07 |
| C | 46 | 36 | PCT | 14 | AV5 | -0.15 |
| C | 48 | 30 | PCT | 14 | AV6 | -0.16 |
| C | 44 | 100 | PCT | 13 | AV2 | 0 |
| C | 35 | 73 | PCT | 13 | AV2 | -0.02 |
| C | 33 | 106 | PCT | 13 | AV3 | 0 |
| C | 45 | 100 | PCT | 13 | AV3 | 0 |
| C | 40 | 46 | PCT | 13 | AV3 | -0.07 |
| C | 47 | 40 | PCT | 13 | AV3 | -0.3 |
| C | 53 | 33 | PCT | 13 | AV3 | -0.12 |
| C | 47 | 86 | PCT | 13 | AV4 | 0.02 |
| C | 42 | 102 | PCT | 13 | AV5 | 0 |
| C | 48 | 30 | PCT | 13 | AV5 | 0.02 |
| C | 40 | 46 | PCT | 13 | AV6 | 0 |
| C | 30 | 11 | PCT | 13 | AV6 | 0 |
| C | 42 | 102 | PCT | 12 | AV1 | 0 |
| C | 24 | 98 | PCT | 12 | AV1 | -0.03 |
| C | 41 | 93 | PCT | 12 | AV1 | 0.23 |
| C | 55 | 39 | PCT | 12 | AV1 | -0.05 |
| C | 24 | 7 | PCT | 12 | AV1 | -0.06 |
| C | 37 | 56 | PCT | 12 | AV2 | 0 |
| C | 41 | 93 | PCT | 12 | AV3 | -0.07 |
| C | 54 | 35 | PCT | 12 | AV4 | -0.15 |
| C | 30 | 113 | PCT | 12 | AV6 | 0 |
| C | 41 | 30 | PCT | 12 | AV6 | -0.03 |
| C | 24 | 7 | PCT | 12 | AV6 | 0 |
| C | 43 | 68 | PCT | 11 | AV3 | 0 |
| C | 41 | 30 | PCT | 11 | AV4 | -0.05 |
| C | 30 | 114 | PCT | 11 | AV5 | 0.24 |
| C | 37 | 40 | PCT | 11 | AV6 | 0.38 |
| C | 34 | 28 | PCT | 10 | AV5 | -0.22 |
| C | 3 | 113 | PCT | 32 | 05C | -0.85 |
| C | 5 | 57 | PCT | 27 | 06C | -0.79 |
| C | 1 | 87 | PCT | 31 | TSC | 18.83 |
| C | 1 | 87 | PCT | 35 | TSH | 18.13 |
| C | 32 | 24 | PCT | 26 | 04H | -0.32 |
| C | 1 | 112 | PCT | 23 | TSH | 18.5 |
| C | 43 | 26 | PCT | 23 | TSH | 0.05 |
| C | 18 | 116 | PCT | 16 | 07H | 0.07 |
| C | 44 | 26 | PCT | 13 | TSH | 0.14 |
| C | 3 | 90 | PCT | 8 | 07C | -0.6 |

Seabrook OR13 List of Imperfections
SG-D

| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D | 46 | 51 | PCT | 42 | AV4 | 0 |
| D | 48 | 28 | PCT | 41 | AV3 | 0 |
| D | 48 | 28 | PCT | 41 | AV4 | 0 |
| D | 46 | 51 | PCT | 41 | AV5 | 0 |
| D | 37 | 36 | PCT | 41 | AV5 | 0 |
| D | 47 | 59 | PCT | 40 | AV2 | 0 |
| D | 41 | 56 | PCT | 39 | AV2 | 0 |
| D | 37 | 36 | PCT | 38 | AV4 | 0 |
| D | 52 | 33 | PCT | 38 | AV4 | 0 |
| D | 47 | 75 | PCT | 37 | AV5 | 0 |
| D | 32 | 12 | PCT | 37 | AV5 | 0 |
| D | 44 | 91 | PCT | 36 | AV3 | 0 |
| D | 35 | 69 | PCT | 36 | AV3 | 0 |
| D | 46 | 39 | PCT | 36 | AV5 | 0.05 |
| D | 46 | 30 | PCT | 36 | AV5 | 0.02 |
| D | 35 | 69 | PCT | 35 | AV2 | 0.03 |
| D | 41 | 66 | PCT | 35 | AV2 | -0.17 |
| D | 29 | 34 | PCT | 35 | AV2 | 0 |
| D | 52 | 35 | PCT | 35 | AV5 | 0 |
| D | 46 | 30 | PCT | 34 | AV4 | 0 |
| D | 41 | 56 | PCT | 34 | AV5 | 0 |
| D | 47 | 49 | PCT | 33 | AV2 | 0 |
| D | 52 | 35 | PCT | 33 | AV3 | 0 |
| D | 44 | 91 | PCT | 33 | AV4 | 0 |
| D | 37 | 77 | PCT | 33 | AV4 | 0 |
| D | 47 | 59 | PCT | 33 | AV4 | 0 |
| D | 56 | 41 | PCT | 33 | AV4 | -0.03 |
| D | 50 | 94 | PCT | 33 | AV6 | 0 |
| D | 36 | 82 | PCT | 32 | AV2 | 0 |
| D | 40 | 66 | PCT | 32 | AV2 | 0 |
| D | 49 | 52 | PCT | 32 | AV2 | 0 |
| D | 46 | 51 | PCT | 32 | AV2 | 0 |
| D | 41 | 56 | PCT | 32 | AV3 | 0 |
| D | 39 | 41 | PCT | 32 | AV4 | 0 |
| D | 44 | 45 | PCT | 32 | AV5 | 0.07 |
| D | 48 | 28 | PCT | 32 | AV5 | -0.03 |
| D | 27 | 39 | PCT | 31 | AV2 | 0 |
| D | 37 | 77 | PCT | 31 | AV3 | 0 |
| D | 40 | 66 | PCT | 31 | AV3 | 0 |
| D | 44 | 91 | PCT | 31 | AV5 | 0 |
| D | 47 | 75 | PCT | 30 | AV4 | 0 |
| D | 42 | 24 | PCT | 30 | AV4 | 0 |
| D | 40 | 66 | PCT | 30 | AV5 | 0 |
| D | 47 | 53 | PCT | 30 | AV5 | 0 |
| D | 27 | 39 | PCT | 30 | AV5 | 0 |
| D | 42 | 37 | PCT | 29 | AV2 | 0.08 |
| D | 35 | 37 | PCT | 29 | AV2 | 0.29 |
| D | 47 | 49 | PCT | 29 | AV3 | 0 |
| D | 44 | 48 | PCT | 29 | AV3 | 0 |
| D | 56 | 69 | PCT | 29 | AV5 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D | 27 | 44 | PCT | 28 | AV2 | 0 |
| D | 37 | 36 | PCT | 28 | AV2 | 0 |
| D | 49 | 52 | PCT | 28 | AV3 | 0 |
| D | 42 | 46 | PCT | 28 | AV3 | 0 |
| D | 42 | 37 | PCT | 28 | AV3 | 0 |
| D | 37 | 36 | PCT | 28 | AV3 | 0 |
| D | 29 | 34 | PCT | 28 | AV5 | 0 |
| D | 43 | 21 | PCT | 28 | AV5 | 0 |
| D | 41 | 20 | PCT | 28 | AV5 | 0 |
| D | 44 | 91 | PCT | 27 | AV2 | 0 |
| D | 56 | 41 | PCT | 27 | AV2 | 0 |
| D | 46 | 51 | PCT | 27 | AV3 | 0 |
| D | 44 | 36 | PCT | 27 | AV3 | 0 |
| D | 49 | 81 | PCT | 27 | AV4 | 0 |
| D | 41 | 59 | PCT | 27 | AV4 | 0 |
| D | 41 | 56 | PCT | 27 | AV4 | 0 |
| D | 46 | 38 | PCT | 27 | AV4 | 0 |
| D | 36 | 82 | PCT | 27 | AV5 | 0 |
| D | 43 | 51 | PCT | 27 | AV5 | 0 |
| D | 56 | 41 | PCT | 27 | AV5 | 0 |
| D | 34 | 40 | PCT | 27 | AV6 | 0 |
| D | 27 | 8 | PCT | 27 | AV6 | -0.52 |
| D | 52 | 33 | PCT | 27 | AV6 | 0 |
| D | 34 | 69 | PCT | 26 | AV2 | 0 |
| D | 36 | 82 | PCT | 26 | AV4 | 0 |
| D | 34 | 69 | PCT | 26 | AV4 | 0 |
| D | 40 | 66 | PCT | 26 | AV4 | -0.33 |
| D | 47 | 53 | PCT | 26 | AV4 | 0 |
| D | 50 | 94 | PCT | 26 | AV5 | 0.09 |
| D | 46 | 42 | PCT | 26 | AV5 | 0 |
| D | 27 | 39 | PCT | 26 | AV6 | 0 |
| D | 24 | 6 | PCT | 25 | AV1 | 0 |
| D | 34 | 17 | PCT | 25 | AV1 | -0.32 |
| D | 47 | 75 | PCT | 25 | AV2 | 0 |
| D | 30 | 66 | PCT | 25 | AV2 | 0 |
| D | 47 | 75 | PCT | 25 | AV3 | 0 |
| D | 39 | 57 | PCT | 25 | AV3 | 0 |
| D | 39 | 41 | PCT | 25 | AV3 | 0 |
| D | 35 | 37 | PCT | 25 | AV3 | -0.21 |
| D | 39 | 19 | PCT | 25 | AV3 | 0 |
| D | 49 | 87 | PCT | 25 | AV4 | -0.05 |
| D | 37 | 39 | PCT | 25 | AV4 | 0.05 |
| D | 41 | 18 | PCT | 25 | AV4 | 0.02 |
| D | 34 | 69 | PCT | 25 | AV5 | -0.23 |
| D | 42 | 47 | PCT | 25 | AV5 | 0 |
| D | 37 | 39 | PCT | 25 | AV5 | -0.05 |
| D | 52 | 33 | PCT | 25 | AV5 | 0 |
| D | 56 | 69 | PCT | 25 | AV6 | 0.06 |
| D | 24 | 6 | PCT | 25 | AV6 | 0 |
| D | 47 | 53 | PCT | 25 | AV6 | 0 |
| D | 37 | 36 | PCT | 25 | AV6 | 0 |
| D | 59 | 66 | PCT | 24 | AV1 | 0 |
| D | 47 | 59 | PCT | 24 | AV1 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D | 46 | 51 | PCT | 24 | AV1 | 0 |
| D | 58 | 49 | PCT | 24 | AV1 | 0 |
| D | 39 | 82 | PCT | 24 | AV2 | 0 |
| D | 25 | 82 | PCT | 24 | AV2 | 0.09 |
| D | 38 | 73 | PCT | 24 | AV2 | 0 |
| D | 39 | 57 | PCT | 24 | AV2 | 0 |
| D | 37 | 45 | PCT | 24 | AV2 | 0 |
| D | 39 | 82 | PCT | 24 | AV3 | 0 |
| D | 41 | 35 | PCT | 24 | AV3 | -0.11 |
| D | 41 | 20 | PCT | 24 | AV3 | 0 |
| D | 49 | 52 | PCT | 24 | AV4 | 0 |
| D | 50 | 50 | PCT | 24 | AV4 | 0 |
| D | 58 | 49 | PCT | 24 | AV4 | 0.07 |
| D | 46 | 42 | PCT | 24 | AV4 | 0 |
| D | 46 | 39 | PCT | 24 | AV4 | 0 |
| D | 44 | 48 | PCT | 24 | AV5 | 0 |
| D | 34 | 40 | PCT | 24 | AV5 | 0 |
| D | 46 | 38 | PCT | 24 | AV5 | 0 |
| D | 41 | 56 | PCT | 24 | AV6 | 0 |
| D | 43 | 21 | PCT | 24 | AV6 | 0 |
| D | 47 | 75 | PCT | 23 | AV1 | 0 |
| D | 40 | 23 | PCT | 23 | AV1 | -0.03 |
| D | 34 | 73 | PCT | 23 | AV2 | 0 |
| D | 45 | 66 | PCT | 23 | AV2 | 0.51 |
| D | 37 | 58 | PCT | 23 | AV2 | 0 |
| D | 52 | 35 | PCT | 23 | AV2 | 0 |
| D | 41 | 20 | PCT | 23 | AV2 | 0 |
| D | 36 | 82 | PCT | 23 | AV3 | 0 |
| D | 38 | 73 | PCT | 23 | AV3 | 0 |
| D | 41 | 66 | PCT | 23 | AV3 | 0.26 |
| D | 40 | 66 | PCT | 23 | AV3 | -0.26 |
| D | 41 | 51 | PCT | 23 | AV3 | 0 |
| D | 43 | 49 | PCT | 23 | AV3 | 0 |
| D | 42 | 47 | PCT | 23 | AV3 | 0 |
| D | 37 | 45 | PCT | 23 | AV3 | 0 |
| D | 37 | 39 | PCT | 23 | AV3 | 0.05 |
| D | 35 | 88 | PCT | 23 | AV4 | -0.02 |
| D | 42 | 47 | PCT | 23 | AV4 | 0.03 |
| D | 37 | 45 | PCT | 23 | AV4 | 0 |
| D | 34 | 109 | PCT | 23 | AV5 | 0 |
| D | 42 | 92 | PCT | 23 | AV5 | 0.07 |
| D | 56 | 81 | PCT | 23 | AV5 | -0.06 |
| D | 30 | 66 | PCT | 23 | AV5 | 0 |
| D | 39 | 41 | PCT | 23 | AV5 | 0 |
| D | 46 | 25 | PCT | 23 | AV5 | 0 |
| D | 39 | 18 | PCT | 23 | AV5 | 0 |
| D | 17 | 75 | PCT | 23 | AV6 | 0 |
| D | 56 | 41 | PCT | 23 | AV6 | 0 |
| D | 41 | 56 | PCT | 22 | AV1 | 0 |
| D | 35 | 51 | PCT | 22 | AV1 | 0 |
| D | 27 | 76 | PCT | 22 | AV2 | 0 |
| D | 42 | 24 | PCT | 22 | AV2 | 0 |
| D | 43 | 21 | PCT | 22 | AV2 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D | 35 | 83 | PCT | 22 | AV3 | 0.03 |
| D | 34 | 69 | PCT | 22 | AV3 | -0.03 |
| D | 45 | 66 | PCT | 22 | AV3 | -0.74 |
| D | 44 | 45 | PCT | 22 | AV3 | 0 |
| D | 46 | 30 | PCT | 22 | AV3 | 0.03 |
| D | 43 | 21 | PCT | 22 | AV3 | 0 |
| D | 42 | 19 | PCT | 22 | AV3 | 0 |
| D | 56 | 69 | PCT | 22 | AV4 | 0 |
| D | 40 | 66 | PCT | 22 | AV4 | 0.26 |
| D | 40 | 23 | PCT | 22 | AV4 | 0 |
| D | 49 | 94 | PCT | 22 | AV5 | 0 |
| D | 49 | 81 | PCT | 22 | AV5 | 0 |
| D | 42 | 46 | PCT | 22 | AV5 | -0.14 |
| D | 49 | 28 | PCT | 22 | AV5 | -0.02 |
| D | 40 | 66 | PCT | 22 | AV6 | 0 |
| D | 49 | 52 | PCT | 22 | AV6 | 0 |
| D | 46 | 39 | PCT | 22 | AV6 | 0 |
| D | 46 | 25 | PCT | 22 | AV6 | 0 |
| D | 42 | 20 | PCT | 22 | AV6 | 0 |
| D | 41 | 20 | PCT | 22 | AV6 | -0.03 |
| D | 39 | 89 | PCT | 21 | AV1 | 0 |
| D | 17 | 72 | PCT | 21 | AV1 | 0 |
| D | 44 | 36 | PCT | 21 | AV1 | 0 |
| D | 35 | 89 | PCT | 21 | AV2 | 0.09 |
| D | 35 | 71 | PCT | 21 | AV2 | 0 |
| D | 34 | 71 | PCT | 21 | AV2 | 0 |
| D | 39 | 62 | PCT | 21 | AV2 | 0 |
| D | 42 | 47 | PCT | 21 | AV2 | 0 |
| D | 49 | 43 | PCT | 21 | AV2 | 0.03 |
| D | 39 | 41 | PCT | 21 | AV2 | 0 |
| D | 41 | 34 | PCT | 21 | AV2 | -0.03 |
| D | 39 | 19 | PCT | 21 | AV2 | 0 |
| D | 47 | 59 | PCT | 21 | AV3 | 0 |
| D | 37 | 48 | PCT | 21 | AV3 | 0.1 |
| D | 42 | 39 | PCT | 21 | AV3 | 0.11 |
| D | 34 | 22 | PCT | 21 | AV3 | 0.03 |
| D | 35 | 83 | PCT | 21 | AV4 | 0.06 |
| D | 38 | 73 | PCT | 21 | AV4 | 0 |
| D | 35 | 69 | PCT | 21 | AV4 | 0.05 |
| D | 48 | 65 | PCT | 21 | AV4 | -0.12 |
| D | 37 | 59 | PCT | 21 | AV4 | 0 |
| D | 42 | 39 | PCT | 21 | AV4 | 0.03 |
| D | 37 | 38 | PCT | 21 | AV4 | 0.08 |
| D | 43 | 21 | PCT | 21 | AV4 | 0 |
| D | 42 | 19 | PCT | 21 | AV4 | 0 |
| D | 37 | 16 | PCT | 21 | AV4 | 0.02 |
| D | 34 | 15 | PCT | 21 | AV4 | 0 |
| D | 42 | 98 | PCT | 21 | AV5 | 0 |
| D | 29 | 83 | PCT | 21 | AV5 | 0 |
| D | 41 | 66 | PCT | 21 | AV5 | 0 |
| D | 49 | 43 | PCT | 21 | AV5 | 0.03 |
| D | 39 | 36 | PCT | 21 | AV5 | 0 |
| D | 50 | 35 | PCT | 21 | AV5 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D | 37 | 84 | PCT | 21 | AV6 | 0 |
| D | 37 | 39 | PCT | 21 | AV6 | -0.2 |
| D | 26 | 8 | PCT | 21 | AV6 | 0 |
| D | 38 | 35 | PCT | 21 | AV6 | 0 |
| D | 39 | 103 | PCT | 20 | AV1 | 0 |
| D | 53 | 62 | PCT | 20 | AV1 | 0 |
| D | 58 | 58 | PCT | 20 | AV1 | 0 |
| D | 27 | 115 | PCT | 20 | AV2 | 0 |
| D | 37 | 77 | PCT | 20 | AV2 | 0 |
| D | 58 | 75 | PCT | 20 | AV2 | 0 |
| D | 36 | 67 | PCT | 20 | AV2 | 0 |
| D | 49 | 55 | PCT | 20 | AV2 | 0 |
| D | 41 | 51 | PCT | 20 | AV2 | 0 |
| D | 50 | 44 | PCT | 20 | AV2 | 0 |
| D | 53 | 43 | PCT | 20 | AV2 | 0.08 |
| D | 55 | 41 | PCT | 20 | AV2 | -0.25 |
| D | 36 | 41 | PCT | 20 | AV2 | 0 |
| D | 44 | 36 | PCT | 20 | AV2 | 0 |
| D | 42 | 98 | PCT | 20 | AV3 | 0 |
| D | 47 | 97 | PCT | 20 | AV3 | -0.06 |
| D | 41 | 38 | PCT | 20 | AV3 | 0 |
| D | 51 | 35 | PCT | 20 | AV3 | 0 |
| D | 41 | 34 | PCT | 20 | AV3 | 0.03 |
| D | 42 | 92 | PCT | 20 | AV4 | 0.07 |
| D | 44 | 48 | PCT | 20 | AV4 | 0 |
| D | 56 | 82 | PCT | 20 | AV5 | 0.02 |
| D | 47 | 59 | PCT | 20 | AV5 | 0 |
| D | 34 | 48 | PCT | 20 | AV5 | 0 |
| D | 39 | 44 | PCT | 20 | AV5 | 0 |
| D | 34 | 35 | PCT | 20 | AV5 | 0 |
| D | 56 | 81 | PCT | 20 | AV6 | -0.12 |
| D | 58 | 75 | PCT | 20 | AV6 | 0.03 |
| D | 52 | 35 | PCT | 20 | AV6 | 0 |
| D | 39 | 102 | PCT | 19 | AV1 | 0 |
| D | 39 | 82 | PCT | 19 | AV1 | 0 |
| D | 49 | 43 | PCT | 19 | AV1 | 0 |
| D | 37 | 36 | PCT | 19 | AV1 | 0 |
| D | 42 | 24 | PCT | 19 | AV1 | 0 |
| D | 22 | 93 | PCT | 19 | AV2 | 0.2 |
| D | 42 | 92 | PCT | 19 | AV2 | 0 |
| D | 35 | 88 | PCT | 19 | AV2 | -0.06 |
| D | 37 | 73 | PCT | 19 | AV2 | 0.02 |
| D | 26 | 52 | PCT | 19 | AV2 | 0 |
| D | 54 | 43 | PCT | 19 | AV2 | 0.11 |
| D | 54 | 35 | PCT | 19 | AV2 | 0 |
| D | 48 | 28 | PCT | 19 | AV2 | -0.06 |
| D | 44 | 26 | PCT | 19 | AV2 | 0.06 |
| D | 39 | 24 | PCT | 19 | AV2 | -0.09 |
| D | 34 | 22 | PCT | 19 | AV2 | 0 |
| D | 39 | 50 | PCT | 19 | AV3 | 0 |
| D | 56 | 43 | PCT | 19 | AV3 | -0.17 |
| D | 34 | 17 | PCT | 19 | AV3 | 0.06 |
| D | 37 | 16 | PCT | 19 | AV3 | 0.11 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D | 42 | 98 | PCT | 19 | AV4 | 0 |
| D | 39 | 82 | PCT | 19 | AV4 | 0 |
| D | 41 | 66 | PCT | 19 | AV4 | 0 |
| D | 47 | 61 | PCT | 19 | AV4 | 0 |
| D | 46 | 60 | PCT | 19 | AV4 | 0 |
| D | 43 | 49 | PCT | 19 | AV4 | 0 |
| D | 42 | 37 | PCT | 19 | AV4 | 0.03 |
| D | 44 | 26 | PCT | 19 | AV4 | 0.12 |
| D | 27 | 115 | PCT | 19 | AV5 | 0 |
| D | 44 | 102 | PCT | 19 | AV5 | 0 |
| D | 47 | 97 | PCT | 19 | AV5 | -0.13 |
| D | 49 | 87 | PCT | 19 | AV5 | 0 |
| D | 39 | 82 | PCT | 19 | AV5 | -0.03 |
| D | 25 | 82 | PCT | 19 | AV5 | -0.09 |
| D | 42 | 77 | PCT | 19 | AV5 | 0 |
| D | 27 | 76 | PCT | 19 | AV5 | 0 |
| D | 45 | 40 | PCT | 19 | AV5 | 0 |
| D | 49 | 94 | PCT | 19 | AV6 | 0 |
| D | 35 | 86 | PCT | 19 | AV6 | 0 |
| D | 56 | 82 | PCT | 19 | AV6 | 0.03 |
| D | 44 | 45 | PCT | 19 | AV6 | 0.03 |
| D | 39 | 44 | PCT | 19 | AV6 | 0 |
| D | 46 | 38 | PCT | 19 | AV6 | -0.03 |
| D | 46 | 32 | PCT | 19 | AV6 | -0.23 |
| D | 49 | 28 | PCT | 19 | AV6 | -0.09 |
| D | 37 | 19 | PCT | 19 | AV6 | -0.03 |
| D | 36 | 82 | PCT | 18 | AV1 | 0 |
| D | 26 | 8 | PCT | 18 | AV1 | 0 |
| D | 37 | 16 | PCT | 18 | AV1 | -0.06 |
| D | 39 | 103 | PCT | 18 | AV2 | 0.12 |
| D | 39 | 89 | PCT | 18 | AV2 | -0.03 |
| D | 34 | 76 | PCT | 18 | AV2 | 0 |
| D | 39 | 74 | PCT | 18 | AV2 | 0 |
| D | 41 | 71 | PCT | 18 | AV2 | 0.03 |
| D | 34 | 70 | PCT | 18 | AV2 | 0.03 |
| D | 37 | 59 | PCT | 18 | AV2 | 0 |
| D | 54 | 58 | PCT | 18 | AV2 | -0.14 |
| D | 33 | 58 | PCT | 18 | AV2 | 0 |
| D | 26 | 41 | PCT | 18 | AV2 | 0.07 |
| D | 34 | 35 | PCT | 18 | AV2 | 0 |
| D | 40 | 24 | PCT | 18 | AV2 | -0.09 |
| D | 44 | 101 | PCT | 18 | AV3 | -0.03 |
| D | 39 | 94 | PCT | 18 | AV3 | 0.12 |
| D | 42 | 92 | PCT | 18 | AV3 | 0 |
| D | 41 | 59 | PCT | 18 | AV3 | 0 |
| D | 37 | 59 | PCT | 18 | AV3 | 0 |
| D | 34 | 50 | PCT | 18 | AV3 | -0.03 |
| D | 54 | 35 | PCT | 18 | AV3 | 0.1 |
| D | 34 | 30 | PCT | 18 | AV3 | 0.03 |
| D | 34 | 73 | PCT | 18 | AV4 | -0.03 |
| D | 54 | 43 | PCT | 18 | AV4 | -0.03 |
| D | 43 | 22 | PCT | 18 | AV4 | 0 |
| D | 41 | 20 | PCT | 18 | AV4 | 0 |
|  |  |  |  |  |  |  |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D | 50 | 93 | PCT | 18 | AV5 | 0 |
| D | 28 | 88 | PCT | 18 | AV5 | -0.08 |
| D | 37 | 77 | PCT | 18 | AV5 | 0 |
| D | 58 | 75 | PCT | 18 | AV5 | 0 |
| D | 39 | 50 | PCT | 18 | AV5 | 0 |
| D | 26 | 40 | PCT | 18 | AV5 | 0 |
| D | 34 | 30 | PCT | 18 | AV5 | -0.17 |
| D | 45 | 27 | PCT | 18 | AV5 | 0 |
| D | 30 | 12 | PCT | 18 | AV5 | 0 |
| D | 28 | 115 | PCT | 18 | AV6 | 0 |
| D | 49 | 93 | PCT | 18 | AV6 | 0 |
| D | 44 | 91 | PCT | 18 | AV6 | 0 |
| D | 47 | 61 | PCT | 18 | AV6 | 0 |
| D | 58 | 58 | PCT | 18 | AV6 | 0.08 |
| D | 45 | 40 | PCT | 18 | AV6 | 0 |
| D | 34 | 22 | PCT | 18 | AV6 | -0.12 |
| D | 42 | 92 | PCT | 17 | AV1 | 0 |
| D | 49 | 55 | PCT | 17 | AV1 | 0 |
| D | 34 | 15 | PCT | 17 | AV1 | 0 |
| D | 33 | 96 | PCT | 17 | AV2 | 0 |
| D | 49 | 94 | PCT | 17 | AV2 | 0 |
| D | 39 | 94 | PCT | 17 | AV2 | -0.11 |
| D | 36 | 40 | PCT | 17 | AV2 | 0 |
| D | 37 | 34 | PCT | 17 | AV2 | -0.03 |
| D | 34 | 17 | PCT | 17 | AV2 | -0.06 |
| D | 35 | 89 | PCT | 17 | AV3 | 0.06 |
| D | 35 | 88 | PCT | 17 | AV3 | 0.17 |
| D | 49 | 87 | PCT | 17 | AV3 | 0 |
| D | 49 | 55 | PCT | 17 | AV3 | -0.08 |
| D | 43 | 51 | PCT | 17 | AV3 | 0 |
| D | 36 | 40 | PCT | 17 | AV3 | 0 |
| D | 41 | 36 | PCT | 17 | AV3 | 0 |
| D. | 43 | 24 | PCT | 17 | AV3 | 0.03 |
| D | 35 | 86 | PCT | 17 | AV4 | 0 |
| D | 39 | 57 | PCT | 17 | AV4 | 0 |
| D | 42 | 46 | PCT | 17 | AV4 | 0 |
| D | 53 | 34 | PCT | 17 | AV4 | -0.08 |
| D | 41 | 34 | PCT | 17 | AV4 | -0.02 |
| D | 34 | 22 | PCT | 17 | AV4 | -0.07 |
| D | 38 | 73 | PCT | 17 | AV5 | 0 |
| D | 53 | 35 | PCT | 17 | AV5 | -0.02 |
| D | 40 | 24 | PCT | 17 | AV5 | 0 |
| D | 42 | 98 | PCT | 17 | AV6 | 0.27 |
| D | 22 | 93 | PCT | 17 | AV6 | 0 |
| D | 42 | 92 | PCT | 17 | AV6 | 0.03 |
| D | 46 | 42 | PCT | 17 | AV6 | -0.06 |
| D | 42 | 40 | PCT | 17 | AV6 | 0.18 |
| D | 36 | 40 | PCT | 17 | AV6 | 0 |
| D | 29 | 83 | PCT | 16 | AV1 | 0 |
| D | 27 | 8 | PCT | 16 | AV1 | -0.68 |
| D | 41 | 36 | PCT | 16 | AV1 | 0 |
| D | 42 | 19 | PCT | 16 | AV1 | 0 |
| D | 22 | 86 | PCT | 16 | AV2 | 0.02 |
|  |  |  |  |  |  |  |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D | 55 | 82 | PCT | 16 | AV2 | 0.06 |
| D | 28 | 69 | PCT | 16 | AV2 | 0 |
| D | 51 | 62 | PCT | 16 | AV2 | 0 |
| D | 46 | 32 | PCT | 16 | AV2 | 0 |
| D | 45 | 32 | PCT | 16 | AV2 | 0.06 |
| D | 49 | 94 | PCT | 16 | AV3 | 0 |
| D | 46 | 38 | PCT | 16 | AV3 | 0 |
| D | 40 | 24 | PCT | 16 | AV3 | 0.09 |
| D | 39 | 94 | PCT | 16 | AV4 | 0 |
| D | 37 | 84 | PCT | 16 | AV4 | 0.07 |
| D | 37 | 48 | PCT | 16 | AV4 | 0 |
| D | 39 | 44 | PCT | 16 | AV4 | 0 |
| D | 37 | 40 | PCT | 16 | AV4 | 0 |
| D | 36 | 40 | PCT | 16 | AV4 | 0 |
| D | 49 | 36 | PCT | 16 | AV4 | 0.13 |
| D | 40 | 24 | PCT | 16 | AV4 | 0 |
| D | 28 | 115 | PCT | 16 | AV5 | 0 |
| D | 34 | 73 | PCT | 16 | AV5 | 0 |
| D | 39 | 57 | PCT | 16 | AV5 | 0 |
| D | 37 | 38 | PCT | 16 | AV5 | -0.03 |
| D | 44 | 26 | PCT | 16 | AV5 | 0 |
| D | 42 | 24 | PCT | 16 | AV5 | 0 |
| D | 34 | 22 | PCT | 16 | AV5 | 0 |
| D | 49 | 82 | PCT | 16 | AV6 | 0.09 |
| D | 35 | 69 | PCT | 16 | AV6 | 0 |
| D | 49 | 42 | PCT | 16 | AV6 | 0 |
| D | 33 | 96 | PCT | 15 | AV1 | 0 |
| D | 37 | 77 | PCT | 15 | AV1 | 0 |
| D | 33 | 58 | PCT | 15 | AV1 | 0 |
| D | 39 | 57 | PCT | 15 | AV1 | 0 |
| D | 37 | 48 | PCT | 15 | AV1 | 0 |
| D | 39 | 44 | PCT | 15 | AV1 | 0 |
| D | 28 | 115 | PCT | 15 | AV2 | 0 |
| D | 36 | 90 | PCT | 15 | AV2 | 0.11 |
| D | 43 | 51 | PCT | 15 | AV2 | 0 |
| D | 37 | 38 | PCT | 15 | AV2 | 0.05 |
| D | 33 | 58 | PCT | 15 | AV3 | 0 |
| D | 39 | 38 | PCT | 15 | AV3 | 0.03 |
| D | 40 | 26 | PCT | 15 | AV3 | -0.03 |
| D | 42 | 24 | PCT | 15 | AV3 | 0 |
| D | 35 | 22 | PCT | 15 | AV3 | 0 |
| D | 36 | 16 | PCT | 15 | AV3 | 0 |
| D | 32 | 12 | PCT | 15 | AV3 | -0.02 |
| D | 34 | 92 | PCT | 15 | AV4 | 0.12 |
| D | 55 | 76 | PCT | 15 | AV4 | 0 |
| D | 47 | 28 | PCT | 15 | AV4 | 0.1 |
| D | 57 | 72 | PCT | 15 | AV5 | 0 |
| D | 49 | 36 | PCT | 15 | AV5 | 0.15 |
| D | 43 | 24 | PCT | 15 | AV5 | 0 |
| D | 42 | 19 | PCT | 15 | AV5 | 0 |
| D | 16 | 64 | PCT | 15 | AV6 | -0.31 |
| D | 35 | 22 | PCT | 15 | AV6 | 0 |
| D | 45 | 66 | PCT | 14 | AV1 | 0 |


| SG | Row | Col | Ind | Per Cent | Location | Inch1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D | 32 | 12 | PCT | 14 | AV1 | -0.18 |
| D | 41 | 104 | PCT | 14 | AV2 | 0.03 |
| D | 41 | 90 | PCT | 14 | AV2 | 0 |
| D | 39 | 75 | PCT | 14 | AV2 | 0.09 |
| D | 37 | 39 | PCT | 14 | AV2 | 0.11 |
| D | 43 | 24 | PCT | 14 | AV2 | 0.03 |
| D | 47 | 92 | PCT | 14 | AV3 | 0.21 |
| D | 36 | 80 | PCT | 14 | AV3 | 0.17 |
| D | 35 | 71 | PCT | 14 | AV3 | -0.12 |
| D | 37 | 38 | PCT | 14 | AV3 | 0.2 |
| D | 33 | 107 | PCT | 14 | AV4 | -0.11 |
| D | 35 | 22 | PCT | 14 | AV4 | 0 |
| D | 41 | 104 | PCT | 14 | AV5 | 0 |
| D | 37 | 59 | PCT | 14 | AV5 | 0 |
| D | 37 | 48 | PCT | 14 | AV5 | -0.35 |
| D | 36 | 40 | PCT | 14 | AV5 | 0 |
| D | 18 | 93 | PCT | 14 | AV6 | 0.12 |
| D | 54 | 35 | PCT | 14 | AV6 | -0.7 |
| D | 40 | 21 | PCT | 14 | AV6 | 0 |
| D | 37 | 16 | PCT | 14 | AV6 | 0 |
| D | 31 | 113 | PCT | 13 | AV1 | -0.03 |
| D | 35 | 71 | PCT | 13 | AV1 | 0 |
| D | 27 | 111 | PCT | 13 | AV5 | 0 |
| D | 39 | 96 | PCT | 13 | AV5 | -0.08 |
| D | 36 | 46 | PCT | 13 | AV5 | 0 |
| D | 27 | 96 | PCT | 13 | AV6 | 0 |
| D | 42 | 37 | PCT | 13 | AV6 | -0.32 |
| D | 46 | 38 | PCT | 12 | AV2 | 0.03 |
| D | 49 | 36 | PCT | 12 | AV2 | 0.06 |
| D | 54 | 80 | PCT | 12 | AV3 | 0.18 |
| D | 55 | 39 | PCT | 12 | AV3 | 0 |
| D | 44 | 26 | PCT | 12 | AV3 | 0 |
| D | 27 | 76 | PCT | 11 | AV1 | 0 |
| D | 43 | 51 | PCT | 11 | AV4 | 0 |
| D | 35 | 37 | PCT | 10 | AV6 | -0.44 |
|  |  |  |  |  |  |  |
| D | 1 | 32 | PCT | 23 | $01 H$ | 0.06 |
| D | 13 | 4 | PCT | 22 | $01 C$ | 0.45 |
|  |  |  |  |  |  |  |

## APPENDIX C

## Seabrook OR13 Post-Inspection <br> Resident Foreign Object Tracking

 October 2009| SG | ID | Priority | Port | ID Date | Description | Elev | Col | Row | Leg | Length | Width | Height | Metallic | Retrieved | Attemp |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | A001 - |  | NZL | 10/11/2009 | $\begin{aligned} & \text { SLUDGE } \\ & \text { ROCK } \end{aligned}$ | TTS | 9 | 1 | HL | 0.292 | 0.292 | 0.292 | no | no | yes |
| B | B001 |  | MWY | 10/8/2009 | SLUDGE ROCK | TTS | 76 | 55 | CL | 0.375 | 0.300 | 0.500 | no | no | yes |
| C | C001 | - | MWY | 10/9/2009 | DUMBBELL | TTS | 11 | 31 | HL | 0.500 | 0.292 | 0.292 | yes | no | yes |
| C | C002 - |  | MWY | 10/9/2009 | SLUDGE PILF | TTS | 32 | 40 | CL - | 0.292 | 0.292 |  | no | no | no |
| C | C003 | - | NZL | 10/12/2009 | NAIL | FDB | 54 | 58 | CL | 4.000 | 0.300 |  | yes | no | no |

