

# DDS Breweries Case Study

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#Introduction Budweiser tasked us with answering questions regarding US beers and breweries. Budweiser gave us two data sets; one containing the data of 558 breweries and another containing the data of 2410 beers.

The data contained all relevant information needed to answer the proposed questions. Some of the data included were brewery location, ABV, IBU and style of Beer.

We were able to clean, prep, merge, transform and visualize the data to appropriately answer all questions from Budweiser.

#Load in required libraries.

```
library (ggplot2)
library (dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##   filter, lag
```

```
## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union
```

```
library(tidyverse)
```

```
## — Attaching core tidyverse packages — tidyverse 2.0.0 —
## ✓ forcats   1.0.0   ✓ stringr   1.5.0
## ✓ lubridate 1.9.2   ✓ tibble    3.2.1
## ✓ purrr     1.0.2   ✓ tidyr     1.3.0
## ✓ readr     2.1.4
```

```
## — Conflicts — tidyverse_conflicts() —
## ✖ dplyr::filter() masks stats::filter()
## ✖ dplyr::lag()     masks stats::lag()
## ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

#Load in required data.

```
brew=read.csv("/Users/christopherjohnson/Downloads/Breweries.csv",header = TRUE)
beer=read.csv("/Users/christopherjohnson/Downloads/Beers.csv",header = TRUE)
head(brew)
```

```
##   Brew_ID      Name      City State
## 1      1  NorthGate Brewing Minneapolis  MN
## 2      2 Against the Grain Brewery  Louisville  KY
## 3      3  Jack's Abby Craft Lagers  Framingham  MA
## 4      4 Mike Hess Brewing Company  San Diego  CA
## 5      5  Fort Point Beer Company San Francisco  CA
## 6      6  COAST Brewing Company  Charleston  SC
```

```
head(beer)
```

```
##           Name Beer_ID  ABV IBU Brewery_id
## 1      Pub Beer   1436 0.050  NA      409
## 2      Devil's Cup  2265 0.066  NA      178
## 3 Rise of the Phoenix  2264 0.071  NA      178
## 4      Sinister   2263 0.090  NA      178
## 5      Sex and Candy  2262 0.075  NA      178
## 6      Black Exodus  2261 0.077  NA      178
##           Style Ounces
## 1      American Pale Lager    12
## 2      American Pale Ale (APA)  12
## 3           American IPA      12
## 4 American Double / Imperial IPA  12
## 5           American IPA      12
## 6      Oatmeal Stout          12
```

#Use the group\_by function to group states together and count number of breweries in each state.

```
brew2 = brew %>%
  group_by(State) %>%
  summarize(Brewery_Count = n())
print(brew2, n=100)
```

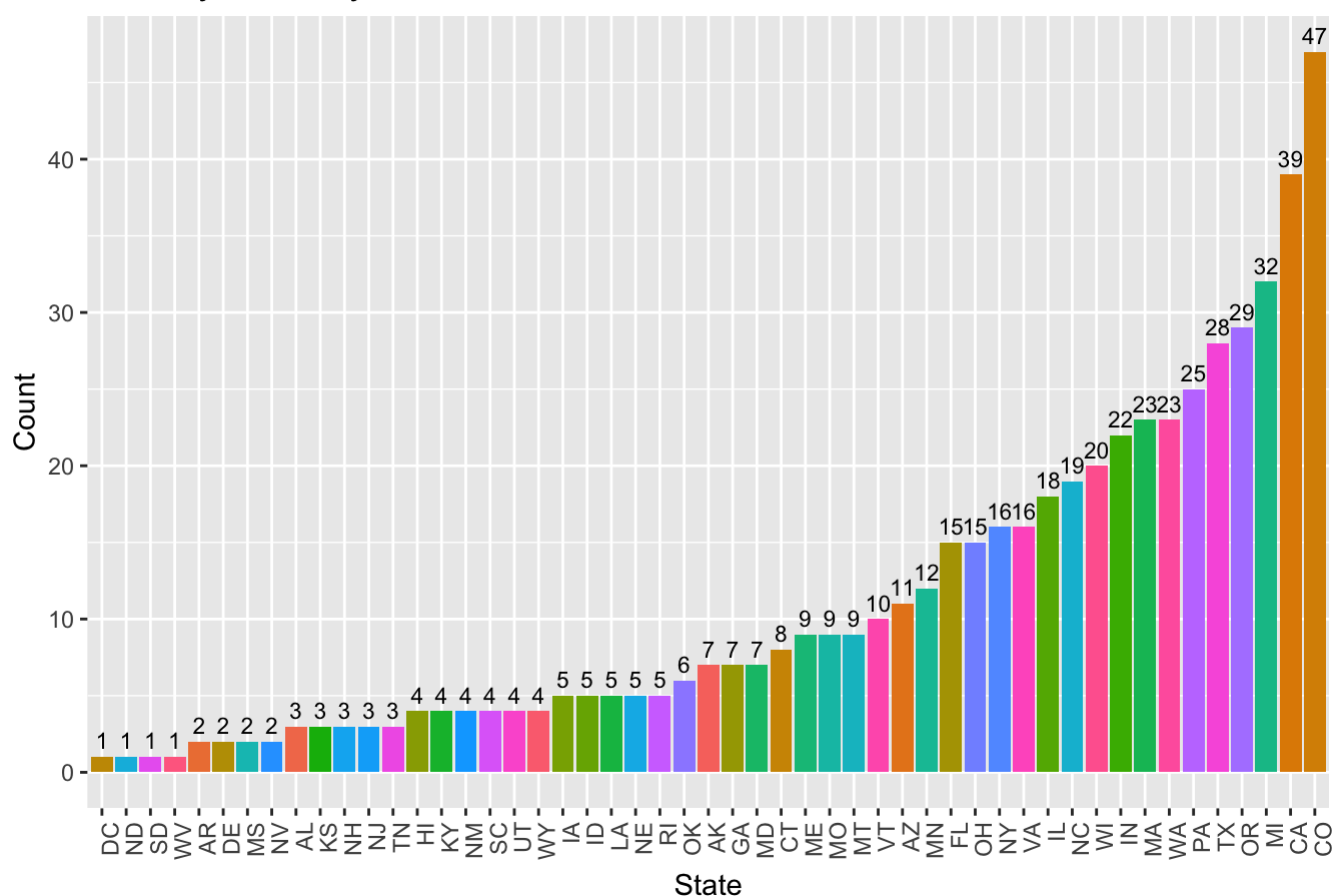
```
## # A tibble: 51 × 2
##   State Brewery_Count
##   <chr>           <int>
## 1 " AK"             7
## 2 " AL"             3
## 3 " AR"             2
## 4 " AZ"            11
## 5 " CA"            39
## 6 " CO"            47
## 7 " CT"             8
## 8 " DC"             1
## 9 " DE"             2
## 10 " FL"            15
## 11 " GA"             7
## 12 " HI"             4
## 13 " IA"             5
## 14 " ID"             5
## 15 " IL"            18
## 16 " IN"            22
## 17 " KS"             3
## 18 " KY"             4
## 19 " LA"             5
## 20 " MA"            23
## 21 " MD"             7
## 22 " ME"             9
## 23 " MI"            32
## 24 " MN"            12
## 25 " MO"             9
## 26 " MS"             2
## 27 " MT"             9
## 28 " NC"            19
## 29 " ND"             1
## 30 " NE"             5
## 31 " NH"             3
## 32 " NJ"             3
## 33 " NM"             4
## 34 " NV"             2
## 35 " NY"            16
## 36 " OH"            15
## 37 " OK"             6
## 38 " OR"            29
## 39 " PA"            25
## 40 " RI"             5
## 41 " SC"             4
## 42 " SD"             1
## 43 " TN"             3
## 44 " TX"            28
## 45 " UT"             4
## 46 " VA"            16
## 47 " VT"            10
## 48 " WA"            23
## 49 " WI"            20
```

```
## 50 " WV"          1
## 51 " WY"          4
```

1. How many breweries are present in each state? The breweries are present in each states with different counts. For example, AK has 7 breweries, AL has 3, AZ has 11, CA has 39, CO has 47, and so on. We also showed a bar graph of the counts from least to greatest. #Use ggplot to plot the number of breweries per State.

```
ggplot(data = brew2, aes(x = reorder(State,Brewery_Count) ,y = Brewery_Count,fill=State))+
  geom_bar(stat = "identity") +
  labs(title = "Brewery Count by State", x = "State", y = "Count")+
  geom_text(aes(label = Brewery_Count), vjust = -0.5, size = 3)+
  theme(axis.text.x = element_text(angle = 90, hjust = 1), legend.position = "none")
```

Brewery Count by State



2. Merge beer data with the breweries data. Print the first 6 observations and the last six observations to check the merged file. #Change column name 'Brew\_Id' in brew dataset match 'Brewery\_ID' in beer dataset. Remove old colum, merge the two data frames into one.

```
brew$Brewery_id=brew$Brew_ID
brew=brew[,-1] ###remove old column name
head(brew)
```

```
##           Name           City State Brewery_id
## 1   NorthGate Brewing   Minneapolis   MN           1
## 2 Against the Grain Brewery   Louisville   KY           2
## 3 Jack's Abby Craft Lagers   Framingham   MA           3
## 4 Mike Hess Brewing Company   San Diego   CA           4
## 5 Fort Point Beer Company San Francisco   CA           5
## 6 COAST Brewing Company   Charleston   SC           6
```

```
bdf=merge(x=beer, y=brew, by="Brewery_id",all=TRUE) ##merge columns
head(bdf)
```

```
## Brewery_id      Name.x Beer_ID  ABV IBU
## 1           1 Get Together   2692 0.045 50
## 2           1 Maggie's Leap   2691 0.049 26
## 3           1 Wall's End     2690 0.048 19
## 4           1 Pumpion        2689 0.060 38
## 5           1 Stronghold     2688 0.060 25
## 6           1 Parapet ESB    2687 0.056 47
##
##              Style Ounces              Name.y      City
## 1              American IPA          16 NorthGate Brewing Minneapolis
## 2              Milk / Sweet Stout      16 NorthGate Brewing Minneapolis
## 3              English Brown Ale       16 NorthGate Brewing Minneapolis
## 4              Pumpkin Ale            16 NorthGate Brewing Minneapolis
## 5              American Porter        16 NorthGate Brewing Minneapolis
## 6 Extra Special / Strong Bitter (ESB)  16 NorthGate Brewing Minneapolis
## State
## 1 MN
## 2 MN
## 3 MN
## 4 MN
## 5 MN
## 6 MN
```

Gives you the missing values and percentage in each coloum (naniar package)

```
library(naniar)
miss_var_summary(bdf)
```

```
## # A tibble: 10 × 3
##   variable    n_miss pct_miss
##   <chr>      <int>   <dbl>
## 1 IBU        1005    41.7
## 2 ABV         62     2.57
## 3 Brewery_id    0     0
## 4 Name.x        0     0
## 5 Beer_ID       0     0
## 6 Style         0     0
## 7 Ounces        0     0
## 8 Name.y        0     0
## 9 City         0     0
## 10 State        0     0
```

3. Address the missing values in each column. We found missing values in the dataset. For instance, the IBU column had 1005 missing values, which is 41.7% of the column in the data. The ABV column had 62 missing values, which is 2.57% of that column. We then found the median IBU and ABV for each state. Once we found the median value by state, we ran an ifelse loop to replace any missing values with their states corresponding value

#Find the median ABV and IBU by state. Any row missing ABV or IBU is replaced by its corresponding States median value. Remove extra columns and create new data frame.

```
abv_median = aggregate(ABV ~ State, data = bdf, FUN = function(x) median(as.numeric(x), na.rm = TRUE))
ibu_median = aggregate(IBU ~ State, data = bdf, FUN = function(x) median(as.numeric(x), na.rm = TRUE))

state_median = merge(ibu_median, abv_median, by = "State", all = TRUE)

bdf2 = merge(bdf, state_median, by = "State", all.x = TRUE)
bdf2$IBU = ifelse(is.na(bdf2$IBU.x), bdf2$IBU.y, bdf2$IBU.x)
bdf2$ABV = ifelse(is.na(bdf2$ABV.x), bdf2$ABV.y, bdf2$ABV.x)
bdf3 = bdf2[, -c(5, 6, 11, 12)] # Remove redundant columns
```

#Convert ABV from decimal to percentage

```
bdf3$ABV=bdf3$ABV*100
```

#Change Beer and Brewery column names from the names assigned when merged. Remove old column names.

```
bdf3$Beer_Name=bdf3$Name.x
bdf3$Brewery_Name=bdf3$Name.y
bdf4=bdf3[, -c(3, 7)]
head(bdf4)
```

| ##   | State | Brewery_id | Beer_ID | Style                    | Ounces | City      | IBU | ABV |
|------|-------|------------|---------|--------------------------|--------|-----------|-----|-----|
| ## 1 | AK    | 103        | 1667    | American IPA             | 12     | Anchorage | 70  | 6.0 |
| ## 2 | AK    | 103        | 2436    | American Amber / Red Ale | 12     | Anchorage | 46  | 5.1 |
| ## 3 | AK    | 494        | 920     | American Pale Ale (APA)  | 12     | Anchorage | 17  | 5.2 |
| ## 4 | AK    | 459        | 349     | American IPA             | 12     | Soldotna  | 46  | 6.8 |
| ## 5 | AK    | 103        | 1706    | Czech Pilsener           | 12     | Anchorage | 46  | 5.5 |
| ## 6 | AK    | 459        | 348     | Scottish Ale             | 12     | Soldotna  | 46  | 5.8 |

| ##   | Beer_Name                  | Brewery_Name                 |
|------|----------------------------|------------------------------|
| ## 1 | King Street IPA            | King Street Brewing Company  |
| ## 2 | Amber Ale                  | King Street Brewing Company  |
| ## 3 | Polar Pale Ale             | Broken Tooth Brewing Company |
| ## 4 | Sunken Island IPA          | Kenai River Brewing Company  |
| ## 5 | King Street Pilsner        | King Street Brewing Company  |
| ## 6 | Skilak Scottish Ale (2011) | Kenai River Brewing Company  |

#South Dakota had no IBU data to find median from. Assigned all SD beers with median IBU (35) from all States.

```
bdf4[2003:2009,7]=35
```

#Replacing SD IBU with median of all other states median.

```
median(ibu_median$IBU)
```

```
## [1] 35
```

```
state_median[42,2]="35"
```

#Convert IBU to numeric from character.

```
class(state_median$ABV)
```

```
## [1] "numeric"
```

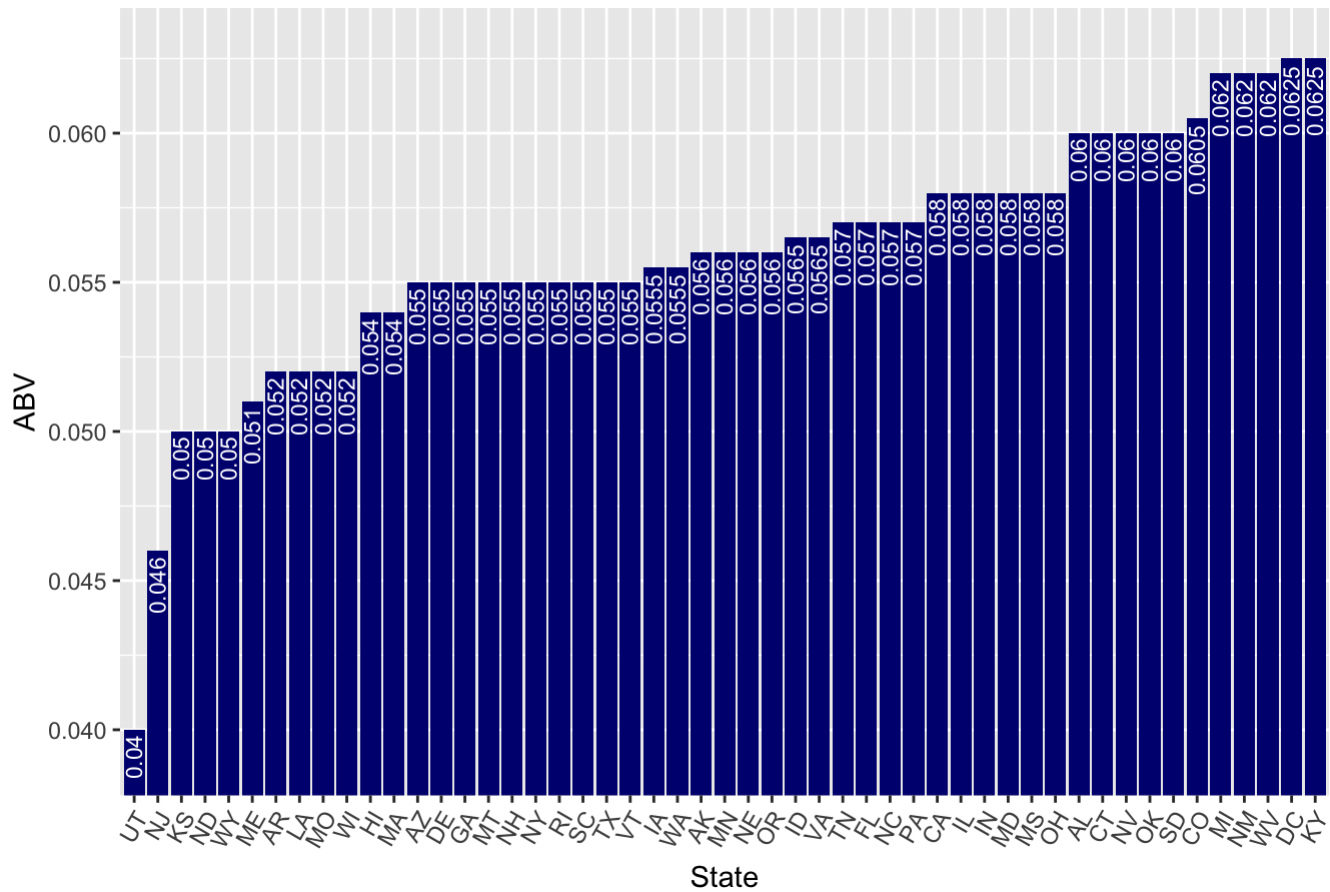
```
state_median$IBU=as.numeric(state_median$IBU)
```

4. Compute the median alcohol content and international bitterness unit for each state. Plot a bar chart to compare. The median alcohol content (ABV) and international bitterness unit (IBU) were computed for each state and we visualized them by using bar charts. KY being the highest for ABV and ME being the highest for IBU.

#Plot State median ABV, ascending order and ylim adjusted

```
ggplot(data = state_median, aes(x = reorder(State,ABV) ,y = ABV, )) +
  geom_bar(stat = "identity",fill="navyblue")+
  labs(title = "Median ABV by state", x = "State", y = "ABV")+
  geom_text(aes(label = ABV), vjust = .5, hjust=1.1, size = 3, angle=90, color="white")+
  theme(axis.text.x = element_text(angle = 60, hjust = 1), legend.position = "none")+ coord_cartesian(ylim=c(0.039,0.063))
```

Median ABV by state

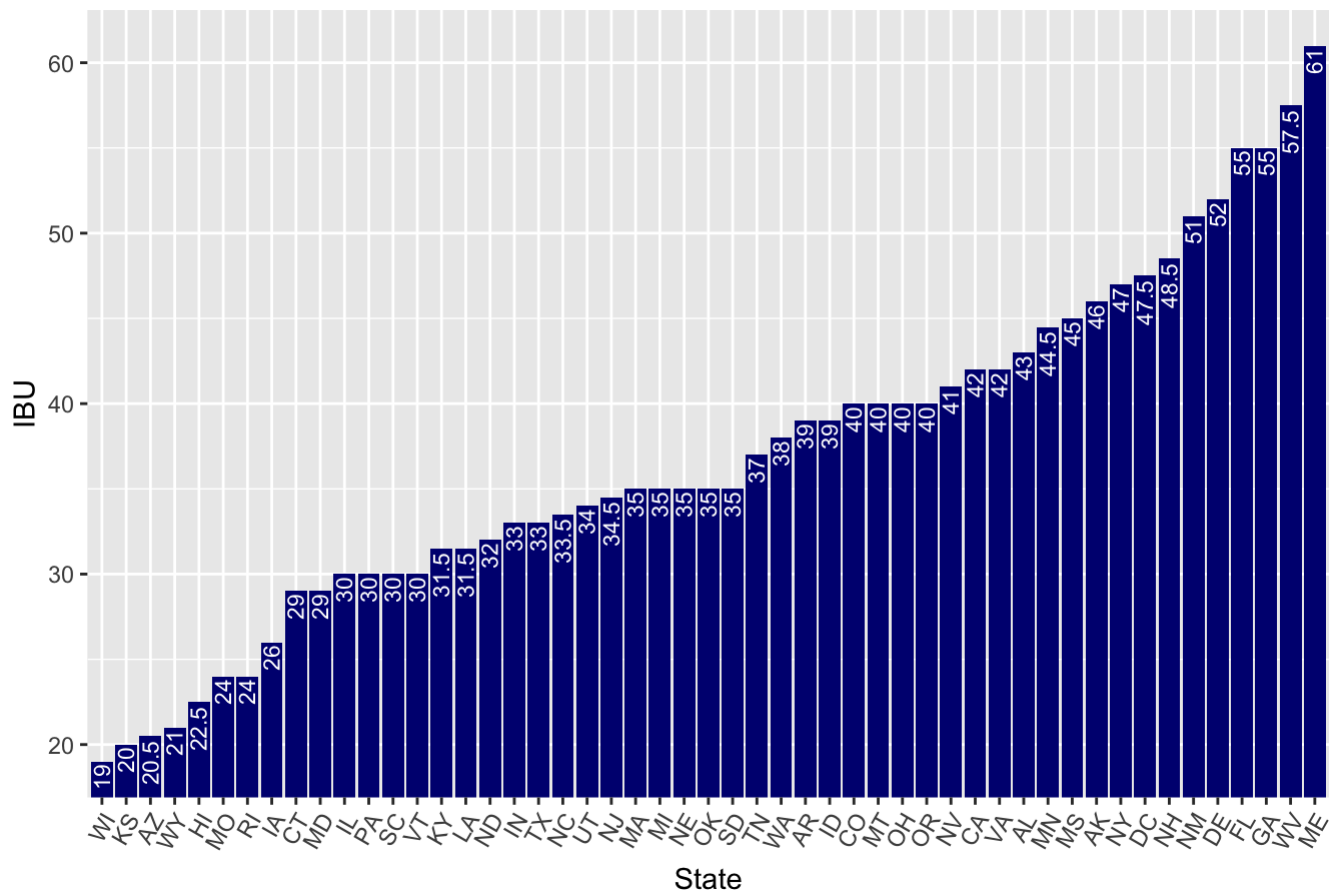


#Plot State median IBU, ascending order and ylim adjusted

```
ggplot(data = state_median, aes(x = reorder(State,IBU) ,y = IBU)) +
  geom_bar(stat = "identity",fill="navyblue")+
  labs(title = "Median IBU by state", x = "State", y = "IBU")+
  geom_text(aes(label = IBU), vjust = .5, hjust=1.1, size = 3, angle=90, color="white")+
  theme(axis.text.x = element_text(angle = 60, hjust = 1), legend.position = "none")+ coord_cartesian(ylim=c(19,61))
```



Median IBU by state



5. Which state has the maximum alcoholic (ABV) beer? Which state has the most bitter (IBU) beer? The state with the maximum alcoholic beer (ABV of 12.8) was Colorado, with the beer “Lee Hill Series Vol. 5 Belgian Style Quadrupel Ale” from Upslope Brewing Company. The state with the most bitter beer (IBU of 138) was Oregon, with the beer “Bitter Bitch Imperial IPA” from Astroia Brewing Company.

#Use the max function to Find highest ABV and IBU then grep function to corresponding row

```
max(bdf4$ABV)
```

```
## [1] 12.8
```

```
grep("12.8",bdf4$ABV)
```

```
## [1] 533
```

```
bdf4[533,] #####Lee Hill Series Vol. 5 Belgian Style Quadrupel Ale, Upslope Brewing Compan
y, CO
```

```
##      State Brewery_id Beer_ID          Style Ounces    City IBU  ABV
## 533    CO           52    2565 Quadrupel (Quad)   19.2 Boulder  40 12.8
##
##      Beer_Name
## 533 Lee Hill Series Vol. 5 - Belgian Style Quadrupel Ale
##      Brewery_Name
## 533 Upslope Brewing Company
```

```
max(bdf4$IBU)
```

```
## [1] 138
```

```
grep("138",bdf4$IBU)
```

```
## [1] 1824
```

```
bdf4[1824,] #####Bitter Bitch Imperial IPA, Astoria Brewing Company, OR
```

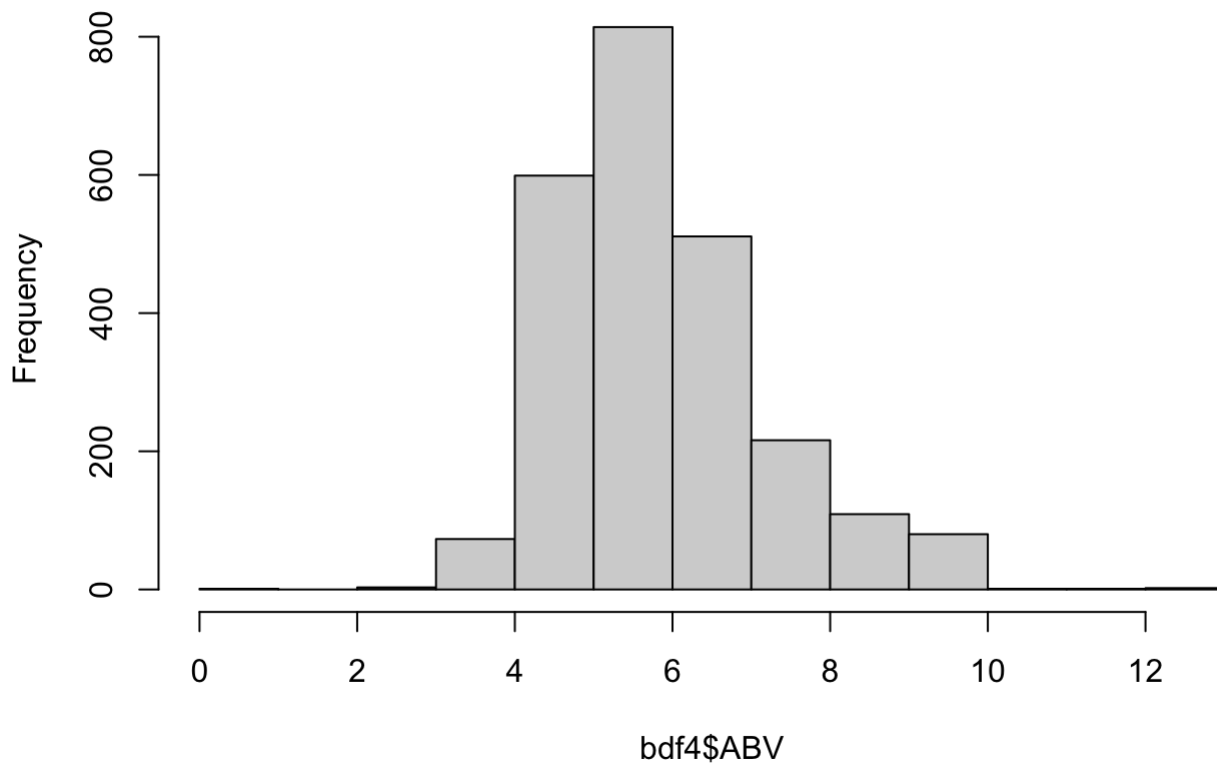
```
##      State Brewery_id Beer_ID          Style Ounces    City IBU
## 1824    OR           375    980 American Double / Imperial IPA   12 Astoria 138
##      ABV      Beer_Name      Brewery_Name
## 1824 8.2 Bitter Bitch Imperial IPA Astoria Brewing Company
```

6. Comment on the summary statistics and distribution of the ABV variable. The mean of ABV is about 5.97%. The median ABV is 5.7%. The range of ABV goes from 0.1% to 12.8%. The variance of the ABV is about 1.79, and the standard deviation is approximately 1.34. The histogram is slightly right skew.

#Summary statistics of ABV

```
hist(x=bdf4$ABV)
```

## Histogram of bdf4\$ABV



```
value=c(mean(bdf4$ABV),median(bdf4$ABV),range(bdf4$ABV),var(bdf4$ABV),sd(bdf4$ABV))
Statistic=c("Mean", "Median", "Range-Lower","Range-Upper", "Variance", "Standard Deviation")
ssDF=cbind(value,Statistic)
ssDF
```

```
##      value      Statistic
## [1,] "5.97315352697095" "Mean"
## [2,] "5.7"              "Median"
## [3,] "0.1"              "Range-Lower"
## [4,] "12.8"             "Range-Upper"
## [5,] "1.78983521510795" "Variance"
## [6,] "1.33784723160305" "Standard Deviation"
```

```
summary(bdf4$ABV)
```

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##      0.100   5.000   5.700   5.973   6.700   12.800
```

```
summary(bdf4$IBU)
```

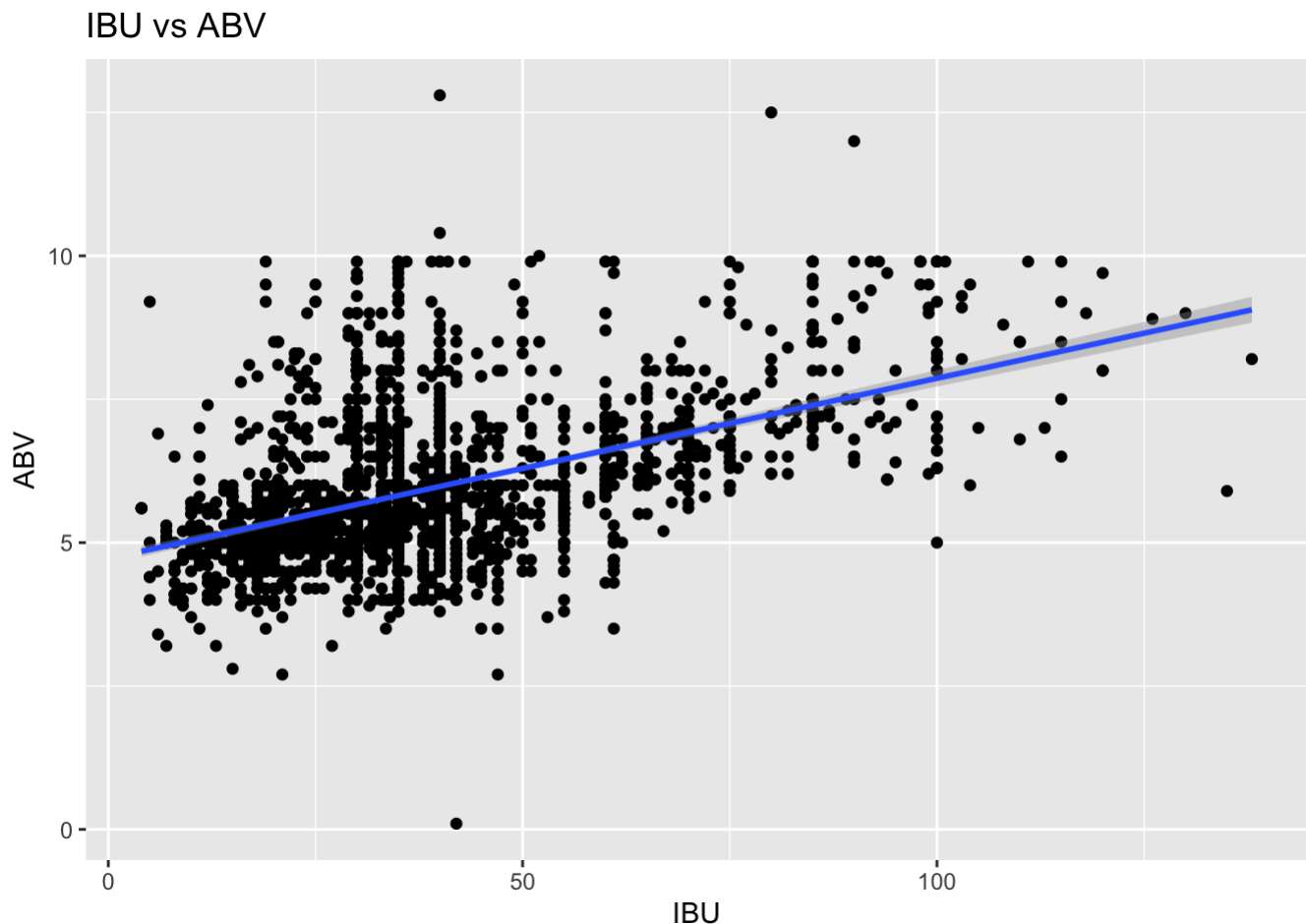
| ## | Min. | 1st Qu. | Median | Mean  | 3rd Qu. | Max.   |
|----|------|---------|--------|-------|---------|--------|
| ## | 4.00 | 26.00   | 35.00  | 39.81 | 47.00   | 138.00 |

7. Is there an apparent relationship between the bitterness of the beer and its alcoholic content? Draw a scatter plot. Make your best judgment of a relationship and EXPLAIN your answer. We showed the association between IBU and ABV through a scatter plot and doing a best fitted regression line. The graph shows that as ABV increases, IBU is also associated with an upward move. This could possibly mean that beers with greater ABV are often associated with a more bitter flavor due to higher IBU values.

#Use GGPlot to create Scatter plot IBU vs ABV w/ linear line to find relationship

```
ggplot(bdf4, aes(x = IBU, y = ABV,)) +
  geom_point()+geom_smooth(method = "lm")+
  labs(title = "IBU vs ABV", x = "IBU", y = "ABV")
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



Find 'IPA' and 'Ale' beers within dataframe

```
IPA=grep("IPA", bdf4$Style, ignore.case = TRUE)
IPAdf=bdf4[IPA,]
```

```
ALE=grep("Ale", bdf4$Style, ignore.case = TRUE)
ALEdf=bdf4[ALE,]
```

#Check for IPA's in Ale catagory and remove

```
ALE2=grep("IPA", ALEdf$Style, ignore.case = TRUE)
ALEdf2=ALEdf[ALE2,]
```

```
AleDF3=ALEdf[-ALE2,]
```

#Create 'Type' column and merge data frames

```
AleDF3$Type="Ales"
head(AleDF3)
```

```
##      State Brewery_id Beer_ID      Style Ounces      City IBU ABV
## 2      AK      103      2436 American Amber / Red Ale      12 Anchorage 46 5.1
## 3      AK      494      920  American Pale Ale (APA)      12 Anchorage 17 5.2
## 6      AK      459      348      Scottish Ale      12 Soldotna 46 5.8
## 12     AK      558      30      English Pale Ale      12 Anchorage 46 4.9
## 13     AK      271      1921 American Pale Ale (APA)      12 Juneau 40 5.3
## 15     AK      494      919      Cream Ale      12 Anchorage 46 4.8
##
##              Beer_Name      Brewery_Name Type
## 2              Amber Ale      King Street Brewing Company Ales
## 3              Polar Pale Ale      Broken Tooth Brewing Company Ales
## 6  Skilak Scottish Ale (2011)      Kenai River Brewing Company Ales
## 12 Urban Wilderness Pale Ale      Sleeping Lady Brewing Company Ales
## 13              Freeride APA      Alaskan Brewing Company Ales
## 15      Chugach Session Ale      Broken Tooth Brewing Company Ales
```

```
IPAdf$Type="IPA"
head(IPAdf)
```

```
##      State Brewery_id Beer_ID      Style Ounces      City IBU ABV
## 1      AK          103    1667 American IPA      12 Anchorage 70 6.0
## 4      AK          459     349 American IPA      12 Soldotna 46 6.8
## 7      AK          224     434 American IPA      12 Anchorage 70 5.7
## 10     AK          224    1814 American IPA      12 Anchorage 61 6.3
## 14     AK          494     648 American IPA      12 Anchorage 64 6.1
## 19     AK          224    2093 American IPA      12 Anchorage 61 6.3
##              Beer_Name              Brewery_Name Type
## 1      King Street IPA King Street Brewing Company IPA
## 4      Sunken Island IPA Kenai River Brewing Company IPA
## 7      Sockeye Red IPA Midnight Sun Brewing Company IPA
## 10     Pleasure Town IPA Midnight Sun Brewing Company IPA
## 14     Fairweather IPA Broken Tooth Brewing Company IPA
## 19     Pleasure Town IPA Midnight Sun Brewing Company IPA
```

```
merge_type=rbind(IPAdf, AleDF3)
tail(merge_type)
```

```
##      State Brewery_id Beer_ID      Style Ounces      City IBU ABV
## 2401    WY          80    2484 American Amber / Red Ale      12 Sheridan 20 4.6
## 2403    WY          551     324 American Pale Ale (APA)      16 Pinedale 21 7.2
## 2405    WY          458    1198      English Brown Ale      12 Sheridan 16 4.8
## 2407    WY          192    1606 American Pale Ale (APA)      12 Jackson 55 6.0
## 2408    WY          458    1197 American Pale Wheat Ale      12 Sheridan 15 5.9
## 2410    WY          458    1200 American Amber / Red Ale      12 Sheridan 20 4.6
##              Beer_Name              Brewery_Name Type
## 2401      Bomber Mountain Amber Ale Black Tooth Brewing Company Ales
## 2403              Wyoming Pale Ale Wind River Brewing Company Ales
## 2405      Saddle Bronc Brown Ale (2013) The Black Tooth Brewing Company Ales
## 2407              Snow King Pale Ale Snake River Brewing Company Ales
## 2408              Wagon Box Wheat Beer The Black Tooth Brewing Company Ales
## 2410 Bomber Mountain Amber Ale (2013) The Black Tooth Brewing Company Ales
```

#Scale ABV and IBU for KNN

```
merge_type$sIBU=scale(merge_type$IBU)
merge_type$sABV=scale(merge_type$ABV)
```

#Split data into test/train groups 70/30

```
library(caret)
```

```
## Loading required package: lattice
```

```
##
## Attaching package: 'caret'
```

```
## The following object is masked from 'package:purrr':
```

```
##
```

```
## lift
```

```
set.seed(3)
```

```
train_index=createDataPartition(merge_type$Type, p = 0.7, list = FALSE)
```

```
training_data = merge_type[train_index, ]
```

```
testing_data = merge_type[-train_index, ]
```

```
testing_data
```

| ##     | State | Brewery_id | Beer_ID | Style                          | Ounces |
|--------|-------|------------|---------|--------------------------------|--------|
| ## 14  | AK    | 494        | 648     | American IPA                   | 12     |
| ## 62  | AZ    | 31         | 1299    | Belgian IPA                    | 12     |
| ## 70  | AZ    | 159        | 355     | American IPA                   | 12     |
| ## 74  | AZ    | 161        | 358     | American IPA                   | 12     |
| ## 88  | CA    | 515        | 718     | American Double / Imperial IPA | 16     |
| ## 105 | CA    | 4          | 2664    | American Double / Imperial IPA | 16     |
| ## 111 | CA    | 49         | 2569    | American IPA                   | 12     |
| ## 133 | CA    | 424        | 1346    | American IPA                   | 16     |
| ## 134 | CA    | 535        | 75      | American IPA                   | 12     |
| ## 152 | CA    | 172        | 367     | American IPA                   | 12     |
| ## 168 | CA    | 321        | 1772    | American IPA                   | 16     |
| ## 169 | CA    | 351        | 1647    | American Double / Imperial IPA | 16     |
| ## 171 | CA    | 35         | 2105    | American IPA                   | 12     |
| ## 173 | CA    | 172        | 1327    | American IPA                   | 12     |
| ## 179 | CA    | 351        | 1648    | American IPA                   | 16     |
| ## 189 | CA    | 433        | 1302    | American IPA                   | 12     |
| ## 191 | CA    | 5          | 2658    | American IPA                   | 12     |
| ## 211 | CA    | 35         | 2593    | American IPA                   | 12     |
| ## 237 | CA    | 241        | 750     | American IPA                   | 16     |
| ## 245 | CA    | 99         | 2441    | American IPA                   | 32     |
| ## 248 | CA    | 371        | 1191    | American IPA                   | 16     |
| ## 251 | CA    | 492        | 730     | American IPA                   | 16     |
| ## 281 | CO    | 265        | 1521    | American IPA                   | 12     |
| ## 318 | CO    | 38         | 2589    | American Double / Imperial IPA | 12     |
| ## 343 | CO    | 452        | 964     | American IPA                   | 16     |
| ## 366 | CO    | 481        | 827     | American IPA                   | 12     |
| ## 372 | CO    | 265        | 67      | American IPA                   | 12     |
| ## 391 | CO    | 392        | 193     | American IPA                   | 12     |
| ## 420 | CO    | 406        | 1451    | American IPA                   | 16     |
| ## 429 | CO    | 82         | 2003    | American IPA                   | 12     |
| ## 463 | CO    | 532        | 449     | American Double / Imperial IPA | 16     |
| ## 479 | CO    | 425        | 928     | Belgian IPA                    | 12     |
| ## 524 | CO    | 370        | 1382    | American IPA                   | 16     |
| ## 538 | CT    | 411        | 320     | American Double / Imperial IPA | 12     |
| ## 570 | DC    | 228        | 851     | American Double / Imperial IPA | 12     |
| ## 572 | DE    | 317        | 1784    | American IPA                   | 16     |
| ## 589 | FL    | 142        | 2009    | American IPA                   | 12     |
| ## 599 | FL    | 309        | 1801    | American IPA                   | 12     |
| ## 600 | FL    | 222        | 2096    | American IPA                   | 12     |
| ## 608 | FL    | 142        | 546     | American IPA                   | 12     |
| ## 643 | GA    | 248        | 2029    | American IPA                   | 12     |
| ## 668 | HI    | 204        | 2185    | American IPA                   | 12     |
| ## 670 | HI    | 376        | 435     | American IPA                   | 12     |
| ## 700 | IA    | 366        | 540     | American IPA                   | 16     |
| ## 721 | ID    | 310        | 1596    | American IPA                   | 12     |
| ## 730 | ID    | 310        | 1595    | American IPA                   | 12     |
| ## 732 | ID    | 310        | 1655    | American Double / Imperial IPA | 12     |
| ## 748 | IL    | 58         | 1888    | American Double / Imperial IPA | 12     |
| ## 754 | IL    | 66         | 2532    | Belgian IPA                    | 24     |
| ## 756 | IL    | 197        | 2198    | American IPA                   | 12     |
| ## 781 | IL    | 58         | 2025    | American IPA                   | 12     |



|         |    |     |      |                                |    |
|---------|----|-----|------|--------------------------------|----|
| ## 782  | IL | 328 | 849  | English India Pale Ale (IPA)   | 16 |
| ## 783  | IL | 41  | 2585 | American IPA                   | 16 |
| ## 788  | IL | 176 | 2206 | American Double / Imperial IPA | 16 |
| ## 793  | IL | 66  | 2529 | American IPA                   | 24 |
| ## 808  | IL | 211 | 1939 | English India Pale Ale (IPA)   | 12 |
| ## 818  | IL | 257 | 481  | American IPA                   | 16 |
| ## 821  | IL | 176 | 1819 | American IPA                   | 12 |
| ## 824  | IL | 176 | 1821 | American Double / Imperial IPA | 12 |
| ## 825  | IN | 28  | 2603 | American IPA                   | 16 |
| ## 844  | IN | 178 | 1980 | Belgian IPA                    | 12 |
| ## 846  | IN | 26  | 651  | American Double / Imperial IPA | 16 |
| ## 847  | IN | 23  | 2611 | American IPA                   | 16 |
| ## 852  | IN | 28  | 2602 | American IPA                   | 16 |
| ## 888  | IN | 203 | 1950 | American IPA                   | 16 |
| ## 892  | IN | 26  | 1420 | American IPA                   | 16 |
| ## 906  | IN | 178 | 2263 | American Double / Imperial IPA | 12 |
| ## 934  | IN | 203 | 2190 | American IPA                   | 16 |
| ## 952  | IN | 25  | 2471 | American Double / Imperial IPA | 12 |
| ## 956  | IN | 26  | 2001 | American IPA                   | 16 |
| ## 959  | IN | 166 | 436  | American IPA                   | 16 |
| ## 965  | KS | 46  | 1017 | American IPA                   | 16 |
| ## 1033 | MA | 352 | 1550 | American IPA                   | 12 |
| ## 1042 | MA | 104 | 2420 | American IPA                   | 12 |
| ## 1051 | MA | 179 | 2256 | American IPA                   | 12 |
| ## 1081 | MA | 296 | 1844 | American IPA                   | 12 |
| ## 1094 | MA | 279 | 1900 | English India Pale Ale (IPA)   | 12 |
| ## 1097 | MA | 296 | 1418 | American Double / Imperial IPA | 12 |
| ## 1105 | MA | 496 | 915  | American IPA                   | 12 |
| ## 1108 | MA | 296 | 1029 | American IPA                   | 12 |
| ## 1114 | MD | 72  | 2507 | American Double / Imperial IPA | 12 |
| ## 1124 | MD | 115 | 2408 | American IPA                   | 12 |
| ## 1137 | ME | 386 | 1539 | American IPA                   | 12 |
| ## 1142 | ME | 318 | 1783 | American IPA                   | 16 |
| ## 1147 | ME | 318 | 725  | American Double / Imperial IPA | 16 |
| ## 1148 | ME | 107 | 2426 | American IPA                   | 12 |
| ## 1163 | MI | 11  | 2092 | Belgian IPA                    | 16 |
| ## 1164 | MI | 73  | 2503 | American Double / Imperial IPA | 16 |
| ## 1195 | MI | 397 | 1498 | American IPA                   | 16 |
| ## 1197 | MI | 11  | 2498 | Belgian IPA                    | 16 |
| ## 1211 | MI | 11  | 1947 | Belgian IPA                    | 16 |
| ## 1272 | MI | 8   | 2448 | American IPA                   | 16 |
| ## 1273 | MI | 11  | 2541 | Belgian IPA                    | 16 |
| ## 1277 | MI | 14  | 2630 | American IPA                   | 12 |
| ## 1315 | MI | 14  | 2628 | American IPA                   | 12 |
| ## 1319 | MN | 1   | 2692 | American IPA                   | 16 |
| ## 1332 | MN | 475 | 1026 | American IPA                   | 16 |
| ## 1345 | MN | 62  | 15   | American Double / Imperial IPA | 16 |
| ## 1361 | MN | 445 | 1255 | American Double / Imperial IPA | 16 |
| ## 1453 | MT | 410 | 1433 | American IPA                   | 16 |
| ## 1482 | NC | 525 | 594  | American IPA                   | 12 |
| ## 1502 | NC | 180 | 530  | English India Pale Ale (IPA)   | 12 |
| ## 1517 | NC | 390 | 1533 | American Double / Imperial IPA | 12 |

|         |    |     |      |                                |    |
|---------|----|-----|------|--------------------------------|----|
| ## 1527 | ND | 336 | 1434 | American IPA                   | 12 |
| ## 1538 | NE | 283 | 1222 | American IPA                   | 12 |
| ## 1546 | NE | 509 | 763  | English India Pale Ale (IPA)   | 16 |
| ## 1547 | NE | 338 | 1148 | American IPA                   | 12 |
| ## 1559 | NH | 110 | 2417 | American IPA                   | 12 |
| ## 1566 | NJ | 223 | 1439 | American IPA                   | 12 |
| ## 1572 | NM | 266 | 1938 | American IPA                   | 12 |
| ## 1601 | NY | 557 | 51   | American IPA                   | 12 |
| ## 1614 | NY | 438 | 1279 | English India Pale Ale (IPA)   | 16 |
| ## 1618 | NY | 300 | 686  | American IPA                   | 12 |
| ## 1625 | NY | 300 | 1831 | American IPA                   | 12 |
| ## 1629 | NY | 47  | 2090 | American IPA                   | 24 |
| ## 1653 | NY | 47  | 628  | American Double / Imperial IPA | 12 |
| ## 1682 | OH | 95  | 2221 | American IPA                   | 16 |
| ## 1686 | OH | 95  | 2450 | American IPA                   | 16 |
| ## 1688 | OH | 322 | 1771 | American IPA                   | 16 |
| ## 1691 | OH | 100 | 2440 | American Double / Imperial IPA | 12 |
| ## 1700 | OH | 106 | 2424 | American White IPA             | 12 |
| ## 1746 | OR | 388 | 747  | American Double / Imperial IPA | 16 |
| ## 1757 | OR | 495 | 918  | American IPA                   | 16 |
| ## 1761 | OR | 156 | 36   | American IPA                   | 12 |
| ## 1765 | OR | 199 | 1353 | American IPA                   | 12 |
| ## 1773 | OR | 199 | 1543 | American IPA                   | 12 |
| ## 1775 | OR | 207 | 1515 | American IPA                   | 16 |
| ## 1781 | OR | 81  | 653  | American IPA                   | 16 |
| ## 1804 | OR | 207 | 2171 | American IPA                   | 12 |
| ## 1842 | OR | 156 | 793  | American IPA                   | 12 |
| ## 1851 | OR | 117 | 2323 | American IPA                   | 12 |
| ## 1861 | OR | 202 | 682  | American Double / Imperial IPA | 16 |
| ## 1871 | PA | 326 | 1758 | American IPA                   | 12 |
| ## 1873 | PA | 372 | 894  | American Double / Imperial IPA | 12 |
| ## 1885 | PA | 372 | 24   | American IPA                   | 12 |
| ## 1897 | PA | 164 | 2305 | American IPA                   | 12 |
| ## 1914 | PA | 299 | 1686 | American IPA                   | 12 |
| ## 1921 | PA | 98  | 1509 | American IPA                   | 12 |
| ## 1923 | PA | 298 | 1833 | American IPA                   | 12 |
| ## 1959 | PA | 346 | 1675 | American IPA                   | 12 |
| ## 2019 | TX | 119 | 853  | American Double / Imperial IPA | 12 |
| ## 2023 | TX | 216 | 2116 | English India Pale Ale (IPA)   | 12 |
| ## 2037 | TX | 128 | 943  | American IPA                   | 12 |
| ## 2044 | TX | 414 | 343  | American IPA                   | 12 |
| ## 2062 | TX | 30  | 2600 | American Double / Imperial IPA | 16 |
| ## 2064 | TX | 119 | 1497 | American Double / Imperial IPA | 12 |
| ## 2109 | TX | 243 | 2038 | American IPA                   | 12 |
| ## 2118 | TX | 67  | 2521 | American IPA                   | 12 |
| ## 2124 | TX | 126 | 463  | American IPA                   | 12 |
| ## 2143 | TX | 128 | 2166 | American Double / Imperial IPA | 12 |
| ## 2151 | UT | 303 | 1680 | American Double / Imperial IPA | 12 |
| ## 2157 | UT | 160 | 1723 | American IPA                   | 12 |
| ## 2164 | UT | 160 | 1925 | American IPA                   | 12 |
| ## 2165 | UT | 303 | 1823 | American White IPA             | 12 |
| ## 2166 | UT | 303 | 1825 | American Double / Imperial IPA | 12 |

|         |    |     |      |                                |    |
|---------|----|-----|------|--------------------------------|----|
| ## 2180 | VA | 237 | 1933 | American IPA                   | 12 |
| ## 2190 | VA | 116 | 2407 | American IPA                   | 12 |
| ## 2223 | VT | 42  | 2582 | American IPA                   | 16 |
| ## 2235 | VT | 273 | 1915 | American Double / Imperial IPA | 16 |
| ## 2236 | VT | 269 | 1926 | English India Pale Ale (IPA)   | 12 |
| ## 2241 | WA | 191 | 505  | American IPA                   | 12 |
| ## 2272 | WA | 484 | 966  | American IPA                   | 12 |
| ## 2273 | WA | 312 | 1795 | American IPA                   | 16 |
| ## 2279 | WA | 402 | 1473 | American IPA                   | 16 |
| ## 2283 | WA | 171 | 1504 | American IPA                   | 12 |
| ## 2287 | WA | 482 | 972  | American IPA                   | 16 |
| ## 2303 | WA | 461 | 857  | American IPA                   | 12 |
| ## 2319 | WI | 132 | 2150 | American IPA                   | 12 |
| ## 2331 | WI | 350 | 1652 | American White IPA             | 16 |
| ## 2333 | WI | 229 | 2077 | American IPA                   | 12 |
| ## 2382 | WI | 212 | 2146 | American IPA                   | 12 |
| ## 16   | AK | 459 | 1187 | American Blonde Ale            | 12 |
| ## 46   | AZ | 31  | 850  | American Pale Ale (APA)        | 12 |
| ## 61   | AZ | 31  | 1073 | American Amber / Red Ale       | 12 |
| ## 72   | AZ | 537 | 477  | American Pale Wheat Ale        | 12 |
| ## 73   | AZ | 31  | 285  | American Pale Ale (APA)        | 12 |
| ## 77   | AZ | 159 | 125  | American Amber / Red Ale       | 12 |
| ## 87   | AZ | 549 | 64   | American Amber / Red Ale       | 12 |
| ## 93   | CA | 369 | 876  | American Pale Ale (APA)        | 12 |
| ## 97   | CA | 289 | 1865 | American Pale Ale (APA)        | 12 |
| ## 98   | CA | 84  | 1905 | American Pale Ale (APA)        | 16 |
| ## 103  | CA | 523 | 543  | American Brown Ale             | 16 |
| ## 108  | CA | 4   | 2666 | Wheat Ale                      | 16 |
| ## 110  | CA | 492 | 924  | American Amber / Red Ale       | 16 |
| ## 113  | CA | 172 | 77   | Cream Ale                      | 12 |
| ## 118  | CA | 518 | 668  | American Pale Ale (APA)        | 12 |
| ## 131  | CA | 334 | 1735 | American Blonde Ale            | 12 |
| ## 139  | CA | 241 | 2045 | American Pale Lager            | 16 |
| ## 147  | CA | 4   | 2663 | Cream Ale                      | 16 |
| ## 155  | CA | 369 | 353  | American Pale Ale (APA)        | 12 |
| ## 158  | CA | 172 | 1563 | Pumpkin Ale                    | 12 |
| ## 182  | CA | 369 | 531  | English Strong Ale             | 12 |
| ## 187  | CA | 172 | 1326 | American Amber / Red Ale       | 12 |
| ## 208  | CA | 172 | 753  | Cream Ale                      | 12 |
| ## 230  | CA | 210 | 1495 | Saison / Farmhouse Ale         | 16 |
| ## 244  | CA | 99  | 1460 | American Pale Ale (APA)        | 32 |
| ## 252  | CA | 210 | 2154 | American Amber / Red Ale       | 16 |
| ## 261  | CA | 241 | 991  | American Brown Ale             | 16 |
| ## 263  | CA | 347 | 1670 | American Pale Ale (APA)        | 12 |
| ## 278  | CO | 514 | 735  | American Pale Ale (APA)        | 12 |
| ## 282  | CO | 38  | 106  | American Brown Ale             | 12 |
| ## 289  | CO | 420 | 1392 | Saison / Farmhouse Ale         | 12 |
| ## 290  | CO | 167 | 585  | American Strong Ale            | 12 |
| ## 294  | CO | 7   | 2650 | American Pale Ale (APA)        | 12 |
| ## 300  | CO | 64  | 356  | American Amber / Red Ale       | 12 |
| ## 305  | CO | 425 | 84   | American Amber / Red Ale       | 12 |
| ## 312  | CO | 149 | 1431 | American Pale Ale (APA)        | 12 |

|        |    |     |      |                          |    |
|--------|----|-----|------|--------------------------|----|
| ## 317 | CO | 38  | 2546 | Saison / Farmhouse Ale   | 12 |
| ## 325 | CO | 82  | 2008 | American Pale Ale (APA)  | 12 |
| ## 345 | CO | 425 | 145  | American Pale Ale (APA)  | 12 |
| ## 346 | CO | 83  | 748  | American Amber / Red Ale | 12 |
| ## 348 | CO | 504 | 744  | American Pale Ale (APA)  | 12 |
| ## 349 | CO | 108 | 996  | American Brown Ale       | 12 |
| ## 361 | CO | 83  | 578  | American Pale Lager      | 16 |
| ## 364 | CO | 481 | 973  | American Brown Ale       | 12 |
| ## 374 | CO | 167 | 892  | American Pale Ale (APA)  | 12 |
| ## 378 | CO | 83  | 71   | American Amber / Red Ale | 12 |
| ## 380 | CO | 149 | 2335 | Belgian Strong Dark Ale  | 12 |
| ## 382 | CO | 136 | 2360 | American Pale Wheat Ale  | 12 |
| ## 388 | CO | 52  | 345  | English Brown Ale        | 12 |
| ## 399 | CO | 167 | 933  | American Brown Ale       | 16 |
| ## 401 | CO | 504 | 785  | Scottish Ale             | 12 |
| ## 413 | CO | 504 | 786  | Scottish Ale             | 12 |
| ## 414 | CO | 52  | 906  | Pumpkin Ale              | 16 |
| ## 415 | CO | 552 | 161  | American Amber / Red Ale | 12 |
| ## 425 | CO | 83  | 952  | American Pale Lager      | 12 |
| ## 433 | CO | 111 | 1005 | American Blonde Ale      | 16 |
| ## 459 | CO | 387 | 709  | American Blonde Ale      | 16 |
| ## 466 | CO | 120 | 2386 | American Pale Ale (APA)  | 12 |
| ## 468 | CO | 167 | 1859 | Scotch Ale / Wee Heavy   | 16 |
| ## 470 | CO | 169 | 2294 | American Pale Ale (APA)  | 12 |
| ## 474 | CO | 64  | 2538 | American Pale Ale (APA)  | 12 |
| ## 482 | CO | 167 | 1751 | English Brown Ale        | 12 |
| ## 488 | CO | 356 | 1636 | American Pale Ale (APA)  | 16 |
| ## 490 | CO | 356 | 1518 | American Amber / Red Ale | 16 |
| ## 496 | CO | 460 | 1179 | American Amber / Red Ale | 16 |
| ## 498 | CO | 167 | 1444 | American Pale Ale (APA)  | 12 |
| ## 504 | CO | 52  | 683  | Belgian Pale Ale         | 12 |
| ## 513 | CO | 52  | 2560 | Saison / Farmhouse Ale   | 12 |
| ## 517 | CO | 295 | 1850 | American Strong Ale      | 12 |
| ## 540 | CT | 411 | 40   | American Amber / Red Ale | 12 |
| ## 547 | CT | 513 | 737  | American Pale Lager      | 12 |
| ## 550 | CT | 249 | 1361 | American Blonde Ale      | 12 |
| ## 560 | CT | 90  | 2456 | American Amber / Red Ale | 16 |
| ## 562 | CT | 411 | 568  | Belgian Pale Ale         | 12 |
| ## 568 | DC | 228 | 1809 | American Blonde Ale      | 12 |
| ## 577 | FL | 468 | 1096 | American Pale Ale (APA)  | 12 |
| ## 580 | FL | 468 | 1095 | American Pale Wheat Ale  | 12 |
| ## 594 | FL | 309 | 1800 | Irish Red Ale            | 12 |
| ## 604 | FL | 68  | 2517 | American Amber / Red Ale | 12 |
| ## 614 | FL | 142 | 1139 | American Pale Ale (APA)  | 12 |
| ## 615 | FL | 309 | 1799 | American Pale Wheat Ale  | 12 |
| ## 622 | FL | 142 | 571  | American Brown Ale       | 12 |
| ## 641 | GA | 476 | 1021 | American Brown Ale       | 12 |
| ## 656 | HI | 376 | 1578 | American Brown Ale       | 12 |
| ## 661 | HI | 376 | 690  | American Amber / Red Ale | 12 |
| ## 663 | HI | 205 | 2183 | American Blonde Ale      | 12 |
| ## 681 | IA | 366 | 189  | Irish Red Ale            | 16 |
| ## 691 | IA | 366 | 190  | American Pale Ale (APA)  | 16 |

|         |    |     |      |                          |    |
|---------|----|-----|------|--------------------------|----|
| ## 698  | IA | 472 | 1059 | Scottish Ale             | 16 |
| ## 699  | IA | 472 | 603  | Saison / Farmhouse Ale   | 16 |
| ## 703  | IA | 472 | 1058 | American Brown Ale       | 16 |
| ## 709  | ID | 310 | 995  | American Strong Ale      | 16 |
| ## 719  | ID | 308 | 1043 | American Pale Lager      | 12 |
| ## 738  | IL | 58  | 2505 | Abbey Single Ale         | 12 |
| ## 746  | IL | 55  | 2554 | American Pale Ale (APA)  | 16 |
| ## 747  | IL | 53  | 2559 | American Amber / Red Ale | 16 |
| ## 764  | IL | 362 | 971  | American Blonde Ale      | 12 |
| ## 769  | IL | 75  | 2246 | American Dark Wheat Ale  | 12 |
| ## 786  | IL | 45  | 1133 | Belgian Pale Ale         | 12 |
| ## 790  | IL | 75  | 1630 | American Dark Wheat Ale  | 12 |
| ## 797  | IL | 328 | 352  | American Brown Ale       | 16 |
| ## 800  | IL | 89  | 2457 | American Pale Ale (APA)  | 16 |
| ## 804  | IL | 257 | 1664 | American Black Ale       | 16 |
| ## 807  | IL | 89  | 2201 | American Pale Wheat Ale  | 16 |
| ## 817  | IL | 328 | 149  | American Blonde Ale      | 16 |
| ## 822  | IL | 89  | 581  | American Pale Wheat Ale  | 12 |
| ## 826  | IN | 178 | 2258 | American Pale Ale (APA)  | 12 |
| ## 830  | IN | 28  | 2220 | Belgian Strong Dark Ale  | 16 |
| ## 840  | IN | 178 | 2260 | American Pale Ale (APA)  | 12 |
| ## 842  | IN | 25  | 2607 | American Black Ale       | 16 |
| ## 858  | IN | 24  | 2609 | American Pale Ale (APA)  | 12 |
| ## 862  | IN | 26  | 1656 | Scotch Ale / Wee Heavy   | 16 |
| ## 863  | IN | 27  | 2604 | American Blonde Ale      | 16 |
| ## 864  | IN | 166 | 615  | American Dark Wheat Ale  | 16 |
| ## 865  | IN | 206 | 1956 | American Pale Wheat Ale  | 12 |
| ## 872  | IN | 178 | 2097 | Saison / Farmhouse Ale   | 12 |
| ## 877  | IN | 316 | 1789 | American Blonde Ale      | 16 |
| ## 882  | IN | 349 | 1657 | American Pale Lager      | 12 |
| ## 884  | IN | 25  | 2608 | American Brown Ale       | 16 |
| ## 886  | IN | 178 | 2265 | American Pale Ale (APA)  | 12 |
| ## 904  | IN | 25  | 2464 | American Pale Wheat Ale  | 16 |
| ## 907  | IN | 22  | 2617 | American Pale Wheat Ale  | 16 |
| ## 920  | IN | 26  | 1389 | American Pale Ale (APA)  | 16 |
| ## 932  | IN | 27  | 2430 | American Pale Ale (APA)  | 16 |
| ## 935  | IN | 25  | 2478 | American Pale Ale (APA)  | 12 |
| ## 936  | IN | 18  | 950  | Irish Red Ale            | 16 |
| ## 939  | IN | 25  | 2054 | American Pale Ale (APA)  | 16 |
| ## 946  | IN | 166 | 389  | American Blonde Ale      | 16 |
| ## 950  | IN | 17  | 2284 | American Blonde Ale      | 16 |
| ## 968  | KS | 46  | 1196 | Saison / Farmhouse Ale   | 16 |
| ## 970  | KS | 46  | 412  | American Pale Wheat Ale  | 12 |
| ## 976  | KS | 46  | 103  | American Brown Ale       | 16 |
| ## 981  | KS | 501 | 824  | American Pale Wheat Ale  | 12 |
| ## 1005 | KY | 2   | 2674 | English Brown Ale        | 16 |
| ## 1008 | LA | 153 | 2321 | American Blonde Ale      | 12 |
| ## 1022 | LA | 175 | 485  | English Dark Mild Ale    | 12 |
| ## 1026 | LA | 153 | 494  | American Amber / Red Ale | 12 |
| ## 1027 | MA | 301 | 1144 | American Pale Wheat Ale  | 12 |
| ## 1037 | MA | 146 | 1365 | Pumpkin Ale              | 12 |
| ## 1040 | MA | 231 | 2068 | Pumpkin Ale              | 16 |

|         |    |     |      |                           |    |
|---------|----|-----|------|---------------------------|----|
| ## 1044 | MA | 306 | 1811 | American Amber / Red Ale  | 16 |
| ## 1068 | MA | 268 | 1928 | American Amber / Red Ale  | 16 |
| ## 1071 | MA | 3   | 2671 | American India Pale Lager | 16 |
| ## 1079 | MA | 3   | 2672 | American Pale Lager       | 12 |
| ## 1086 | MA | 279 | 1317 | American Pale Ale (APA)   | 12 |
| ## 1087 | MA | 146 | 56   | English Pale Ale          | 12 |
| ## 1096 | MA | 235 | 610  | American Pale Wheat Ale   | 12 |
| ## 1098 | MA | 296 | 1038 | American Pale Wheat Ale   | 12 |
| ## 1128 | MD | 256 | 1631 | American Black Ale        | 12 |
| ## 1130 | ME | 293 | 533  | American Amber / Red Ale  | 12 |
| ## 1134 | ME | 386 | 814  | Pumpkin Ale               | 12 |
| ## 1135 | ME | 318 | 1717 | American Pale Ale (APA)   | 16 |
| ## 1162 | MI | 11  | 1977 | Belgian Dark Ale          | 16 |
| ## 1165 | MI | 441 | 273  | American Pale Ale (APA)   | 16 |
| ## 1173 | MI | 230 | 899  | American Amber / Red Ale  | 16 |
| ## 1178 | MI | 11  | 2091 | Belgian Dark Ale          | 16 |
| ## 1183 | MI | 11  | 627  | Belgian Strong Dark Ale   | 16 |
| ## 1184 | MI | 11  | 1785 | American Wild Ale         | 16 |
| ## 1186 | MI | 11  | 385  | Belgian Pale Ale          | 16 |
| ## 1207 | MI | 10  | 2638 | American Pale Ale (APA)   | 16 |
| ## 1227 | MI | 85  | 58   | American Blonde Ale       | 12 |
| ## 1238 | MI | 11  | 2481 | Saison / Farmhouse Ale    | 16 |
| ## 1247 | MI | 11  | 2433 | Belgian Strong Pale Ale   | 16 |
| ## 1259 | MI | 11  | 2382 | Belgian Dark Ale          | 16 |
| ## 1270 | MI | 14  | 2631 | American Black Ale        | 12 |
| ## 1285 | MI | 11  | 909  | American Wild Ale         | 16 |
| ## 1288 | MI | 14  | 2633 | American Brown Ale        | 12 |
| ## 1296 | MI | 13  | 1480 | Cream Ale                 | 12 |
| ## 1301 | MI | 11  | 1267 | American Black Ale        | 16 |
| ## 1304 | MI | 60  | 2492 | American Amber / Red Ale  | 12 |
| ## 1321 | MN | 1   | 2690 | English Brown Ale         | 16 |
| ## 1344 | MN | 62  | 16   | American Brown Ale        | 16 |
| ## 1358 | MN | 143 | 2347 | American Pale Wheat Ale   | 12 |
| ## 1362 | MN | 59  | 2473 | American Pale Ale (APA)   | 16 |
| ## 1364 | MN | 245 | 1168 | Saison / Farmhouse Ale    | 16 |
| ## 1370 | MN | 143 | 1781 | American Pale Ale (APA)   | 12 |
| ## 1376 | MO | 443 | 1264 | Pumpkin Ale               | 12 |
| ## 1381 | MO | 429 | 1324 | American Pale Wheat Ale   | 12 |
| ## 1388 | MO | 315 | 521  | American Amber / Red Ale  | 16 |
| ## 1392 | MO | 429 | 1077 | American Brown Ale        | 12 |
| ## 1393 | MO | 61  | 2544 | American Blonde Ale       | 12 |
| ## 1394 | MO | 315 | 846  | American Dark Wheat Ale   | 16 |
| ## 1395 | MO | 327 | 1052 | American Pale Wheat Ale   | 12 |
| ## 1398 | MO | 88  | 2459 | American Pale Wheat Ale   | 16 |
| ## 1402 | MO | 61  | 1870 | American Pale Wheat Ale   | 12 |
| ## 1411 | MO | 315 | 1335 | American Blonde Ale       | 16 |
| ## 1414 | MO | 133 | 2342 | Cream Ale                 | 12 |
| ## 1423 | MS | 134 | 1118 | American Blonde Ale       | 16 |
| ## 1424 | MS | 246 | 2032 | Belgian Pale Ale          | 12 |
| ## 1428 | MT | 538 | 471  | Scottish Ale              | 12 |
| ## 1430 | MT | 337 | 159  | English Pale Ale          | 12 |
| ## 1436 | MT | 337 | 35   | American Pale Wheat Ale   | 12 |

|         |    |     |      |                          |    |
|---------|----|-----|------|--------------------------|----|
| ## 1443 | MT | 538 | 473  | American Amber / Red Ale | 12 |
| ## 1461 | MT | 408 | 1441 | American Brown Ale       | 12 |
| ## 1468 | NC | 348 | 1658 | American Pale Ale (APA)  | 12 |
| ## 1477 | NC | 70  | 2510 | American Blonde Ale      | 16 |
| ## 1478 | NC | 498 | 868  | American Blonde Ale      | 12 |
| ## 1490 | NC | 446 | 1251 | American Pale Ale (APA)  | 12 |
| ## 1492 | NC | 150 | 2326 | American Brown Ale       | 12 |
| ## 1499 | NC | 390 | 1065 | American Pale Ale (APA)  | 12 |
| ## 1509 | NC | 325 | 1759 | American Pale Ale (APA)  | 12 |
| ## 1510 | NC | 97  | 2446 | American Brown Ale       | 12 |
| ## 1526 | ND | 336 | 1435 | Scottish Ale             | 12 |
| ## 1529 | NE | 283 | 121  | American Dark Wheat Ale  | 12 |
| ## 1531 | NE | 381 | 1321 | American Brown Ale       | 12 |
| ## 1534 | NE | 338 | 1146 | English Brown Ale        | 12 |
| ## 1535 | NE | 381 | 1320 | American Amber / Red Ale | 12 |
| ## 1567 | NJ | 223 | 2094 | American Black Ale       | 16 |
| ## 1581 | NM | 393 | 967  | American Black Ale       | 12 |
| ## 1612 | NY | 438 | 756  | English Pale Mild Ale    | 12 |
| ## 1620 | NY | 239 | 2050 | Cream Ale                | 12 |
| ## 1622 | NY | 547 | 382  | American Brown Ale       | 16 |
| ## 1623 | NY | 47  | 424  | Cream Ale                | 16 |
| ## 1630 | NY | 300 | 453  | American Pale Wheat Ale  | 12 |
| ## 1631 | NY | 47  | 1608 | American Strong Ale      | 12 |
| ## 1640 | NY | 47  | 629  | Saison / Farmhouse Ale   | 16 |
| ## 1650 | NY | 47  | 1962 | American Pale Ale (APA)  | 12 |
| ## 1656 | NY | 47  | 778  | American Brown Ale       | 16 |
| ## 1657 | NY | 330 | 1748 | American Pale Ale (APA)  | 16 |
| ## 1668 | NY | 490 | 939  | American Black Ale       | 16 |
| ## 1673 | OH | 225 | 2089 | American Pale Ale (APA)  | 12 |
| ## 1675 | OH | 92  | 1815 | American Pale Ale (APA)  | 12 |
| ## 1696 | OH | 92  | 1124 | American Amber / Red Ale | 12 |
| ## 1699 | OH | 184 | 2250 | American Strong Ale      | 16 |
| ## 1702 | OH | 95  | 2223 | Cream Ale                | 16 |
| ## 1707 | OH | 94  | 2452 | American Amber / Red Ale | 12 |
| ## 1708 | OH | 93  | 687  | English Brown Ale        | 12 |
| ## 1712 | OH | 286 | 1881 | Scottish Ale             | 16 |
| ## 1714 | OH | 94  | 2132 | American Amber / Red Ale | 12 |
| ## 1719 | OK | 367 | 420  | American Pale Wheat Ale  | 12 |
| ## 1729 | OK | 194 | 2207 | Belgian Pale Ale         | 12 |
| ## 1737 | OR | 195 | 2205 | American Pale Ale (APA)  | 12 |
| ## 1760 | OR | 207 | 1566 | American Black Ale       | 16 |
| ## 1762 | OR | 81  | 2391 | American Pale Wheat Ale  | 16 |
| ## 1766 | OR | 156 | 37   | American Amber / Red Ale | 12 |
| ## 1770 | OR | 202 | 2191 | American Amber / Red Ale | 16 |
| ## 1779 | OR | 156 | 1419 | American Pale Ale (APA)  | 12 |
| ## 1820 | OR | 201 | 2192 | American Pale Wheat Ale  | 16 |
| ## 1828 | OR | 156 | 790  | American Pale Ale (APA)  | 12 |
| ## 1831 | OR | 81  | 2399 | American Pale Wheat Ale  | 16 |
| ## 1833 | OR | 156 | 791  | American Pale Ale (APA)  | 12 |
| ## 1844 | OR | 202 | 895  | American Amber / Red Ale | 16 |
| ## 1852 | OR | 81  | 2193 | American Strong Ale      | 16 |
| ## 1854 | OR | 202 | 112  | Scottish Ale             | 16 |

|         |    |     |      |                          |    |
|---------|----|-----|------|--------------------------|----|
| ## 1862 | PA | 302 | 508  | American Pale Wheat Ale  | 16 |
| ## 1864 | PA | 165 | 2053 | American Pale Ale (APA)  | 12 |
| ## 1876 | PA | 302 | 509  | American Pale Ale (APA)  | 16 |
| ## 1902 | PA | 44  | 2049 | Pumpkin Ale              | 12 |
| ## 1913 | PA | 299 | 1688 | American Amber / Red Ale | 12 |
| ## 1940 | PA | 302 | 1487 | American Brown Ale       | 16 |
| ## 1949 | PA | 98  | 2444 | American Amber / Red Ale | 16 |
| ## 1963 | RI | 102 | 751  | American Amber / Red Ale | 12 |
| ## 1967 | RI | 102 | 120  | American Amber / Red Ale | 12 |
| ## 1971 | RI | 380 | 1185 | American Blonde Ale      | 16 |
| ## 1997 | SC | 6   | 2655 | American Pale Ale (APA)  | 12 |
| ## 2001 | SC | 6   | 2656 | American Brown Ale       | 12 |
| ## 2003 | SD | 213 | 542  | Cream Ale                | 12 |
| ## 2004 | SD | 213 | 1602 | American Brown Ale       | 12 |
| ## 2014 | TN | 240 | 2047 | Saison / Farmhouse Ale   | 12 |
| ## 2034 | TX | 216 | 2119 | Saison / Farmhouse Ale   | 12 |
| ## 2036 | TX | 162 | 1232 | Saison / Farmhouse Ale   | 12 |
| ## 2039 | TX | 215 | 2125 | American Blonde Ale      | 12 |
| ## 2041 | TX | 258 | 1970 | Saison / Farmhouse Ale   | 16 |
| ## 2042 | TX | 129 | 1290 | English Pale Ale         | 12 |
| ## 2049 | TX | 162 | 2197 | American Amber / Red Ale | 16 |
| ## 2054 | TX | 471 | 1056 | American Pale Ale (APA)  | 12 |
| ## 2055 | TX | 471 | 1053 | American Pale Wheat Ale  | 12 |
| ## 2075 | TX | 141 | 2301 | American Pale Ale (APA)  | 12 |
| ## 2084 | TX | 471 | 1054 | American Pale Wheat Ale  | 12 |
| ## 2096 | TX | 119 | 2387 | American Pale Ale (APA)  | 12 |
| ## 2106 | TX | 185 | 2069 | American Pale Ale (APA)  | 12 |
| ## 2111 | TX | 471 | 1055 | American Pale Wheat Ale  | 12 |
| ## 2116 | TX | 126 | 1557 | American Pale Ale (APA)  | 12 |
| ## 2141 | TX | 78  | 2488 | American Amber / Red Ale | 12 |
| ## 2170 | UT | 400 | 1476 | American Brown Ale       | 16 |
| ## 2171 | UT | 303 | 1826 | American Pale Ale (APA)  | 12 |
| ## 2173 | VA | 123 | 1247 | American Pale Ale (APA)  | 12 |
| ## 2174 | VA | 116 | 2405 | Saison / Farmhouse Ale   | 12 |
| ## 2177 | VA | 238 | 2051 | American Pale Ale (APA)  | 12 |
| ## 2179 | VA | 274 | 1913 | Irish Red Ale            | 12 |
| ## 2197 | VA | 383 | 1547 | American Pale Ale (APA)  | 12 |
| ## 2206 | VA | 383 | 119  | American Pale Ale (APA)  | 12 |
| ## 2212 | VT | 262 | 1946 | American Pale Ale (APA)  | 12 |
| ## 2217 | VT | 269 | 1924 | American Amber / Red Ale | 12 |
| ## 2228 | VT | 273 | 1916 | American Wild Ale        | 16 |
| ## 2240 | WA | 191 | 519  | American Brown Ale       | 12 |
| ## 2247 | WA | 291 | 1440 | American Pale Ale (APA)  | 12 |
| ## 2252 | WA | 484 | 965  | American Pale Ale (APA)  | 12 |
| ## 2259 | WA | 461 | 994  | English Strong Ale       | 12 |
| ## 2262 | WA | 320 | 1773 | American Pale Ale (APA)  | 12 |
| ## 2286 | WA | 363 | 724  | American Blonde Ale      | 16 |
| ## 2317 | WI | 457 | 700  | American Blonde Ale      | 16 |
| ## 2318 | WI | 135 | 2278 | American Pale Lager      | 12 |
| ## 2329 | WI | 132 | 140  | American Pale Ale (APA)  | 12 |
| ## 2330 | WI | 132 | 2270 | American Pale Ale (APA)  | 12 |
| ## 2341 | WI | 229 | 2075 | American Amber / Red Ale | 12 |



|         |    |                 |            |                         |                                |
|---------|----|-----------------|------------|-------------------------|--------------------------------|
| ## 2352 | WI | 132             | 816        | American Pale Wheat Ale | 12                             |
| ## 2358 | WI | 285             | 932        | Saison / Farmhouse Ale  | 16                             |
| ## 2363 | WI | 33              | 2595       | American Strong Ale     | 12                             |
| ## 2388 | WI | 193             | 62         | American Pale Ale (APA) | 12                             |
| ## 2390 | WI | 121             | 2385       | American Pale Wheat Ale | 12                             |
| ## 2395 | WV | 157             | 2313       | American Black Ale      | 12                             |
| ##      |    | City            | IBU ABV    |                         | Beer_Name                      |
| ## 14   |    | Anchorage       | 64.0 6.10  |                         | Fairweather IPA                |
| ## 62   |    | Chandler        | 20.5 6.50  |                         | Supermonk I.P.A.               |
| ## 70   |    | Flagstaff       | 20.5 6.10  |                         | Lumberyard IPA                 |
| ## 74   |    | Tempe           | 47.0 6.70  |                         | Hop Knot IPA                   |
| ## 88   |    | San Diego       | 42.0 8.70  |                         | Rich Man's IIPA                |
| ## 105  |    | San Diego       | 100.0 8.00 |                         | Habitus                        |
| ## 111  |    | Paso Robles     | 47.0 4.50  |                         | Easy Jack                      |
| ## 133  |    | San Diego       | 86.0 8.00  |                         | Habitus IPA                    |
| ## 134  |    | Mammoth Lakes   | 42.0 6.50  |                         | Epic IPA                       |
| ## 152  |    | Boonville       | 80.0 7.00  |                         | Hop Otin' IPA (2011)           |
| ## 168  |    | Claremont       | 60.0 6.70  |                         | Jacaranada Rye IPA             |
| ## 169  |    | San Luis Obispo | 99.0 9.50  |                         | Terrace Hill Double IPA        |
| ## 171  |    | San Diego       | 40.0 3.80  |                         | Even Keel                      |
| ## 173  |    | Boonville       | 80.0 7.00  |                         | Hop Otin' IPA                  |
| ## 179  |    | San Luis Obispo | 85.0 7.20  |                         | Lucky Day IPA                  |
| ## 189  |    | Santa Cruz      | 60.0 7.40  |                         | Blur India Pale Ale            |
| ## 191  |    | San Francisco   | 42.0 6.30  |                         | Villager                       |
| ## 211  |    | San Diego       | 42.0 7.00  |                         | Grapefruit Sculpin             |
| ## 237  |    | Los Angeles     | 70.0 8.00  |                         | Burning Bush Smoked IPA        |
| ## 245  |    | San Diego       | 66.0 6.80  |                         | Mission IPA                    |
| ## 248  |    | Carlsbad        | 42.0 6.80  |                         | Swami's India Pale Ale         |
| ## 251  |    | Belmont         | 85.0 7.10  |                         | California Sunshine Rye IPA    |
| ## 281  |    | Durango         | 65.0 6.80  |                         | Modus Hoperandi                |
| ## 318  |    | Boulder         | 40.0 8.00  |                         | Raja                           |
| ## 343  |    | Aurora          | 40.0 6.50  |                         | Dank IPA (2012)                |
| ## 366  |    | Telluride       | 40.0 6.40  |                         | Tempter IPA                    |
| ## 372  |    | Durango         | 65.0 6.80  |                         | Modus Hoperandi                |
| ## 391  |    | Denver          | 68.0 6.20  |                         | Lucky U IPA                    |
| ## 420  |    | Boulder         | 70.0 7.00  |                         | Moirai India Pale Ale          |
| ## 429  |    | Denver          | 40.0 6.20  |                         | Escape to Colorado             |
| ## 463  |    | Dolores         | 40.0 6.05  |                         | Snaggletooth Double Pale Ale   |
| ## 479  |    | Denver          | 45.0 6.70  |                         | Belgorado                      |
| ## 524  |    | Buena Vista     | 74.0 7.80  |                         | Crank Yanker IPA               |
| ## 538  |    | Woodbridge      | 85.0 8.80  |                         | Gandhi-Bot Double IPA (12 oz.) |
| ## 570  |    | Washington      | 115.0 9.20 |                         | On the Wings of Armageddon     |
| ## 572  |    | Wilmington      | 52.0 5.50  |                         | Appreciation Ale               |
| ## 589  |    | Tampa           | 55.0 4.50  |                         | Happening Now                  |
| ## 599  |    | Tampa           | 60.0 7.20  |                         | Last Stop IPA                  |
| ## 600  |    | Odessa          | 81.0 6.90  |                         | Arcus IPA                      |
| ## 608  |    | Tampa           | 70.0 7.50  |                         | Jai Alai IPA                   |
| ## 643  |    | Athens          | 65.0 6.50  |                         | Tropicalia                     |
| ## 668  |    | Hilo            | 75.0 7.20  |                         | Tsunami IPA                    |
| ## 670  |    | Lahaina         | 68.0 6.80  |                         | Flyin' HI.P.Hay                |
| ## 700  |    | Davenport       | 70.0 7.00  |                         | Big Cock IPA                   |
| ## 721  |    | Boise           | 100.0 6.30 |                         | Dagger Falls IPA               |

|         |                 |       |      |                                   |
|---------|-----------------|-------|------|-----------------------------------|
| ## 730  | Boise           | 100.0 | 6.30 | Dagger Falls IPA                  |
| ## 732  | Boise           | 39.0  | 9.20 | Double Dagger Imperial IPA        |
| ## 748  | Bloomington     | 85.0  | 9.60 | Hoperation Overload               |
| ## 754  | Chicago         | 30.0  | 7.50 | One-Hit Wonderful                 |
| ## 756  | Chicago         | 55.0  | 5.90 | Goose Island India Pale Ale       |
| ## 781  | Bloomington     | 76.0  | 6.30 | Vertex IPA                        |
| ## 782  | Chicago         | 30.0  | 6.00 | Meat Wave                         |
| ## 783  | Murphysboro     | 60.0  | 7.50 | Galaxy IPA                        |
| ## 788  | Chicago         | 30.0  | 9.60 | Bitter Biker Double IPA           |
| ## 793  | Chicago         | 30.0  | 7.50 | Love In An Ellavator              |
| ## 808  | Evanston        | 30.0  | 6.60 | Gatecrasher                       |
| ## 818  | Chicago         | 30.0  | 7.50 | Threadless IPA                    |
| ## 821  | Chicago         | 30.0  | 6.20 | Spiteful IPA                      |
| ## 824  | Chicago         | 30.0  | 9.60 | Bitter Biker Double IPA           |
| ## 825  | Columbus        | 33.0  | 6.50 | Galaxyfest                        |
| ## 844  | Gary            | 33.0  | 8.50 | Troll Destroyer                   |
| ## 846  | Indianapolis    | 91.0  | 9.10 | Isis                              |
| ## 847  | Valparaiso      | 33.0  | 6.00 | The 26th                          |
| ## 852  | Columbus        | 45.0  | 5.00 | Citrafest                         |
| ## 888  | Bloomington     | 33.0  | 6.00 | Dragonfly IPA                     |
| ## 892  | Indianapolis    | 77.0  | 7.50 | Grapefruit Jungle (GFJ)           |
| ## 906  | Gary            | 33.0  | 9.00 | Sinister                          |
| ## 934  | Bloomington     | 50.0  | 4.50 | Campside Session IPA              |
| ## 952  | Michigan City   | 115.0 | 9.90 | Hopkick Dropkick                  |
| ## 956  | Indianapolis    | 75.0  | 6.40 | Fistful Of Hops Red               |
| ## 959  | Aurora          | 60.0  | 6.20 | Great Crescent IPA (2011)         |
| ## 965  | Manhattan       | 110.0 | 6.80 | Ethos IPA                         |
| ## 1033 | Westfield       | 55.0  | 5.80 | Charlie in the Rye                |
| ## 1042 | Lowell          | 85.0  | 6.80 | Back Bay IPA                      |
| ## 1051 | Cambridge       | 35.0  | 6.50 | Flower Child (2014)               |
| ## 1081 | Westminster     | 50.0  | 5.60 | Wachusett IPA                     |
| ## 1094 | South Deerfield | 40.0  | 5.50 | Lost Sailor IPA                   |
| ## 1097 | Westminster     | 85.0  | 8.50 | Larry Imperial IPA                |
| ## 1105 | Newburyport     | 35.0  | 7.20 | Green Head IPA                    |
| ## 1108 | Westminster     | 37.0  | 4.00 | Wachusett Light IPA (2013)        |
| ## 1114 | Baltimore       | 90.0  | 8.50 | Double Duckpin                    |
| ## 1124 | Laurel          | 29.0  | 6.90 | Welcome to Scoville               |
| ## 1137 | Portland        | 65.0  | 6.90 | Monkey Fist IPA                   |
| ## 1142 | Belfast         | 61.0  | 7.20 | Toughcats IPA                     |
| ## 1147 | Belfast         | 61.0  | 9.70 | Cant Dog Imperial Pale Ale        |
| ## 1148 | Pineland        | 70.0  | 6.70 | Clean Shave IPA                   |
| ## 1163 | Grand Rapids    | 35.0  | 6.20 | BRIPA                             |
| ## 1164 | Detroit         | 115.0 | 7.50 | Hop A-Peel                        |
| ## 1195 | Hudsonville     | 35.0  | 6.00 | Super G IPA                       |
| ## 1197 | Grand Rapids    | 35.0  | 5.00 | Nuit Serpent                      |
| ## 1211 | Grand Rapids    | 35.0  | 9.30 | Tree Bucket                       |
| ## 1272 | Bridgman        | 35.0  | 7.00 | Reactor                           |
| ## 1273 | Grand Rapids    | 35.0  | 6.50 | Barrel Aged Triomphe              |
| ## 1277 | Comstock Park   | 65.0  | 6.50 | 98 Problems (Cuz A Hop Ain't One) |
| ## 1315 | Comstock Park   | 35.0  | 5.00 | Grapefruit IPA                    |
| ## 1319 | Minneapolis     | 50.0  | 4.50 | Get Together                      |
| ## 1332 | Minnetonka      | 44.5  | 6.80 | Preservation IPA                  |

|         |                    |       |      |  |
|---------|--------------------|-------|------|--|
| ## 1345 | Brooklyn Center    | 120.0 | 9.70 | Abrasive Ale                               |
| ## 1361 | Vadnais Heights    | 76.0  | 9.80 | Bad Axe Imperial IPA                       |
| ## 1453 | Lakeside           | 40.0  | 6.80 | Hat Trick Hop IPA                          |
| ## 1482 | Durham             | 33.5  | 5.70 | Triangle India Pale Ale                    |
| ## 1502 | Pittsboro          | 33.5  | 5.70 | Flagship IPA                               |
| ## 1517 | Brevard            | 85.0  | 8.70 | G'KNIGHT                                   |
| ## 1527 | Fargo              | 70.0  | 6.70 | Wood Chipper India Pale Ale                |
| ## 1538 | Kearney            | 35.0  | 6.50 | Cropduster Mid-American IPA                |
| ## 1546 | Cortland           | 35.0  | 5.60 | Hopluia (2004)                             |
| ## 1547 | Papillion          | 65.0  | 6.50 | Nebraska India Pale Ale                    |
| ## 1559 | North Woodstock    | 82.0  | 6.50 | 4000 Footer IPA                            |
| ## 1566 | Atlantic Highlands | 35.0  | 4.20 | Boat Beer                                  |
| ## 1572 | Albuquerque        | 72.0  | 6.20 | Almanac IPA                                |
| ## 1601 | Garrattsville      | 47.0  | 6.80 | Snapperhead IPA                            |
| ## 1614 | Brooklyn           | 47.0  | 6.80 | East India Pale Ale                        |
| ## 1618 | Utica              | 47.0  | 6.00 | Saranac White IPA                          |
| ## 1625 | Utica              | 60.0  | 6.50 | Our Legacy IPA                             |
| ## 1629 | Brooklyn           | 62.0  | 6.50 | Bengali                                    |
| ## 1653 | Brooklyn           | 103.0 | 9.10 | Resin                                      |
| ## 1682 | Dayton             | 40.0  | 7.00 | Flyin' Rye                                 |
| ## 1686 | Dayton             | 67.0  | 5.20 | Self Starter                               |
| ## 1688 | Lockland           | 55.0  | 5.00 | Lil SIPA                                   |
| ## 1691 | Cincinnati         | 126.0 | 8.90 | Bay of Bengal Double IPA (2014)            |
| ## 1700 | Columbus           | 70.0  | 7.00 | Big Star White IPA                         |
| ## 1746 | Portland           | 86.0  | 8.50 | Old Grogham Imperial India Pale Ale (2012) |
| ## 1757 | Silverton          | 105.0 | 7.00 | Frankenlou's IPA                           |
| ## 1761 | Ashland            | 94.0  | 6.10 | Caldera IPA                                |
| ## 1765 | Springfield        | 90.0  | 6.50 | Alphadelic IPA                             |
| ## 1773 | Springfield        | 70.0  | 6.30 | Proxima IPA                                |
| ## 1775 | Astoria            | 40.0  | 6.70 | 3-Way IPA (2013)                           |
| ## 1781 | Portland           | 75.0  | 6.60 | Hopworks IPA (2012)                        |
| ## 1804 | Astoria            | 40.0  | 6.20 | The Optimist                               |
| ## 1842 | Ashland            | 94.0  | 6.10 | Caldera IPA (2009)                         |
| ## 1851 | Portland           | 60.0  | 6.70 | Ultra Gnar Gnar IPA                        |
| ## 1861 | Estacada           | 40.0  | 6.90 | Mjolnir Imperial IPA                       |
| ## 1871 | Croydon            | 30.0  | 6.60 | County Line IPA                            |
| ## 1873 | Pottstown          | 90.0  | 8.40 | Odyssey Imperial IPA                       |
| ## 1885 | Pottstown          | 113.0 | 7.00 | 113 IPA                                    |
| ## 1897 | Phoenixville       | 70.0  | 6.00 | Homefront IPA                              |
| ## 1914 | York               | 75.0  | 6.50 | Irregardless IPA                           |
| ## 1921 | Hershey            | 85.0  | 7.50 | Perpetual IPA                              |
| ## 1923 | Pittsburgh         | 45.0  | 5.80 | Hop Farm IPA                               |
| ## 1959 | Erie               | 95.0  | 6.40 | Madra Allta                                |
| ## 2019 | Conroe             | 100.0 | 9.90 | PRO-AM (2012) (2012)                       |
| ## 2023 | Richmond           | 69.0  | 7.10 | Brutus                                     |
| ## 2037 | Dallas             | 70.0  | 7.00 | Deep Ellum IPA                             |
| ## 2044 | Austin             | 33.0  | 6.20 | Fire Eagle IPA                             |
| ## 2062 | Seven Points       | 90.0  | 8.50 | Gone A-Rye                                 |
| ## 2064 | Conroe             | 100.0 | 9.20 | Valkyrie Double IPA                        |
| ## 2109 | Austin             | 75.0  | 7.00 | Infamous IPA                               |
| ## 2118 | San Antonio        | 70.0  | 5.90 | Soul Doubt                                 |
| ## 2124 | Houston            | 70.0  | 6.60 | Hopadillo India Pale Ale                   |

|         |                     |       |      |  |
|---------|---------------------|-------|------|--|
| ## 2143 | Dallas              | 100.0 | 8.50 | Dream Crusher Double IPA               |
| ## 2151 | Salt Lake City      | 75.0  | 9.00 | Squatters Hop Rising Double IPA (2014) |
| ## 2157 | Salt Lake City      | 83.0  | 7.30 | Hop Nosh IPA                           |
| ## 2164 | Salt Lake City      | 42.0  | 4.00 | Trader Session IPA                     |
| ## 2165 | Salt Lake City      | 34.0  | 6.00 | Wasatch Ghost rider White IPA          |
| ## 2166 | Salt Lake City      | 75.0  | 9.00 | Squatters Hop Rising Double IPA        |
| ## 2180 | Charlottesville     | 65.0  | 7.00 | Missile IPA                            |
| ## 2190 | Norfolk             | 88.0  | 7.00 | Rule G IPA                             |
| ## 2223 | East Fairfield      | 30.0  | 5.50 | Mosaic Single Hop IPA                  |
| ## 2235 | Waterbury           | 30.0  | 9.60 | The Crusher                            |
| ## 2236 | Bridgewater Corners | 42.0  | 5.90 | Long Trail IPA                         |
| ## 2241 | Seattle             | 70.0  | 6.20 | Evolutionary IPA (2011)                |
| ## 2272 | Yakima              | 70.0  | 6.80 | Topcutter India Pale Ale               |
| ## 2273 | Woodinville         | 72.0  | 6.50 | Filthy Hoppin' IPA                     |
| ## 2279 | Washougal           | 38.0  | 6.20 | Damnesia                               |
| ## 2283 | White Salmon        | 80.0  | 6.20 | Country Boy IPA                        |
| ## 2287 | Gig Harbor          | 75.0  | 5.90 | Rude Parrot IPA                        |
| ## 2303 | Seattle             | 80.0  | 6.50 | Interurban IPA                         |
| ## 2319 | Stevens Point       | 64.0  | 6.30 | Beyond The Pale IPA                    |
| ## 2331 | Green Bay           | 19.0  | 4.20 | White Cap White IPA                    |
| ## 2333 | Lake Geneva         | 50.0  | 7.20 | No Wake IPA                            |
| ## 2382 | Verona              | 38.0  | 4.80 | #004 Session I.P.A.                    |
| ## 16   | Soldotna            | 15.0  | 5.00 | Peninsula Brewers Reserve (PBR)        |
| ## 46   | Chandler            | 45.0  | 5.50 | Devil's Ale                            |
| ## 61   | Chandler            | 20.0  | 5.50 | Epicenter Amber Ale                    |
| ## 72   | Williams            | 20.5  | 5.00 | White Water Wheat                      |
| ## 73   | Chandler            | 45.0  | 5.50 | Devil's Ale (2010)                     |
| ## 77   | Flagstaff           | 20.5  | 5.80 | Lumberyard Red Ale                     |
| ## 87   | Prescott            | 20.5  | 5.50 | Liquid Amber Ale                       |
| ## 93   | San Francisco       | 42.0  | 4.40 | Bitter American                        |
| ## 97   | San Diego           | 40.0  | 5.20 | Saint Archer Pale Ale                  |
| ## 98   | Chico               | 37.0  | 5.60 | Sierra Nevada Pale Ale                 |
| ## 103  | Santa Cruz          | 42.0  | 6.80 | Bacon Brown Ale                        |
| ## 108  | San Diego           | 24.0  | 6.00 | Jucundus                               |
| ## 110  | Belmont             | 27.0  | 5.40 | Deadicated Amber                       |
| ## 113  | Boonville           | 4.0   | 5.60 | Summer Solstice (2011)                 |
| ## 118  | Carlsbad            | 36.0  | 5.60 | Mucho Aloha Hawaiian Pale Ale          |
| ## 131  | Diamond Springs     | 42.0  | 5.00 | Sprocket Blonde Ale (2006)             |
| ## 139  | Los Angeles         | 75.0  | 7.20 | Might As Well IPL                      |
| ## 147  | San Diego           | 30.0  | 6.30 | Grazias                                |
| ## 155  | San Francisco       | 42.0  | 4.40 | Bitter American (2011)                 |
| ## 158  | Boonville           | 42.0  | 6.00 | Fall Hornin'                           |
| ## 182  | San Francisco       | 52.0  | 8.50 | Special Edition: Allies Win The War!   |
| ## 187  | Boonville           | 15.0  | 5.80 | Boont Amber Ale                        |
| ## 208  | Boonville           | 4.0   | 5.60 | Summer Solstice Cerveza Crema (2009)   |
| ## 230  | San Diego           | 30.0  | 5.50 | Lomaland                               |
| ## 244  | San Diego           | 44.0  | 4.80 | El Conquistador Extra Pale Ale         |
| ## 252  | San Diego           | 75.0  | 6.70 | Aurora                                 |
| ## 261  | Los Angeles         | 20.0  | 5.50 | Get Up Offa That Brown                 |
| ## 263  | Santee              | 44.0  | 6.60 | Manzanita Pale Ale                     |
| ## 278  | Colorado Springs    | 40.0  | 5.20 | On-On Ale (2008)                       |
| ## 282  | Boulder             | 17.0  | 5.50 | Ellie's Brown Ale                      |

|        |               |           |                                       |
|--------|---------------|-----------|---------------------------------------|
| ## 289 | Boulder       | 20.0 5.80 | Sanitas Saison Ale                    |
| ## 290 | Longmont      | 70.0 8.00 | HGH (Home Grown Hops): Part Duh       |
| ## 294 | Denver        | 40.0 5.00 | Denver Pale Ale (Artist Series No. 1) |
| ## 300 | Edwards       | 25.0 5.20 | Crazy Mountain Amber Ale              |
| ## 305 | Denver        | 40.0 5.20 | Rail Yard Ale (2009)                  |
| ## 312 | Arvada        | 40.0 5.10 | Ghost Rider Pale Ale (2013)           |
| ## 317 | Boulder       | 40.0 6.40 | Perzik Saison                         |
| ## 325 | Denver        | 40.0 5.20 | Element 29                            |
| ## 345 | Denver        | 40.0 5.50 | Silverback Pale Ale                   |
| ## 346 | Fort Collins  | 18.0 5.20 | Fat Tire Amber Ale (2011)             |
| ## 348 | Lyons         | 65.0 6.50 | Dale's Pale Ale (2006)                |
| ## 349 | Eagle         | 40.0 5.80 | Demshitz Brown Ale                    |
| ## 361 | Fort Collins  | 29.0 5.00 | Shift                                 |
| ## 364 | Telluride     | 40.0 5.70 | Face Down Brown Ale                   |
| ## 374 | Longmont      | 65.0 6.50 | Dale's Pale Ale (10 Year Anniversary) |
| ## 378 | Fort Collins  | 18.0 5.20 | Fat Tire Amber Ale (2008)             |
| ## 380 | Arvada        | 72.0 9.20 | Perpetual Darkness                    |
| ## 382 | Dillon        | 14.0 5.90 | Morning Wood Wheat (Current)          |
| ## 388 | Boulder       | 40.0 6.70 | Upslope Brown Ale                     |
| ## 399 | Longmont      | 40.0 7.00 | The Deuce                             |
| ## 401 | Lyons         | 35.0 8.00 | Old Chub (2003)                       |
| ## 413 | Lyons         | 35.0 8.00 | Old Chub (2004)                       |
| ## 414 | Boulder       | 40.0 7.70 | Upslope Pumpkin Ale                   |
| ## 415 | Silverton     | 40.0 6.00 | Red Mountain Ale                      |
| ## 425 | Fort Collins  | 29.0 5.00 | Shift (1)                             |
| ## 433 | Denver        | 25.0 5.00 | 5:00 O'Clock Afternoon Ale            |
| ## 459 | Paonia        | 40.0 5.00 | Miner's Gold                          |
| ## 466 | Durango       | 65.0 6.50 | Third Eye Enlightened Pale Ale        |
| ## 468 | Longmont      | 40.0 8.00 | Old Chub NITRO                        |
| ## 470 | Windsor       | 68.0 7.00 | The Power of Zeus                     |
| ## 474 | Edwards       | 46.0 6.00 | Neomexicanus Native                   |
| ## 482 | Longmont      | 40.0 5.00 | One Nut Brown                         |
| ## 488 | Monument      | 40.0 5.60 | Local 5 Pale Ale                      |
| ## 490 | Monument      | 40.0 7.30 | Devils Head Red Ale                   |
| ## 496 | Denver        | 40.0 5.00 | River North Ale                       |
| ## 498 | Longmont      | 65.0 6.50 | Dale's Pale Ale                       |
| ## 504 | Boulder       | 30.0 7.50 | Upslope Belgian Style Pale Ale        |
| ## 513 | Boulder       | 40.0 6.00 | Blood Orange Saison                   |
| ## 517 | Denver        | 83.0 7.10 | American India Red Ale                |
| ## 540 | Woodbridge    | 29.0 5.00 | Atlantic Amber Ale (2007)             |
| ## 547 | Pawcatuck     | 29.0 3.80 | Chester's Beer (2005)                 |
| ## 550 | Stamford      | 18.0 5.20 | Half Full Bright Ale                  |
| ## 560 | East Windsor  | 29.0 6.10 | Broad Brook Ale                       |
| ## 562 | Woodbridge    | 29.0 9.00 | 668 Neighbor of the Beast12 oz.       |
| ## 568 | Washington    | 15.0 5.00 | The Tradition                         |
| ## 577 | Tampa Bay     | 55.0 5.70 | Tampa Pale Ale                        |
| ## 580 | Tampa Bay     | 55.0 5.70 | Orange Grove Wheat Ale                |
| ## 594 | Tampa         | 21.0 5.00 | Rollin Dirty Red Ale                  |
| ## 604 | St Petersburg | 55.0 5.90 | Rod Bender Red                        |
| ## 614 | Tampa         | 55.0 5.00 | Invasion Pale Ale                     |
| ## 615 | Tampa         | 28.0 5.50 | Are Wheat There Yet?                  |
| ## 622 | Tampa         | 25.0 5.50 | Maduro Brown Ale                      |

|         |                 |           |                                  |
|---------|-----------------|-----------|----------------------------------|
| ## 641  | Marietta        | 55.0 7.20 | Watership Brown Ale              |
| ## 656  | Lahaina         | 20.0 5.10 | Lahaina Town Brown               |
| ## 661  | Lahaina         | 24.0 6.00 | Sobrehumano Palena'ole           |
| ## 663  | Hilo            | 22.5 4.90 | Kaua'i Golden Ale                |
| ## 681  | Davenport       | 30.0 5.40 | Roller Dam Red Ale (2010)        |
| ## 691  | Davenport       | 48.0 5.30 | 483 Pale Ale (2010)              |
| ## 698  | Spirit Lake     | 19.0 9.50 | The Hole in Hadrian's Wall       |
| ## 699  | Spirit Lake     | 29.0 6.00 | Midwest Charm Farmhouse Ale      |
| ## 703  | Spirit Lake     | 26.0 6.50 | 33 Select Brown Ale              |
| ## 709  | Boise           | 90.0 8.40 | Winterfest                       |
| ## 719  | Garden City     | 39.0 4.40 | North Fork Lager                 |
| ## 738  | Bloomington     | 22.0 4.90 | Abbey's Single (2015- )          |
| ## 746  | Lombard         | 30.0 5.50 | Moped Traveler                   |
| ## 747  | Chicago         | 30.0 6.50 | Blood of the Unicorn             |
| ## 764  | Lake Barrington | 27.0 5.20 | Phat Chance                      |
| ## 769  | Warrenville     | 43.0 5.80 | Night Cat                        |
| ## 786  | Chicago         | 30.0 6.80 | A Little Crazy                   |
| ## 790  | Warrenville     | 43.0 5.80 | Night Cat (2014)                 |
| ## 797  | Chicago         | 30.0 6.00 | Over Ale                         |
| ## 800  | Chicago         | 30.0 5.40 | 312 Urban Pale Ale               |
| ## 804  | Chicago         | 80.0 8.00 | Sobek & Set                      |
| ## 807  | Chicago         | 18.0 4.20 | 312 Urban Wheat Ale              |
| ## 817  | Chicago         | 30.0 4.20 | Gossamer Golden Ale              |
| ## 822  | Chicago         | 20.0 4.20 | 312 Urban Wheat Ale (2012)       |
| ## 826  | Gary            | 33.0 5.50 | Jade                             |
| ## 830  | Columbus        | 33.0 9.00 | Barn Yeti                        |
| ## 840  | Gary            | 33.0 4.50 | Lake Street Express              |
| ## 842  | Michigan City   | 33.0 6.80 | Black Beer'd                     |
| ## 858  | Indianapolis    | 58.0 5.80 | Tribute                          |
| ## 862  | Indianapolis    | 30.0 9.00 | Wee Muckle                       |
| ## 863  | Mishawaka       | 23.0 4.90 | Blonde Czich                     |
| ## 864  | Aurora          | 25.0 6.00 | Frosted Fields Winter Wheat      |
| ## 865  | Lafayette       | 33.0 4.20 | Farmer's Daughter Wheat          |
| ## 872  | Gary            | 33.0 6.90 | Garce Selé                       |
| ## 877  | Avon            | 33.0 4.90 | Lost River Blonde Ale            |
| ## 882  | South Bend      | 33.0 4.00 | Leprechaun Lager                 |
| ## 884  | Michigan City   | 33.0 6.50 | Wrath of Pele                    |
| ## 886  | Gary            | 33.0 6.60 | Devil's Cup                      |
| ## 904  | Michigan City   | 33.0 6.50 | Coconoats                        |
| ## 907  | Martinsville    | 64.0 5.50 | Citra Faced                      |
| ## 920  | Indianapolis    | 50.0 5.60 | Osiris Pale Ale                  |
| ## 932  | Mishawaka       | 33.0 5.20 | Lucky Dog                        |
| ## 935  | Michigan City   | 40.0 5.50 | Pale Alement                     |
| ## 936  | Evansville      | 22.0 5.10 | Rivet Irish Red Ale              |
| ## 939  | Michigan City   | 40.0 5.50 | Pale Alement                     |
| ## 946  | Aurora          | 22.0 5.30 | Great Crescent Blonde Ale (2011) |
| ## 950  | Indianapolis    | 27.0 5.00 | Hinchtown Hammer Down            |
| ## 968  | Manhattan       | 20.0 5.60 | Wild Plum Farmhouse Ale          |
| ## 970  | Manhattan       | 20.0 5.00 | Halcyon Unfiltered Wheat         |
| ## 976  | Manhattan       | 22.0 4.40 | Tallgrass Ale                    |
| ## 981  | Leavenworth     | 22.0 4.40 | Tonganoxie Honey Wheat           |
| ## 1005 | Louisville      | 20.0 5.00 | The Brown Note                   |

|         |                 |      |      |  |
|---------|-----------------|------|------|--|
| ## 1008 | Baton Rouge     | 31.5 | 5.50 | Turnrow Harvest Ale                      |
| ## 1022 | New Orleans     | 31.5 | 3.90 | NOLA Brown Ale                           |
| ## 1026 | Baton Rouge     | 28.0 | 4.50 | Perfect Tin Amber                        |
| ## 1027 | Boston          | 7.0  | 5.30 | Samuel Adams Summer Ale                  |
| ## 1037 | Nantucket       | 35.0 | 6.00 | Pumple Drumkin                           |
| ## 1040 | Gloucester      | 43.0 | 9.90 | Imperial Pumpkin Stout                   |
| ## 1044 | Everett         | 35.0 | 5.50 | Marblehead                               |
| ## 1068 | Hyannis         | 35.0 | 5.50 | Cape Cod Red                             |
| ## 1071 | Framingham      | 80.0 | 7.20 | Excess IPL                               |
| ## 1079 | Framingham      | 15.0 | 4.80 | Leisure Time                             |
| ## 1086 | South Deerfield | 20.0 | 5.30 | Steel Rail Extra Pale Ale                |
| ## 1087 | Nantucket       | 35.0 | 5.60 | Whale's Tale Pale Ale                    |
| ## 1096 | Boston          | 10.0 | 4.80 | UFO White                                |
| ## 1098 | Westminster     | 35.0 | 4.70 | Wachusett Summer                         |
| ## 1128 | Baltimore       | 29.0 | 5.00 | Brontide                                 |
| ## 1130 | Lewiston        | 35.0 | 5.50 | Amber Road                               |
| ## 1134 | Portland        | 61.0 | 4.70 | Pumpkinhead Ale                          |
| ## 1135 | Belfast         | 61.0 | 5.00 | Tug Pale Ale                             |
| ## 1162 | Grand Rapids    | 35.0 | 6.70 | Undertaker                               |
| ## 1165 | Royal Oak       | 35.0 | 6.20 | AXL Pale Ale                             |
| ## 1173 | Rochester       | 35.0 | 5.90 | Rochester Red Ale                        |
| ## 1178 | Grand Rapids    | 35.0 | 6.20 | Mela                                     |
| ## 1183 | Grand Rapids    | 35.0 | 8.50 | Kludde                                   |
| ## 1184 | Grand Rapids    | 35.0 | 7.30 | Le Flaneur Ale                           |
| ## 1186 | Grand Rapids    | 35.0 | 6.00 | Solitude                                 |
| ## 1207 | Grand Rapids    | 35.0 | 5.20 | G. B. Russo's Italian Pistachio Pale Ale |
| ## 1227 | Houghton        | 35.0 | 6.20 | Pick Axe Blonde Ale                      |
| ## 1238 | Grand Rapids    | 35.0 | 9.00 | Paris                                    |
| ## 1247 | Grand Rapids    | 35.0 | 8.20 | Sous Chef                                |
| ## 1259 | Grand Rapids    | 35.0 | 6.20 | Fat Paczki                               |
| ## 1270 | Comstock Park   | 35.0 | 5.80 | Black                                    |
| ## 1285 | Grand Rapids    | 35.0 | 9.20 | Escoffier Bretta Ale                     |
| ## 1288 | Comstock Park   | 10.0 | 5.50 | Hotbox Brown                             |
| ## 1296 | Marquette       | 35.0 | 5.50 | Grand Rabbits                            |
| ## 1301 | Grand Rapids    | 35.0 | 5.00 | Black Rabbit                             |
| ## 1304 | Portage         | 35.0 | 5.00 | Schoolhouse Honey                        |
| ## 1321 | Minneapolis     | 19.0 | 4.80 | Wall's End                               |
| ## 1344 | Brooklyn Center | 45.0 | 5.10 | Bender                                   |
| ## 1358 | Cold Spring     | 18.0 | 4.80 | Hunny Do Wheat                           |
| ## 1362 | St. Paul        | 55.0 | 4.70 | Hopvale Organic Ale                      |
| ## 1364 | Stillwater      | 30.0 | 6.00 | Farm Girl Saison                         |
| ## 1370 | Cold Spring     | 44.5 | 5.20 | Three Way Pale Ale                       |
| ## 1376 | O'Fallon        | 24.0 | 5.50 | O'Fallon Pumpkin Beer                    |
| ## 1381 | Saint Louis     | 45.0 | 5.00 | Schlafly Yakima Wheat Ale                |
| ## 1388 | Bucryus         | 20.0 | 5.50 | McKinney Eddy Amber Ale                  |
| ## 1392 | Saint Louis     | 30.0 | 5.00 | Schlafly American Brown Ale              |
| ## 1393 | Saint Louis     | 18.0 | 4.50 | Send Help                                |
| ## 1394 | Bucryus         | 18.0 | 4.50 | Black Walnut Wheat                       |
| ## 1395 | Saint Louis     | 14.0 | 4.70 | Honey Wheat                              |
| ## 1398 | Kirkwood        | 11.0 | 4.80 | Blackberry Wheat                         |
| ## 1402 | Saint Louis     | 28.0 | 5.00 | Contact High                             |
| ## 1411 | Bucryus         | 18.0 | 4.50 | Float Trip Ale                           |

|         |                    |       |      |                                  |
|---------|--------------------|-------|------|----------------------------------|
| ## 1414 | Weston             | 24.0  | 5.20 | O'Malley's Irish Style Cream Ale |
| ## 1423 | Hattiesburg        | 20.0  | 5.00 | Suzy B Dirty Blonde Ale          |
| ## 1424 | Jackson            | 31.0  | 5.10 | Ballistic Blonde                 |
| ## 1428 | Helena             | 40.0  | 5.70 | Back Country Scottish Ale        |
| ## 1430 | Missoula           | 40.0  | 5.00 | Scape Goat Pale Ale (2010)       |
| ## 1436 | Missoula           | 35.0  | 5.00 | Montana Trout Slayer Ale (2009)  |
| ## 1443 | Helena             | 40.0  | 5.00 | Lewis & Clark Amber Ale          |
| ## 1461 | Hamilton           | 40.0  | 5.20 | Blown Out Brown                  |
| ## 1468 | Durham             | 33.5  | 5.00 | Cack-A-Lucky                     |
| ## 1477 | Boone              | 19.0  | 4.70 | Honey Badger Blonde              |
| ## 1478 | Charlotte          | 33.5  | 5.70 | THP Light (2006)                 |
| ## 1490 | Lenoir             | 33.5  | 6.50 | Trail Maker Pale Ale             |
| ## 1492 | Raleigh            | 30.0  | 6.10 | Sweet Josie                      |
| ## 1499 | Brevard            | 65.0  | 6.50 | Dale's Pale Ale                  |
| ## 1509 | Black Mountain     | 31.0  | 5.70 | Pisgah Pale Ale                  |
| ## 1510 | Morganton          | 33.5  | 5.80 | Peanut Butter Jelly Time         |
| ## 1526 | Fargo              | 19.0  | 4.50 | Stone's Throw IPA                |
| ## 1529 | Kearney            | 35.0  | 5.60 | Cornstalker Dark Wheat           |
| ## 1531 | Lincoln            | 35.0  | 5.50 | Brewerhood Brown Ale             |
| ## 1534 | Papillion          | 15.0  | 4.80 | Brunette Nut Brown Ale           |
| ## 1535 | Lincoln            | 35.0  | 8.00 | Last Call Imperial Amber Ale     |
| ## 1567 | Atlantic Highlands | 100.0 | 9.90 | Epitome                          |
| ## 1581 | Santa Fe           | 95.0  | 7.10 | Black IPA                        |
| ## 1612 | Brooklyn           | 47.0  | 4.50 | Brooklyn Summer Ale              |
| ## 1620 | Newburgh           | 35.0  | 4.20 | Cream Ale                        |
| ## 1622 | Elmira             | 22.0  | 5.30 | Common Sense Kentucky Common Ale |
| ## 1623 | Brooklyn           | 34.0  | 5.20 | Sweet Action (2011)              |
| ## 1630 | Utica              | 47.0  | 4.70 | Saranac Summer Ale (2011)        |
| ## 1631 | Brooklyn           | 70.0  | 7.00 | Global Warmer                    |
| ## 1640 | Brooklyn           | 35.0  | 4.90 | Harbinger                        |
| ## 1650 | Brooklyn           | 50.0  | 4.70 | Sensi Harvest                    |
| ## 1656 | Brooklyn           | 47.0  | 5.90 | Brownstone                       |
| ## 1657 | Bronx              | 16.0  | 5.20 | Bronx Summer Pale Ale            |
| ## 1668 | Patchogue          | 47.0  | 7.00 | Toxic Sludge                     |
| ## 1673 | Middleburg Heights | 55.0  | 6.30 | Trail Head                       |
| ## 1675 | Cincinnati         | 40.0  | 5.00 | SPRYE                            |
| ## 1696 | Cincinnati         | 30.0  | 6.00 | Happy Amber                      |
| ## 1699 | Columbus           | 40.0  | 7.70 | Seventh Son of a Seventh Son     |
| ## 1702 | Dayton             | 20.0  | 5.40 | Ermal's                          |
| ## 1707 | Cincinnati         | 42.0  | 5.70 | Hustle                           |
| ## 1708 | Athens             | 40.0  | 6.70 | Chomolungma Honey Nut Brown Ale  |
| ## 1712 | Port Clinton       | 16.0  | 7.80 | Seiche Scottish Ale              |
| ## 1714 | Cincinnati         | 60.0  | 6.00 | Dad                              |
| ## 1719 | Mustang            | 14.0  | 5.30 | Washita Wheat                    |
| ## 1729 | Oklahoma City      | 35.0  | 6.80 | Golden One                       |
| ## 1737 | Bend               | 40.0  | 5.50 | Mountain Rescue Pale Ale         |
| ## 1760 | Astoria            | 40.0  | 6.20 | Next Adventure Black IPA         |
| ## 1762 | Portland           | 20.0  | 3.90 | Nonstop Hef Hop                  |
| ## 1766 | Ashland            | 24.0  | 5.40 | Ashland Amber Ale                |
| ## 1770 | Estacada           | 53.0  | 7.50 | Loki Red Ale                     |
| ## 1779 | Ashland            | 55.0  | 5.60 | Caldera Pale Ale                 |
| ## 1820 | Portland           | 40.0  | 4.70 | Occidental Hefeweizen            |



|         |                     |           |                                    |
|---------|---------------------|-----------|------------------------------------|
| ## 1828 | Ashland             | 55.0 5.60 | Caldera Pale Ale (2009)            |
| ## 1831 | Portland            | 20.0 3.90 | Nonstop Hef Hop                    |
| ## 1833 | Ashland             | 55.0 5.60 | Caldera Pale Ale (2010)            |
| ## 1844 | Estacada            | 53.0 7.50 | Loki Red Ale (2013)                |
| ## 1852 | Portland            | 70.0 7.30 | Abominable Winter Ale              |
| ## 1854 | Estacada            | 40.0 5.00 | Fearless Scottish Ale              |
| ## 1862 | Danville            | 30.0 4.80 | Endless Summer Ale (2011)          |
| ## 1864 | Lansdale            | 30.0 5.10 | Fear of a Brett Planet             |
| ## 1876 | Danville            | 30.0 5.50 | T-Rail Pale Ale                    |
| ## 1902 | Export              | 30.0 8.00 | Headless Wylie                     |
| ## 1913 | York                | 42.0 5.70 | American Hero                      |
| ## 1940 | Danville            | 65.0 6.50 | Falling Down Brown Ale             |
| ## 1949 | Hershey             | 93.0 7.50 | Nugget Nectar                      |
| ## 1963 | Newport             | 24.0 5.20 | Hurricane Amber Ale (2004)         |
| ## 1967 | Newport             | 24.0 5.20 | Hurricane Amber Ale                |
| ## 1971 | Westerly            | 24.0 5.50 | Bring Back the Beach Blonde Ale    |
| ## 1997 | Charleston          | 30.0 6.00 | Dead Arm                           |
| ## 2001 | Charleston          | 30.0 6.20 | Rye Knot                           |
| ## 2003 | Spearfish           | 35.0 5.50 | Canyon Cream Ale                   |
| ## 2004 | Spearfish           | 35.0 5.50 | Bear Butte Nut Brown Ale           |
| ## 2014 | Memphis             | 37.0 5.90 | Tarasque                           |
| ## 2034 | Richmond            | 35.0 5.50 | First Stand                        |
| ## 2036 | Fort Worth          | 33.0 5.00 | River House Saison                 |
| ## 2039 | Houston             | 40.0 6.00 | 1836                               |
| ## 2041 | South Austin        | 33.0 8.00 | 6 String Saison                    |
| ## 2042 | Blanco              | 33.0 5.90 | The Sword Iron Swan Ale            |
| ## 2049 | Fort Worth          | 35.0 5.00 | Rubberneck Red                     |
| ## 2054 | San Antonio         | 33.0 5.50 | Pete's Wicked Pale Ale (1997)      |
| ## 2055 | San Antonio         | 33.0 4.70 | Pete's Wicked Summer Brew (1996)   |
| ## 2075 | Austin              | 42.0 5.50 | Power & Light                      |
| ## 2084 | San Antonio         | 33.0 4.70 | Pete's Wicked Summer Brew (1997)   |
| ## 2096 | Conroe              | 45.0 6.50 | Pine Belt Pale Ale                 |
| ## 2106 | Austin              | 35.0 4.80 | Slow Ride                          |
| ## 2111 | San Antonio         | 33.0 4.70 | Pete's Wicked Summer Brew (2002)   |
| ## 2116 | Houston             | 40.0 5.50 | Weekend Warrior Pale Ale           |
| ## 2141 | Austin              | 33.0 5.50 | Van Dayum!                         |
| ## 2170 | Moab                | 34.0 4.00 | Squeaky Bike Nut Brown Ale         |
| ## 2171 | Salt Lake City      | 34.0 4.00 | Squatters Full Suspension Pale Ale |
| ## 2173 | Ashland             | 42.0 5.20 | Ray Ray's Pale Ale                 |
| ## 2174 | Norfolk             | 33.0 6.20 | Alter Ego                          |
| ## 2177 | Lexington           | 45.0 4.40 | Bravo Four Point                   |
| ## 2179 | Charlottesville     | 22.0 5.30 | Hydraulion Red                     |
| ## 2197 | Afton               | 60.0 5.90 | Full Nelson Pale Ale               |
| ## 2206 | Afton               | 60.0 5.90 | Full Nelson Pale Ale (2010)        |
| ## 2212 | Waterbury           | 55.0 5.50 | Overgrown American Pale Ale        |
| ## 2217 | Bridgewater Corners | 30.0 4.60 | Long Trail Ale                     |
| ## 2228 | Waterbury           | 30.0 6.00 | Petit Mutant                       |
| ## 2240 | Seattle             | 20.0 5.40 | SoDo Brown Ale                     |
| ## 2247 | Seattle             | 38.0 4.70 | Hale's Pale American Ale           |
| ## 2252 | Yakima              | 38.0 4.40 | Field 41 Pale Ale                  |
| ## 2259 | Seattle             | 38.0 8.00 | Abominable Ale                     |
| ## 2262 | Centralia           | 38.0 4.50 | 12 Man Pale Ale                    |

|         |               |      |      |                               |
|---------|---------------|------|------|-------------------------------|
| ## 2286 | Seattle       | 20.0 | 4.90 | Hilliard's Blonde             |
| ## 2317 | Menominee     | 19.0 | 4.80 | The Farmer's Daughter         |
| ## 2318 | Monroe        | 19.0 | 5.50 | Mountain Crest                |
| ## 2329 | Stevens Point | 33.0 | 5.40 | Point Cascade Pale Ale        |
| ## 2330 | Stevens Point | 33.0 | 5.40 | Point Cascade Pale Ale (2013) |
| ## 2341 | Lake Geneva   | 26.0 | 5.00 | Cedar Point                   |
| ## 2352 | Stevens Point | 7.0  | 5.00 | Point Nude Beach Summer Wheat |
| ## 2358 | Milwaukee     | 20.0 | 6.50 | Booyah Farmhouse Ale          |
| ## 2363 | Stevens Point | 19.0 | 5.20 | Bastian                       |
| ## 2388 | Middleton     | 19.0 | 5.00 | U.S. Pale Ale                 |
| ## 2390 | Milwaukee     | 19.0 | 5.60 | Watermelon Wheat              |
| ## 2395 | Lewisburg     | 71.0 | 6.70 | Mothman Black IPA             |

| ##     | Brewery_Name                     | Type | sIBU         | sABV         |
|--------|----------------------------------|------|--------------|--------------|
| ## 14  | Broken Tooth Brewing Company     | IPA  | 0.891425902  | 0.001994525  |
| ## 62  | SanTan Brewing Company           | IPA  | -1.061222666 | 0.312844929  |
| ## 70  | Lumberyard Brewing Company       | IPA  | -1.061222666 | 0.001994525  |
| ## 74  | Four Peaks Brewing Company       | IPA  | 0.128321864  | 0.468270131  |
| ## 88  | Monkey Paw Pub & Brewery         | IPA  | -0.096120500 | 2.022522152  |
| ## 105 | Mike Hess Brewing Company        | IPA  | 2.507410923  | 1.478533945  |
| ## 111 | Firestone Walker Brewing Company | IPA  | 0.128321864  | -1.241407092 |
| ## 133 | Hess Brewing Company             | IPA  | 1.878972304  | 1.478533945  |
| ## 134 | Mammoth Brewing Company          | IPA  | -0.096120500 | 0.312844929  |
| ## 152 | Anderson Valley Brewing Company  | IPA  | 1.609641467  | 0.701407934  |
| ## 168 | Claremont Craft Ales             | IPA  | 0.711872010  | 0.468270131  |
| ## 169 | Central Coast Brewing Company    | IPA  | 2.462522451  | 2.644222961  |
| ## 171 | Ballast Point Brewing Company    | IPA  | -0.185897446 | -1.785395299 |
| ## 173 | Anderson Valley Brewing Company  | IPA  | 1.609641467  | 0.701407934  |
| ## 179 | Central Coast Brewing Company    | IPA  | 1.834083831  | 0.856833136  |
| ## 189 | Seabright Brewery                | IPA  | 0.711872010  | 1.012258339  |
| ## 191 | Fort Point Beer Company          | IPA  | -0.096120500 | 0.157419727  |
| ## 211 | Ballast Point Brewing Company    | IPA  | -0.096120500 | 0.701407934  |
| ## 237 | Golden Road Brewing              | IPA  | 1.160756739  | 1.478533945  |
| ## 245 | Mission Brewery                  | IPA  | 0.981202847  | 0.545982732  |
| ## 248 | Pizza Port Brewing Company       | IPA  | -0.096120500 | 0.545982732  |
| ## 251 | Devil's Canyon Brewery           | IPA  | 1.834083831  | 0.779120535  |
| ## 281 | Ska Brewing Company              | IPA  | 0.936314375  | 0.545982732  |
| ## 318 | Avery Brewing Company            | IPA  | -0.185897446 | 1.478533945  |
| ## 343 | Dad & Dude's Breweria            | IPA  | -0.185897446 | 0.312844929  |
| ## 366 | Telluride Brewing Company        | IPA  | -0.185897446 | 0.235132328  |
| ## 372 | Ska Brewing Company              | IPA  | 0.936314375  | 0.545982732  |
| ## 391 | Breckenridge Brewery             | IPA  | 1.070979793  | 0.079707126  |
| ## 420 | Fate Brewing Company             | IPA  | 1.160756739  | 0.701407934  |
| ## 429 | Epic Brewing                     | IPA  | -0.185897446 | 0.079707126  |
| ## 463 | Dolores River Brewery            | IPA  | -0.185897446 | -0.036861776 |
| ## 479 | Wynkoop Brewing Company          | IPA  | 0.038544918  | 0.468270131  |
| ## 524 | Eddyline Brewery & Restaurant    | IPA  | 1.340310630  | 1.323108743  |
| ## 538 | New England Brewing Company      | IPA  | 1.834083831  | 2.100234753  |
| ## 570 | DC Brau Brewing Company          | IPA  | 3.180738016  | 2.411085157  |
| ## 572 | Iron Hill Brewery & Restaurant   | IPA  | 0.352764228  | -0.464281081 |
| ## 589 | Cigar City Brewing Company       | IPA  | 0.487429646  | -1.241407092 |
| ## 599 | Brew Bus Brewing                 | IPA  | 0.711872010  | 0.856833136  |
| ## 600 | Big Storm Brewing Company        | IPA  | 1.654529940  | 0.623695333  |

|         |                                 |     |              |              |
|---------|---------------------------------|-----|--------------|--------------|
| ## 608  | Cigar City Brewing Company      | IPA | 1.160756739  | 1.089970940  |
| ## 643  | Creature Comforts               | IPA | 0.936314375  | 0.312844929  |
| ## 668  | Mehana Brewing Co.              | IPA | 1.385199103  | 0.856833136  |
| ## 670  | Maui Brewing Company            | IPA | 1.070979793  | 0.545982732  |
| ## 700  | Great River Brewery             | IPA | 1.160756739  | 0.701407934  |
| ## 721  | Sockeye Brewing Company         | IPA | 2.507410923  | 0.157419727  |
| ## 730  | Sockeye Brewing Company         | IPA | 2.507410923  | 0.157419727  |
| ## 732  | Sockeye Brewing Company         | IPA | -0.230785919 | 2.411085157  |
| ## 748  | Destihl Brewery                 | IPA | 1.834083831  | 2.721935562  |
| ## 754  | Mikerphone Brewing              | IPA | -0.634782174 | 1.089970940  |
| ## 756  | Goose Island Brewery Company    | IPA | 0.487429646  | -0.153430677 |
| ## 781  | Destihl Brewery                 | IPA | 1.430087576  | 0.157419727  |
| ## 782  | Half Acre Beer Company          | IPA | -0.634782174 | -0.075718076 |
| ## 783  | Big Muddy Brewing               | IPA | 0.711872010  | 1.089970940  |
| ## 788  | Spiteful Brewing Company        | IPA | -0.634782174 | 2.721935562  |
| ## 793  | Mikerphone Brewing              | IPA | -0.634782174 | 1.089970940  |
| ## 808  | Temperance Beer Company         | IPA | -0.634782174 | 0.390557530  |
| ## 818  | Finch's Beer Company            | IPA | -0.634782174 | 1.089970940  |
| ## 821  | Spiteful Brewing Company        | IPA | -0.634782174 | 0.079707126  |
| ## 824  | Spiteful Brewing Company        | IPA | -0.634782174 | 2.721935562  |
| ## 825  | 450 North Brewing Company       | IPA | -0.500116756 | 0.312844929  |
| ## 844  | 18th Street Brewery             | IPA | -0.500116756 | 1.867096950  |
| ## 846  | Sun King Brewing Company        | IPA | 2.103414668  | 2.333372556  |
| ## 847  | Four Fathers Brewing            | IPA | -0.500116756 | -0.075718076 |
| ## 852  | 450 North Brewing Company       | IPA | 0.038544918  | -0.852844087 |
| ## 888  | Upland Brewing Company          | IPA | -0.500116756 | -0.075718076 |
| ## 892  | Sun King Brewing Company        | IPA | 1.474976048  | 1.089970940  |
| ## 906  | 18th Street Brewery             | IPA | -0.500116756 | 2.255659955  |
| ## 934  | Upland Brewing Company          | IPA | 0.262987282  | -1.241407092 |
| ## 952  | Burn 'Em Brewing                | IPA | 3.180738016  | 2.955073365  |
| ## 956  | Sun King Brewing Company        | IPA | 1.385199103  | 0.235132328  |
| ## 959  | Great Crescent Brewery          | IPA | 0.711872010  | 0.079707126  |
| ## 965  | Tallgrass Brewing Company       | IPA | 2.956295652  | 0.545982732  |
| ## 1033 | Westfield River Brewing Company | IPA | 0.487429646  | -0.231143278 |
| ## 1042 | Beer Works Brewery              | IPA | 1.834083831  | 0.545982732  |
| ## 1051 | Cambridge Brewing Company       | IPA | -0.410339810 | 0.312844929  |
| ## 1081 | Wachusett Brewing Company       | IPA | 0.262987282  | -0.386568480 |
| ## 1094 | Berkshire Brewing Company       | IPA | -0.185897446 | -0.464281081 |
| ## 1097 | Wachusett Brewing Company       | IPA | 1.834083831  | 1.867096950  |
| ## 1105 | Newburyport Brewing Company     | IPA | -0.410339810 | 0.856833136  |
| ## 1108 | Wachusett Brewing Company       | IPA | -0.320562865 | -1.629970097 |
| ## 1114 | Union Craft Brewing             | IPA | 2.058526195  | 1.867096950  |
| ## 1124 | Jailbreak Brewing Company       | IPA | -0.679670647 | 0.623695333  |
| ## 1137 | Shipyard Brewing Company        | IPA | 0.936314375  | 0.623695333  |
| ## 1142 | Marshall Wharf Brewing Company  | IPA | 0.756760483  | 0.856833136  |
| ## 1147 | Marshall Wharf Brewing Company  | IPA | 0.756760483  | 2.799648163  |
| ## 1148 | Glabrous Brewing Company        | IPA | 1.160756739  | 0.468270131  |
| ## 1163 | Brewery Vivant                  | IPA | -0.410339810 | 0.079707126  |
| ## 1164 | Atwater Brewery                 | IPA | 3.180738016  | 1.089970940  |
| ## 1195 | White Flame Brewing Company     | IPA | -0.410339810 | -0.075718076 |
| ## 1197 | Brewery Vivant                  | IPA | -0.410339810 | -0.852844087 |
| ## 1211 | Brewery Vivant                  | IPA | -0.410339810 | 2.488797758  |

|         |                                     |     |              |              |
|---------|-------------------------------------|-----|--------------|--------------|
| ## 1272 | Tapistry Brewing                    | IPA | -0.410339810 | 0.701407934  |
| ## 1273 | Brewery Vivant                      | IPA | -0.410339810 | 0.312844929  |
| ## 1277 | Perrin Brewing Company              | IPA | 0.936314375  | 0.312844929  |
| ## 1315 | Perrin Brewing Company              | IPA | -0.410339810 | -0.852844087 |
| ## 1319 | NorthGate Brewing                   | IPA | 0.262987282  | -1.241407092 |
| ## 1332 | Tonka Beer Company                  | IPA | 0.016100682  | 0.545982732  |
| ## 1345 | Surly Brewing Company               | IPA | 3.405180380  | 2.799648163  |
| ## 1361 | Big Wood Brewery                    | IPA | 1.430087576  | 2.877360764  |
| ## 1453 | Tamarack Brewing Company            | IPA | -0.185897446 | 0.545982732  |
| ## 1482 | Triangle Brewing Company            | IPA | -0.477672519 | -0.308855879 |
| ## 1502 | Carolina Brewery                    | IPA | -0.477672519 | -0.308855879 |
| ## 1517 | Oskar Blues Brewery (North Carol... | IPA | 1.834083831  | 2.022522152  |
| ## 1527 | Fargo Brewing Company               | IPA | 1.160756739  | 0.468270131  |
| ## 1538 | Thunderhead Brewing Company         | IPA | -0.410339810 | 0.312844929  |
| ## 1546 | Spilker Ales                        | IPA | -0.410339810 | -0.386568480 |
| ## 1547 | Nebraska Brewing Company            | IPA | 0.936314375  | 0.312844929  |
| ## 1559 | Woodstock Inn, Station & Brewery    | IPA | 1.699418413  | 0.312844929  |
| ## 1566 | Carton Brewing Company              | IPA | -0.410339810 | -1.474544895 |
| ## 1572 | Tractor Brewing Company             | IPA | 1.250533684  | 0.079707126  |
| ## 1601 | Butternuts Beer and Ale             | IPA | 0.128321864  | 0.545982732  |
| ## 1614 | Brooklyn Brewery                    | IPA | 0.128321864  | 0.545982732  |
| ## 1618 | Matt Brewing Company                | IPA | 0.128321864  | -0.075718076 |
| ## 1625 | Matt Brewing Company                | IPA | 0.711872010  | 0.312844929  |
| ## 1629 | Sixpoint Craft Ales                 | IPA | 0.801648956  | 0.312844929  |
| ## 1653 | Sixpoint Craft Ales                 | IPA | 2.642076342  | 2.333372556  |
| ## 1682 | Warped Wing Brewing Company         | IPA | -0.185897446 | 0.701407934  |
| ## 1686 | Warped Wing Brewing Company         | IPA | 1.026091320  | -0.697418884 |
| ## 1688 | Rivertown Brewing Company           | IPA | 0.487429646  | -0.852844087 |
| ## 1691 | Christian Moerlein Brewing Company  | IPA | 3.674511217  | 2.177947354  |
| ## 1700 | Four String Brewing Company         | IPA | 1.160756739  | 0.701407934  |
| ## 1746 | Natian Brewery                      | IPA | 1.878972304  | 1.867096950  |
| ## 1757 | Seven Brides Brewery                | IPA | 2.731853287  | 0.701407934  |
| ## 1761 | Caldera Brewing Company             | IPA | 2.238080086  | 0.001994525  |
| ## 1765 | Hop Valley Brewing Company          | IPA | 2.058526195  | 0.312844929  |
| ## 1773 | Hop Valley Brewing Company          | IPA | 1.160756739  | 0.157419727  |
| ## 1775 | Fort George Brewery                 | IPA | -0.185897446 | 0.468270131  |
| ## 1781 | Hopworks Urban Brewery              | IPA | 1.385199103  | 0.390557530  |
| ## 1804 | Fort George Brewery                 | IPA | -0.185897446 | 0.079707126  |
| ## 1842 | Caldera Brewing Company             | IPA | 2.238080086  | 0.001994525  |
| ## 1851 | Base Camp Brewing Co.               | IPA | 0.711872010  | 0.468270131  |
| ## 1861 | Fearless Brewing Company            | IPA | -0.185897446 | 0.623695333  |
| ## 1871 | Neshaminy Creek Brewing Company     | IPA | -0.634782174 | 0.390557530  |
| ## 1873 | Sly Fox Brewing Company             | IPA | 2.058526195  | 1.789384349  |
| ## 1885 | Sly Fox Brewing Company             | IPA | 3.090961070  | 0.701407934  |
| ## 1897 | Sly Fox Brewing Company             | IPA | 1.160756739  | -0.075718076 |
| ## 1914 | Liquid Hero Brewery                 | IPA | 1.385199103  | 0.312844929  |
| ## 1921 | Tröegs Brewing Company              | IPA | 1.834083831  | 1.089970940  |
| ## 1923 | Hop Farm Brewing Company            | IPA | 0.038544918  | -0.231143278 |
| ## 1959 | Lavery Brewing Company              | IPA | 2.282968559  | 0.235132328  |
| ## 2019 | Southern Star Brewing Company       | IPA | 2.507410923  | 2.955073365  |
| ## 2023 | Texian Brewing Co.                  | IPA | 1.115868266  | 0.779120535  |
| ## 2037 | Deep Ellum Brewing Company          | IPA | 1.160756739  | 0.701407934  |

|         |                                 |      |              |              |
|---------|---------------------------------|------|--------------|--------------|
| ## 2044 | Austin Beerworks                | IPA  | -0.500116756 | 0.079707126  |
| ## 2062 | Cedar Creek Brewery             | IPA  | 2.058526195  | 1.867096950  |
| ## 2064 | Southern Star Brewing Company   | IPA  | 2.507410923  | 2.411085157  |
| ## 2109 | Infamous Brewing Company        | IPA  | 1.385199103  | 0.701407934  |
| ## 2118 | Freetail Brewing Company        | IPA  | 1.160756739  | -0.153430677 |
| ## 2124 | Karbach Brewing Company         | IPA  | 1.160756739  | 0.390557530  |
| ## 2143 | Deep Ellum Brewing Company      | IPA  | 2.507410923  | 1.867096950  |
| ## 2151 | Utah Brewers Cooperative        | IPA  | 1.385199103  | 2.255659955  |
| ## 2157 | Uinta Brewing Company           | IPA  | 1.744306885  | 0.934545738  |
| ## 2164 | Uinta Brewing Company           | IPA  | -0.096120500 | -1.629970097 |
| ## 2165 | Utah Brewers Cooperative        | IPA  | -0.455228283 | -0.075718076 |
| ## 2166 | Utah Brewers Cooperative        | IPA  | 1.385199103  | 2.255659955  |
| ## 2180 | Champion Brewing Company        | IPA  | 0.936314375  | 0.701407934  |
| ## 2190 | Smartmouth Brewing Company      | IPA  | 1.968749249  | 0.701407934  |
| ## 2223 | Lost Nation Brewing             | IPA  | -0.634782174 | -0.464281081 |
| ## 2235 | The Alchemist                   | IPA  | -0.634782174 | 2.721935562  |
| ## 2236 | Long Trail Brewing Company      | IPA  | -0.096120500 | -0.153430677 |
| ## 2241 | Two Beers Brewing Company       | IPA  | 1.160756739  | 0.079707126  |
| ## 2272 | Bale Breaker Brewing Company    | IPA  | 1.160756739  | 0.545982732  |
| ## 2273 | Dirty Bucket Brewing Company    | IPA  | 1.250533684  | 0.312844929  |
| ## 2279 | Amnesia Brewing Company         | IPA  | -0.275674392 | 0.079707126  |
| ## 2283 | Everybody's Brewing             | IPA  | 1.609641467  | 0.079707126  |
| ## 2287 | 7 Seas Brewing Company          | IPA  | 1.385199103  | -0.153430677 |
| ## 2303 | Fremont Brewing Company         | IPA  | 1.609641467  | 0.312844929  |
| ## 2319 | Stevens Point Brewery           | IPA  | 0.891425902  | 0.157419727  |
| ## 2331 | Hinterland Brewery              | IPA  | -1.128555375 | -1.474544895 |
| ## 2333 | Geneva Lake Brewing Company     | IPA  | 0.262987282  | 0.856833136  |
| ## 2382 | Wisconsin Brewing Company       | IPA  | -0.275674392 | -1.008269289 |
| ## 16   | Kenai River Brewing Company     | Ales | -1.308109267 | -0.852844087 |
| ## 46   | SanTan Brewing Company          | Ales | 0.038544918  | -0.464281081 |
| ## 61   | SanTan Brewing Company          | Ales | -1.083666903 | -0.464281081 |
| ## 72   | Grand Canyon Brewing Company    | Ales | -1.061222666 | -0.852844087 |
| ## 73   | SanTan Brewing Company          | Ales | 0.038544918  | -0.464281081 |
| ## 77   | Lumberyard Brewing Company      | Ales | -1.061222666 | -0.231143278 |
| ## 87   | Prescott Brewing Company        | Ales | -1.061222666 | -0.464281081 |
| ## 93   | 21st Amendment Brewery          | Ales | -0.096120500 | -1.319119693 |
| ## 97   | Saint Archer Brewery            | Ales | -0.185897446 | -0.697418884 |
| ## 98   | Sierra Nevada Brewing Company   | Ales | -0.320562865 | -0.386568480 |
| ## 103  | Uncommon Brewers                | Ales | -0.096120500 | 0.545982732  |
| ## 108  | Mike Hess Brewing Company       | Ales | -0.904113011 | -0.075718076 |
| ## 110  | Devil's Canyon Brewery          | Ales | -0.769447593 | -0.541993682 |
| ## 113  | Anderson Valley Brewing Company | Ales | -1.801882468 | -0.386568480 |
| ## 118  | Butcher's Brewing               | Ales | -0.365451337 | -0.386568480 |
| ## 131  | David's Ale Works               | Ales | -0.096120500 | -0.852844087 |
| ## 139  | Golden Road Brewing             | Ales | 1.385199103  | 0.856833136  |
| ## 147  | Mike Hess Brewing Company       | Ales | -0.634782174 | 0.157419727  |
| ## 155  | 21st Amendment Brewery          | Ales | -0.096120500 | -1.319119693 |
| ## 158  | Anderson Valley Brewing Company | Ales | -0.096120500 | -0.075718076 |
| ## 182  | 21st Amendment Brewery          | Ales | 0.352764228  | 1.867096950  |
| ## 187  | Anderson Valley Brewing Company | Ales | -1.308109267 | -0.231143278 |
| ## 208  | Anderson Valley Brewing Company | Ales | -1.801882468 | -0.386568480 |
| ## 230  | Modern Times Beer               | Ales | -0.634782174 | -0.464281081 |

|        |                                     |              |              |
|--------|-------------------------------------|--------------|--------------|
| ## 244 | Mission Brewery Ales                | -0.006343555 | -1.008269289 |
| ## 252 | Modern Times Beer Ales              | 1.385199103  | 0.468270131  |
| ## 261 | Golden Road Brewing Ales            | -1.083666903 | -0.464281081 |
| ## 263 | Manzanita Brewing Company Ales      | -0.006343555 | 0.390557530  |
| ## 278 | Arctic Craft Brewery Ales           | -0.185897446 | -0.697418884 |
| ## 282 | Avery Brewing Company Ales          | -1.218332321 | -0.464281081 |
| ## 289 | Sanitas Brewing Company Ales        | -1.083666903 | -0.231143278 |
| ## 290 | Oskar Blues Brewery Ales            | 1.160756739  | 1.478533945  |
| ## 294 | Great Divide Brewing Company Ales   | -0.185897446 | -0.852844087 |
| ## 300 | Crazy Mountain Brewing Company Ales | -0.859224538 | -0.697418884 |
| ## 305 | Wynkoop Brewing Company Ales        | -0.185897446 | -0.697418884 |
| ## 312 | Odyssey Beerwerks Ales              | -0.185897446 | -0.775131486 |
| ## 317 | Avery Brewing Company Ales          | -0.185897446 | 0.235132328  |
| ## 325 | Epic Brewing Ales                   | -0.185897446 | -0.697418884 |
| ## 345 | Wynkoop Brewing Company Ales        | -0.185897446 | -0.464281081 |
| ## 346 | New Belgium Brewing Company Ales    | -1.173443848 | -0.697418884 |
| ## 348 | Oskar Blues Brewery Ales            | 0.936314375  | 0.312844929  |
| ## 349 | Bonfire Brewing Company Ales        | -0.185897446 | -0.231143278 |
| ## 361 | New Belgium Brewing Company Ales    | -0.679670647 | -0.852844087 |
| ## 364 | Telluride Brewing Company Ales      | -0.185897446 | -0.308855879 |
| ## 374 | Oskar Blues Brewery Ales            | 0.936314375  | 0.312844929  |
| ## 378 | New Belgium Brewing Company Ales    | -1.173443848 | -0.697418884 |
| ## 380 | Odyssey Beerwerks Ales              | 1.250533684  | 2.411085157  |
| ## 382 | Pug Ryan's Brewery Ales             | -1.352997739 | -0.153430677 |
| ## 388 | Upslope Brewing Company Ales        | -0.185897446 | 0.468270131  |
| ## 399 | Oskar Blues Brewery Ales            | -0.185897446 | 0.701407934  |
| ## 401 | Oskar Blues Brewery Ales            | -0.410339810 | 1.478533945  |
| ## 413 | Oskar Blues Brewery Ales            | -0.410339810 | 1.478533945  |
| ## 414 | Upslope Brewing Company Ales        | -0.185897446 | 1.245396142  |
| ## 415 | Silverton Brewery Ales              | -0.185897446 | -0.075718076 |
| ## 425 | New Belgium Brewing Company Ales    | -0.679670647 | -0.852844087 |
| ## 433 | Renegade Brewing Company Ales       | -0.859224538 | -0.852844087 |
| ## 459 | Revolution Brewing Ales             | -0.185897446 | -0.852844087 |
| ## 466 | Steamworks Brewing Company Ales     | 0.936314375  | 0.312844929  |
| ## 468 | Oskar Blues Brewery Ales            | -0.185897446 | 1.478533945  |
| ## 470 | High Hops Brewery Ales              | 1.070979793  | 0.701407934  |
| ## 474 | Crazy Mountain Brewing Company Ales | 0.083433391  | -0.075718076 |
| ## 482 | Oskar Blues Brewery Ales            | -0.185897446 | -0.852844087 |
| ## 488 | Pikes Peak Brewing Company Ales     | -0.185897446 | -0.386568480 |
| ## 490 | Pikes Peak Brewing Company Ales     | -0.185897446 | 0.934545738  |
| ## 496 | River North Brewery Ales            | -0.185897446 | -0.852844087 |
| ## 498 | Oskar Blues Brewery Ales            | 0.936314375  | 0.312844929  |
| ## 504 | Upslope Brewing Company Ales        | -0.634782174 | 1.089970940  |
| ## 513 | Upslope Brewing Company Ales        | -0.185897446 | -0.075718076 |
| ## 517 | Black Shirt Brewing Company Ales    | 1.744306885  | 0.779120535  |
| ## 540 | New England Brewing Company Ales    | -0.679670647 | -0.852844087 |
| ## 547 | Cottrell Brewing Ales               | -0.679670647 | -1.785395299 |
| ## 550 | Half Full Brewery Ales              | -1.173443848 | -0.697418884 |
| ## 560 | Broad Brook Brewing LLC Ales        | -0.679670647 | 0.001994525  |
| ## 562 | New England Brewing Company Ales    | -0.679670647 | 2.255659955  |
| ## 568 | DC Brau Brewing Company Ales        | -1.308109267 | -0.852844087 |
| ## 577 | Brindle Dog Brewing Company Ales    | 0.487429646  | -0.308855879 |

|        |                                    |              |              |
|--------|------------------------------------|--------------|--------------|
| ## 580 | Brindle Dog Brewing Company Ales   | 0.487429646  | -0.308855879 |
| ## 594 | Brew Bus Brewing Ales              | -1.038778430 | -0.852844087 |
| ## 604 | 3 Daughters Brewing Ales           | 0.487429646  | -0.153430677 |
| ## 614 | Cigar City Brewing Company Ales    | 0.487429646  | -0.852844087 |
| ## 615 | Brew Bus Brewing Ales              | -0.724559120 | -0.464281081 |
| ## 622 | Cigar City Brewing Company Ales    | -0.859224538 | -0.464281081 |
| ## 641 | Red Hare Brewing Company Ales      | 0.487429646  | 0.856833136  |
| ## 656 | Maui Brewing Company Ales          | -1.083666903 | -0.775131486 |
| ## 661 | Maui Brewing Company Ales          | -0.904113011 | -0.075718076 |
| ## 663 | Hawai'i Nui Brewing Co. Ales       | -0.971445720 | -0.930556688 |
| ## 681 | Great River Brewery Ales           | -0.634782174 | -0.541993682 |
| ## 691 | Great River Brewery Ales           | 0.173210337  | -0.619706283 |
| ## 698 | Okoboji Brewing Company Ales       | -1.128555375 | 2.644222961  |
| ## 699 | Okoboji Brewing Company Ales       | -0.679670647 | -0.075718076 |
| ## 703 | Okoboji Brewing Company Ales       | -0.814336066 | 0.312844929  |
| ## 709 | Sockeye Brewing Company Ales       | 2.058526195  | 1.789384349  |
| ## 719 | Payette Brewing Company Ales       | -0.230785919 | -1.319119693 |
| ## 738 | Destihl Brewery Ales               | -0.993889957 | -0.930556688 |
| ## 746 | Flesk Brewing Company Ales         | -0.634782174 | -0.464281081 |
| ## 747 | Pipeworks Brewing Company Ales     | -0.634782174 | 0.312844929  |
| ## 764 | Wild Onion Brewing Company Ales    | -0.769447593 | -0.697418884 |
| ## 769 | Two Brothers Brewing Company Ales  | -0.051232028 | -0.231143278 |
| ## 786 | Revolution Brewing Company Ales    | -0.634782174 | 0.545982732  |
| ## 790 | Two Brothers Brewing Company Ales  | -0.051232028 | -0.231143278 |
| ## 797 | Half Acre Beer Company Ales        | -0.634782174 | -0.075718076 |
| ## 800 | Goose Island Brewing Company Ales  | -0.634782174 | -0.541993682 |
| ## 804 | Finch's Beer Company Ales          | 1.609641467  | 1.478533945  |
| ## 807 | Goose Island Brewing Company Ales  | -1.173443848 | -1.474544895 |
| ## 817 | Half Acre Beer Company Ales        | -0.634782174 | -1.474544895 |
| ## 822 | Goose Island Brewing Company Ales  | -1.083666903 | -1.474544895 |
| ## 826 | 18th Street Brewery Ales           | -0.500116756 | -0.464281081 |
| ## 830 | 450 North Brewing Company Ales     | -0.500116756 | 2.255659955  |
| ## 840 | 18th Street Brewery Ales           | -0.500116756 | -1.241407092 |
| ## 842 | Burn 'Em Brewing Ales              | -0.500116756 | 0.545982732  |
| ## 858 | Indiana City Brewing Ales          | 0.622095065  | -0.231143278 |
| ## 862 | Sun King Brewing Company Ales      | -0.634782174 | 2.255659955  |
| ## 863 | Evil Czech Brewery Ales            | -0.949001484 | -0.930556688 |
| ## 864 | Great Crescent Brewery Ales        | -0.859224538 | -0.075718076 |
| ## 865 | People's Brewing Company Ales      | -0.500116756 | -1.474544895 |
| ## 872 | 18th Street Brewery Ales           | -0.500116756 | 0.623695333  |
| ## 877 | Cutters Brewing Company Ales       | -0.500116756 | -0.930556688 |
| ## 882 | Four Horsemen Brewing Company Ales | -0.500116756 | -1.629970097 |
| ## 884 | Burn 'Em Brewing Ales              | -0.500116756 | 0.312844929  |
| ## 886 | 18th Street Brewery Ales           | -0.500116756 | 0.390557530  |
| ## 904 | Burn 'Em Brewing Ales              | -0.500116756 | 0.312844929  |
| ## 907 | Three Pints Brewing Ales           | 0.891425902  | -0.464281081 |
| ## 920 | Sun King Brewing Company Ales      | 0.262987282  | -0.386568480 |
| ## 932 | Evil Czech Brewery Ales            | -0.500116756 | -0.697418884 |
| ## 935 | Burn 'Em Brewing Ales              | -0.185897446 | -0.464281081 |
| ## 936 | Tin Man Brewing Company Ales       | -0.993889957 | -0.775131486 |
| ## 939 | Burn 'Em Brewing Ales              | -0.185897446 | -0.464281081 |
| ## 946 | Great Crescent Brewery Ales        | -0.993889957 | -0.619706283 |

|         |  |              |              |
|---------|--|--------------|--------------|
| ## 950  | Flat 12 Bierwerks Ales                   | -0.769447593 | -0.852844087 |
| ## 968  | Tallgrass Brewing Company Ales           | -1.083666903 | -0.386568480 |
| ## 970  | Tallgrass Brewing Company Ales           | -1.083666903 | -0.852844087 |
| ## 976  | Tallgrass Brewing Company Ales           | -0.993889957 | -1.319119693 |
| ## 981  | High Noon Saloon And Brewery Ales        | -0.993889957 | -1.319119693 |
| ## 1005 | Against the Grain Brewery Ales           | -1.083666903 | -0.852844087 |
| ## 1008 | Tin Roof Brewing Company Ales            | -0.567449465 | -0.464281081 |
| ## 1022 | New Orleans Lager & Ale Brewing ... Ales | -0.567449465 | -1.707682698 |
| ## 1026 | Tin Roof Brewing Company Ales            | -0.724559120 | -1.241407092 |
| ## 1027 | Boston Beer Company Ales                 | -1.667217049 | -0.619706283 |
| ## 1037 | Cisco Brewers Ales                       | -0.410339810 | -0.075718076 |
| ## 1040 | Cape Ann Brewing Company Ales            | -0.051232028 | 2.955073365  |
| ## 1044 | Night Shift Brewing Ales                 | -0.410339810 | -0.464281081 |
| ## 1068 | Cape Cod Beer Ales                       | -0.410339810 | -0.464281081 |
| ## 1071 | Jack's Abby Craft Lagers Ales            | 1.609641467  | 0.856833136  |
| ## 1079 | Jack's Abby Craft Lagers Ales            | -1.308109267 | -1.008269289 |
| ## 1086 | Berkshire Brewing Company Ales           | -1.083666903 | -0.619706283 |
| ## 1087 | Cisco Brewers Ales                       | -0.410339810 | -0.386568480 |
| ## 1096 | Harpoon Brewery Ales                     | -1.532551631 | -1.008269289 |
| ## 1098 | Wachusett Brewing Company Ales           | -0.410339810 | -1.085981890 |
| ## 1128 | Stillwater Artisanal Ales Ales           | -0.679670647 | -0.852844087 |
| ## 1130 | Baxter Brewing Company Ales              | -0.410339810 | -0.464281081 |
| ## 1134 | Shipyard Brewing Company Ales            | 0.756760483  | -1.085981890 |
| ## 1135 | Marshall Wharf Brewing Company Ales      | 0.756760483  | -0.852844087 |
| ## 1162 | Brewery Vivant Ales                      | -0.410339810 | 0.468270131  |
| ## 1165 | MillKing It Productions Ales             | -0.410339810 | 0.079707126  |
| ## 1173 | Rochester Mills Brewing Company Ales     | -0.410339810 | -0.153430677 |
| ## 1178 | Brewery Vivant Ales                      | -0.410339810 | 0.079707126  |
| ## 1183 | Brewery Vivant Ales                      | -0.410339810 | 1.867096950  |
| ## 1184 | Brewery Vivant Ales                      | -0.410339810 | 0.934545738  |
| ## 1186 | Brewery Vivant Ales                      | -0.410339810 | -0.075718076 |
| ## 1207 | The Mitten Brewing Company Ales          | -0.410339810 | -0.697418884 |
| ## 1227 | Keweenaw Brewing Company Ales            | -0.410339810 | 0.079707126  |
| ## 1238 | Brewery Vivant Ales                      | -0.410339810 | 2.255659955  |
| ## 1247 | Brewery Vivant Ales                      | -0.410339810 | 1.633959147  |
| ## 1259 | Brewery Vivant Ales                      | -0.410339810 | 0.079707126  |
| ## 1270 | Perrin Brewing Company Ales              | -0.410339810 | -0.231143278 |
| ## 1285 | Brewery Vivant Ales                      | -0.410339810 | 2.411085157  |
| ## 1288 | Perrin Brewing Company Ales              | -1.532551631 | -0.464281081 |
| ## 1296 | Blackrocks Brewery Ales                  | -0.410339810 | -0.464281081 |
| ## 1301 | Brewery Vivant Ales                      | -0.410339810 | -0.852844087 |
| ## 1304 | Latitude 42 Brewing Company Ales         | -0.410339810 | -0.852844087 |
| ## 1321 | NorthGate Brewing Ales                   | -1.128555375 | -1.008269289 |
| ## 1344 | Surly Brewing Company Ales               | 0.038544918  | -0.775131486 |
| ## 1358 | Third Street Brewhouse Ales              | -1.173443848 | -1.008269289 |
| ## 1362 | Summit Brewing Company Ales              | 0.487429646  | -1.085981890 |
| ## 1364 | Lift Bridge Brewing Company Ales         | -0.634782174 | -0.075718076 |
| ## 1370 | Third Street Brewhouse Ales              | 0.016100682  | -0.697418884 |
| ## 1376 | O'Fallon Brewery Ales                    | -0.904113011 | -0.464281081 |
| ## 1381 | Schlafly Brewing Company Ales            | 0.038544918  | -0.852844087 |
| ## 1388 | Piney River Brewing Company Ales         | -1.083666903 | -0.464281081 |
| ## 1392 | Schlafly Brewing Company Ales            | -0.634782174 | -0.852844087 |



|         |                                     |      |              |              |
|---------|-------------------------------------|------|--------------|--------------|
| ## 1393 | 4 Hands Brewing Company             | Ales | -1.173443848 | -1.241407092 |
| ## 1394 | Piney River Brewing Company         | Ales | -1.173443848 | -1.241407092 |
| ## 1395 | Morgan Street Brewery               | Ales | -1.352997739 | -1.085981890 |
| ## 1398 | Kirkwood Station Brewing Company    | Ales | -1.487663158 | -1.008269289 |
| ## 1402 | 4 Hands Brewing Company             | Ales | -0.724559120 | -0.852844087 |
| ## 1411 | Piney River Brewing Company         | Ales | -1.173443848 | -1.241407092 |
| ## 1414 | Weston Brewing Company              | Ales | -0.904113011 | -0.697418884 |
| ## 1423 | Southern Prohibition Brewing Com... | Ales | -1.083666903 | -0.852844087 |
| ## 1424 | Lucky Town Brewing Company          | Ales | -0.589893701 | -0.775131486 |
| ## 1428 | Lewis and Clark Brewing Company     | Ales | -0.185897446 | -0.308855879 |
| ## 1430 | Big Sky Brewing Company             | Ales | -0.185897446 | -0.852844087 |
| ## 1436 | Big Sky Brewing Company             | Ales | -0.410339810 | -0.852844087 |
| ## 1443 | Lewis and Clark Brewing Company     | Ales | -0.185897446 | -0.852844087 |
| ## 1461 | Bitter Root Brewing                 | Ales | -0.185897446 | -0.697418884 |
| ## 1468 | Fullsteam Brewery                   | Ales | -0.477672519 | -0.852844087 |
| ## 1477 | Appalachian Mountain Brewery        | Ales | -1.128555375 | -1.085981890 |
| ## 1478 | Cans Bar and Canteen                | Ales | -0.477672519 | -0.308855879 |
| ## 1490 | Howard Brewing Company              | Ales | -0.477672519 | 0.312844929  |
| ## 1492 | Lonerider Brewing Company           | Ales | -0.634782174 | 0.001994525  |
| ## 1499 | Oskar Blues Brewery (North Carol... | Ales | 0.936314375  | 0.312844929  |
| ## 1509 | Pisgah Brewing Company              | Ales | -0.589893701 | -0.308855879 |
| ## 1510 | Catawba Valley Brewing Company      | Ales | -0.477672519 | -0.231143278 |
| ## 1526 | Fargo Brewing Company               | Ales | -1.128555375 | -1.241407092 |
| ## 1529 | Thunderhead Brewing Company         | Ales | -0.410339810 | -0.386568480 |
| ## 1531 | Blue Blood Brewing Company          | Ales | -0.410339810 | -0.464281081 |
| ## 1534 | Nebraska Brewing Company            | Ales | -1.308109267 | -1.008269289 |
| ## 1535 | Blue Blood Brewing Company          | Ales | -0.410339810 | 1.478533945  |
| ## 1567 | Carton Brewing Company              | Ales | 2.507410923  | 2.955073365  |
| ## 1581 | Santa Fe Brewing Company            | Ales | 2.282968559  | 0.779120535  |
| ## 1612 | Brooklyn Brewery                    | Ales | 0.128321864  | -1.241407092 |
| ## 1620 | Newburgh Brewing Company            | Ales | -0.410339810 | -1.474544895 |
| ## 1622 | Upstate Brewing Company             | Ales | -0.993889957 | -0.619706283 |
| ## 1623 | Sixpoint Craft Ales                 | Ales | -0.455228283 | -0.697418884 |
| ## 1630 | Matt Brewing Company                | Ales | 0.128321864  | -1.085981890 |
| ## 1631 | Sixpoint Craft Ales                 | Ales | 1.160756739  | 0.701407934  |
| ## 1640 | Sixpoint Craft Ales                 | Ales | -0.410339810 | -0.930556688 |
| ## 1650 | Sixpoint Craft Ales                 | Ales | 0.262987282  | -1.085981890 |
| ## 1656 | Sixpoint Craft Ales                 | Ales | 0.128321864  | -0.153430677 |
| ## 1657 | The Bronx Brewery                   | Ales | -1.263220794 | -0.697418884 |
| ## 1668 | Blue Point Brewing Company          | Ales | 0.128321864  | 0.701407934  |
| ## 1673 | Fat Head's Brewery                  | Ales | 0.487429646  | 0.157419727  |
| ## 1675 | Madtree Brewing Company             | Ales | -0.185897446 | -0.852844087 |
| ## 1696 | Madtree Brewing Company             | Ales | -0.634782174 | -0.075718076 |
| ## 1699 | Seventh Son Brewing Company         | Ales | -0.185897446 | 1.245396142  |
| ## 1702 | Warped Wing Brewing Company         | Ales | -1.083666903 | -0.541993682 |
| ## 1707 | Rhinegeist Brewery                  | Ales | -0.096120500 | -0.308855879 |
| ## 1708 | Jackie O's Pub & Brewery            | Ales | -0.185897446 | 0.468270131  |
| ## 1712 | Catawba Island Brewing              | Ales | -1.263220794 | 1.323108743  |
| ## 1714 | Rhinegeist Brewery                  | Ales | 0.711872010  | -0.075718076 |
| ## 1719 | Mustang Brewing Company             | Ales | -1.352997739 | -0.619706283 |
| ## 1729 | Anthem Brewing Company              | Ales | -0.410339810 | 0.545982732  |
| ## 1737 | Goodlife Brewing Co.                | Ales | -0.185897446 | -0.464281081 |

|         |  |              |              |
|---------|--|--------------|--------------|
| ## 1760 | Fort George Brewery Ales                 | -0.185897446 | 0.079707126  |
| ## 1762 | Hopworks Urban Brewery Ales              | -1.083666903 | -1.707682698 |
| ## 1766 | Caldera Brewing Company Ales             | -0.904113011 | -0.541993682 |
| ## 1770 | Fearless Brewing Company Ales            | 0.397652701  | 1.089970940  |
| ## 1779 | Caldera Brewing Company Ales             | 0.487429646  | -0.386568480 |
| ## 1820 | Occidental Brewing Company Ales          | -0.185897446 | -1.085981890 |
| ## 1828 | Caldera Brewing Company Ales             | 0.487429646  | -0.386568480 |
| ## 1831 | Hopworks Urban Brewery Ales              | -1.083666903 | -1.707682698 |
| ## 1833 | Caldera Brewing Company Ales             | 0.487429646  | -0.386568480 |
| ## 1844 | Fearless Brewing Company Ales            | 0.397652701  | 1.089970940  |
| ## 1852 | Hopworks Urban Brewery Ales              | 1.160756739  | 0.934545738  |
| ## 1854 | Fearless Brewing Company Ales            | -0.185897446 | -0.852844087 |
| ## 1862 | Old Forge Brewing Company Ales           | -0.634782174 | -1.008269289 |
| ## 1864 | Round Guys Brewing Ales                  | -0.634782174 | -0.775131486 |
| ## 1876 | Old Forge Brewing Company Ales           | -0.634782174 | -0.464281081 |
| ## 1902 | Rivertowne Brewing Company Ales          | -0.634782174 | 1.478533945  |
| ## 1913 | Liquid Hero Brewery Ales                 | -0.096120500 | -0.308855879 |
| ## 1940 | Old Forge Brewing Company Ales           | 0.936314375  | 0.312844929  |
| ## 1949 | Tröegs Brewing Company Ales              | 2.193191614  | 1.089970940  |
| ## 1963 | Coastal Extreme Brewing Company Ales     | -0.904113011 | -0.697418884 |
| ## 1967 | Coastal Extreme Brewing Company Ales     | -0.904113011 | -0.697418884 |
| ## 1971 | Grey Sail Brewing of Rhode Island Ales   | -0.904113011 | -0.464281081 |
| ## 1997 | COAST Brewing Company Ales               | -0.634782174 | -0.075718076 |
| ## 2001 | COAST Brewing Company Ales               | -0.634782174 | 0.079707126  |
| ## 2003 | Crow Peak Brewing Company Ales           | -0.410339810 | -0.464281081 |
| ## 2004 | Crow Peak Brewing Company Ales           | -0.410339810 | -0.464281081 |
| ## 2014 | Wiseacre Brewing Company Ales            | -0.320562865 | -0.153430677 |
| ## 2034 | Texian Brewing Co. Ales                  | -0.410339810 | -0.464281081 |
| ## 2036 | Martin House Brewing Company Ales        | -0.500116756 | -0.852844087 |
| ## 2039 | Buffalo Bayou Brewing Company Ales       | -0.185897446 | -0.075718076 |
| ## 2041 | South Austin Brewery Ales                | -0.500116756 | 1.478533945  |
| ## 2042 | Real Ale Brewing Company Ales            | -0.500116756 | -0.153430677 |
| ## 2049 | Martin House Brewing Company Ales        | -0.410339810 | -0.852844087 |
| ## 2054 | Pete's Brewing Company Ales              | -0.500116756 | -0.464281081 |
| ## 2055 | Pete's Brewing Company Ales              | -0.500116756 | -1.085981890 |
| ## 2075 | Independence Brewing Company Ales        | -0.096120500 | -0.464281081 |
| ## 2084 | Pete's Brewing Company Ales              | -0.500116756 | -1.085981890 |
| ## 2096 | Southern Star Brewing Company Ales       | 0.038544918  | 0.312844929  |
| ## 2106 | Oasis Texas Brewing Company Ales         | -0.410339810 | -1.008269289 |
| ## 2111 | Pete's Brewing Company Ales              | -0.500116756 | -1.085981890 |
| ## 2116 | Karbach Brewing Company Ales             | -0.185897446 | -0.464281081 |
| ## 2141 | Blue Owl Brewing Ales                    | -0.500116756 | -0.464281081 |
| ## 2170 | Moab Brewery Ales                        | -0.455228283 | -1.629970097 |
| ## 2171 | Utah Brewers Cooperative Ales            | -0.455228283 | -1.629970097 |
| ## 2173 | Center of the Universe Brewing C... Ales | -0.096120500 | -0.697418884 |
| ## 2174 | Smartmouth Brewing Company Ales          | -0.500116756 | 0.079707126  |
| ## 2177 | Devil's Backbone Brewing Company Ales    | 0.038544918  | -1.319119693 |
| ## 2179 | Three Notch'd Brewing Company Ales       | -0.993889957 | -0.619706283 |
| ## 2197 | Blue Mountain Brewery Ales               | 0.711872010  | -0.153430677 |
| ## 2206 | Blue Mountain Brewery Ales               | 0.711872010  | -0.153430677 |
| ## 2212 | Otter Creek Brewing Ales                 | 0.487429646  | -0.464281081 |
| ## 2217 | Long Trail Brewing Company Ales          | -0.634782174 | -1.163694491 |

```
## 2228                The Alchemist Ales -0.634782174 -0.075718076
## 2240                Two Beers Brewing Company Ales -1.083666903 -0.541993682
## 2247                Hale's Ales Ales -0.275674392 -1.085981890
## 2252                Bale Breaker Brewing Company Ales -0.275674392 -1.319119693
## 2259                Fremont Brewing Company Ales -0.275674392  1.478533945
## 2262                Dick's Brewing Company Ales -0.275674392 -1.241407092
## 2286                Hilliard's Beer Ales -1.083666903 -0.930556688
## 2317                Lucette Brewing Company Ales -1.128555375 -1.008269289
## 2318                Minhas Craft Brewery Ales -1.128555375 -0.464281081
## 2329                Stevens Point Brewery Ales -0.500116756 -0.541993682
## 2330                Stevens Point Brewery Ales -0.500116756 -0.541993682
## 2341                Geneva Lake Brewing Company Ales -0.814336066 -0.852844087
## 2352                Stevens Point Brewery Ales -1.667217049 -0.852844087
## 2358                Milwaukee Brewing Company Ales -1.083666903  0.312844929
## 2363                James Page Brewing Company Ales -1.128555375 -0.697418884
## 2388                Capital Brewery Ales -1.128555375 -0.852844087
## 2390                Horny Goat Brew Pub Ales -1.128555375 -0.386568480
## 2395                Greenbrier Valley Brewing Company Ales  1.205645211  0.468270131
```

8. Budweiser would also like to investigate the difference with respect to IBU and ABV between IPAs (India Pale Ales) and other types of Ale (any beer with “Ale” in its name other than IPA). You decide to use KNN classification to investigate this relationship. Provide statistical evidence one way or the other. We were able to find the following statistics when run 100 iterations of K for a KNN model. We found that when k=7 we achieved an Accuracy of 0.7991543 We found when K=17, 19, 20, 21 we got a Sensitivity (ability to correctly identify Ales) of 0.8807947 We found when K=5 we got a Specificity (ability to correctly identify IPAs) of 0.6959064

#KNN find best K value for accuracy, Sens(Ales), Spec(IPA) and plot

```
set.seed(37)
library(class)
mAcc = matrix(nrow = 100)
mSen = matrix(nrow = 100)
mSpec = matrix(nrow = 100)
for (i in 1:100){
  knn_model = knn(train = training_data[, c("sABV", "sIBU")], test = testing_data[, c("sABV", "sIBU")], cl = training_data$Type, k = i)
  CM = confusionMatrix(table(knn_model,testing_data$Type))
  mAcc[i]=CM$overall[1]
  mSen[i]=CM$byClass[1]
  mSpec[i]=CM$byClass[2]
}
max(mAcc)
```

```
## [1] 0.7991543
```

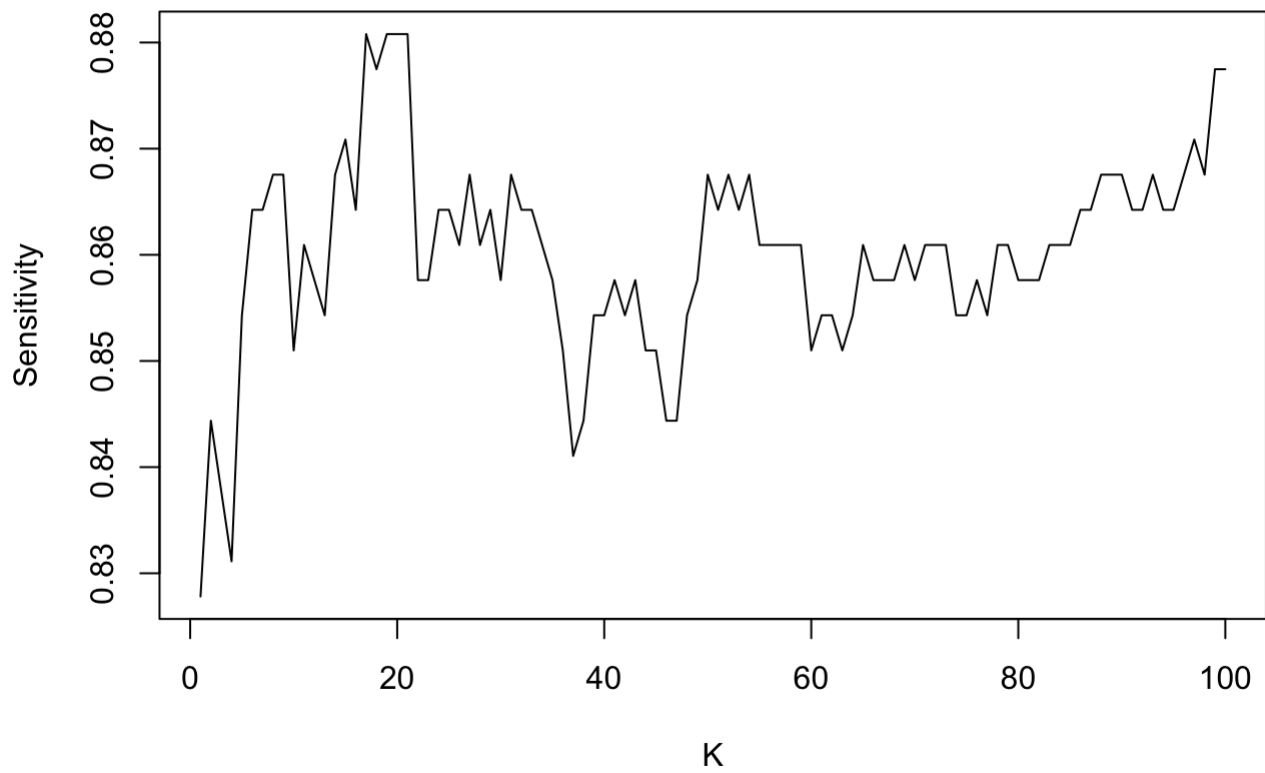
```
max(mSen)
```

```
## [1] 0.8807947
```

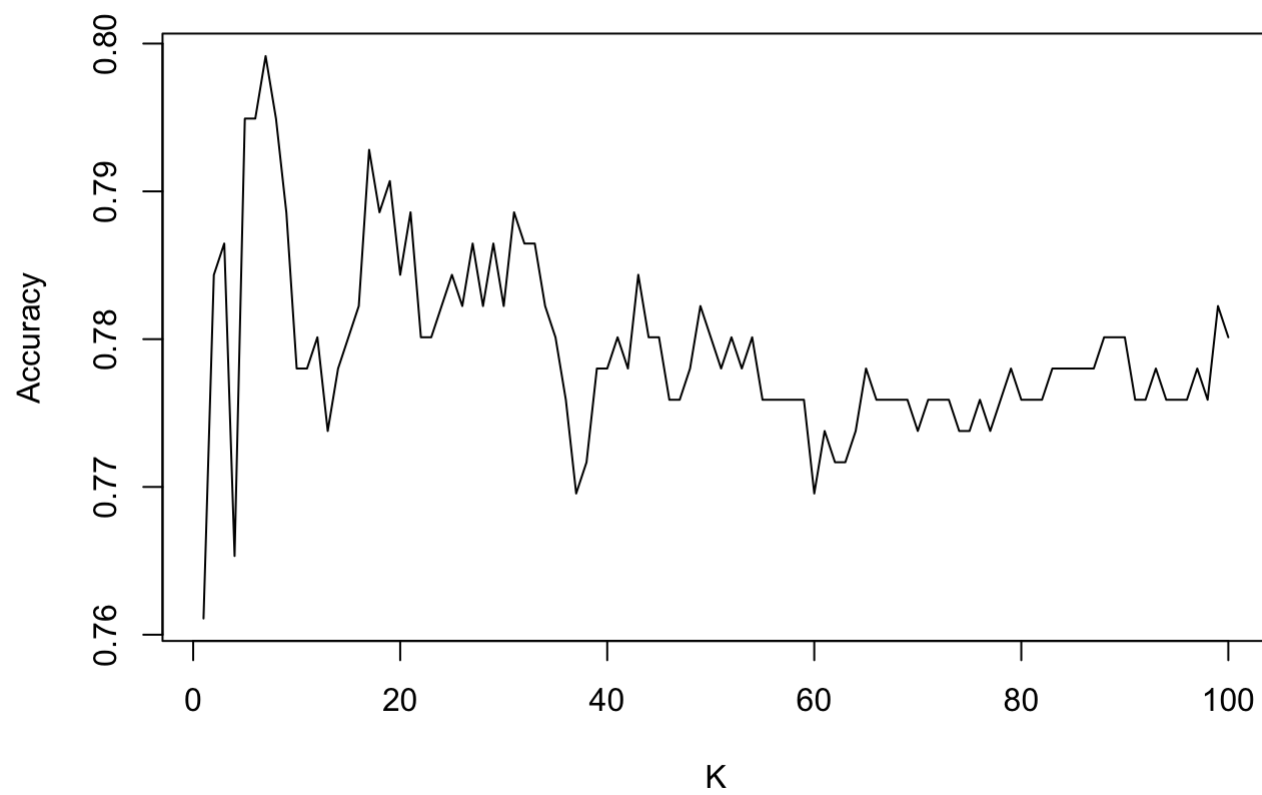
```
max(mSpec)
```

```
## [1] 0.6959064
```

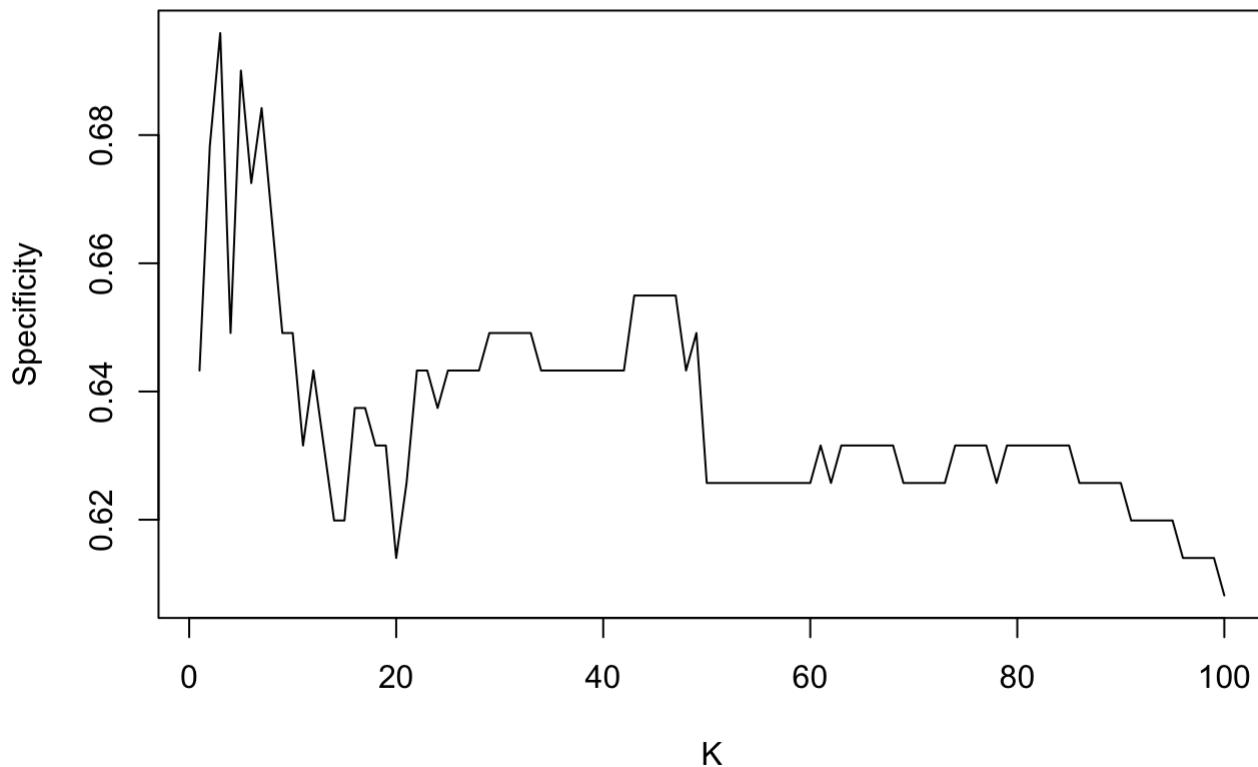
```
plot(mSen, type = "l", ylab="Sensitivity", xlab="K")
```



```
plot(mAcc, type="l", ylab="Accuracy", xlab="K")
```



```
plot(mSpec, type = "l", ylab="Specificity", xlab="K")
```



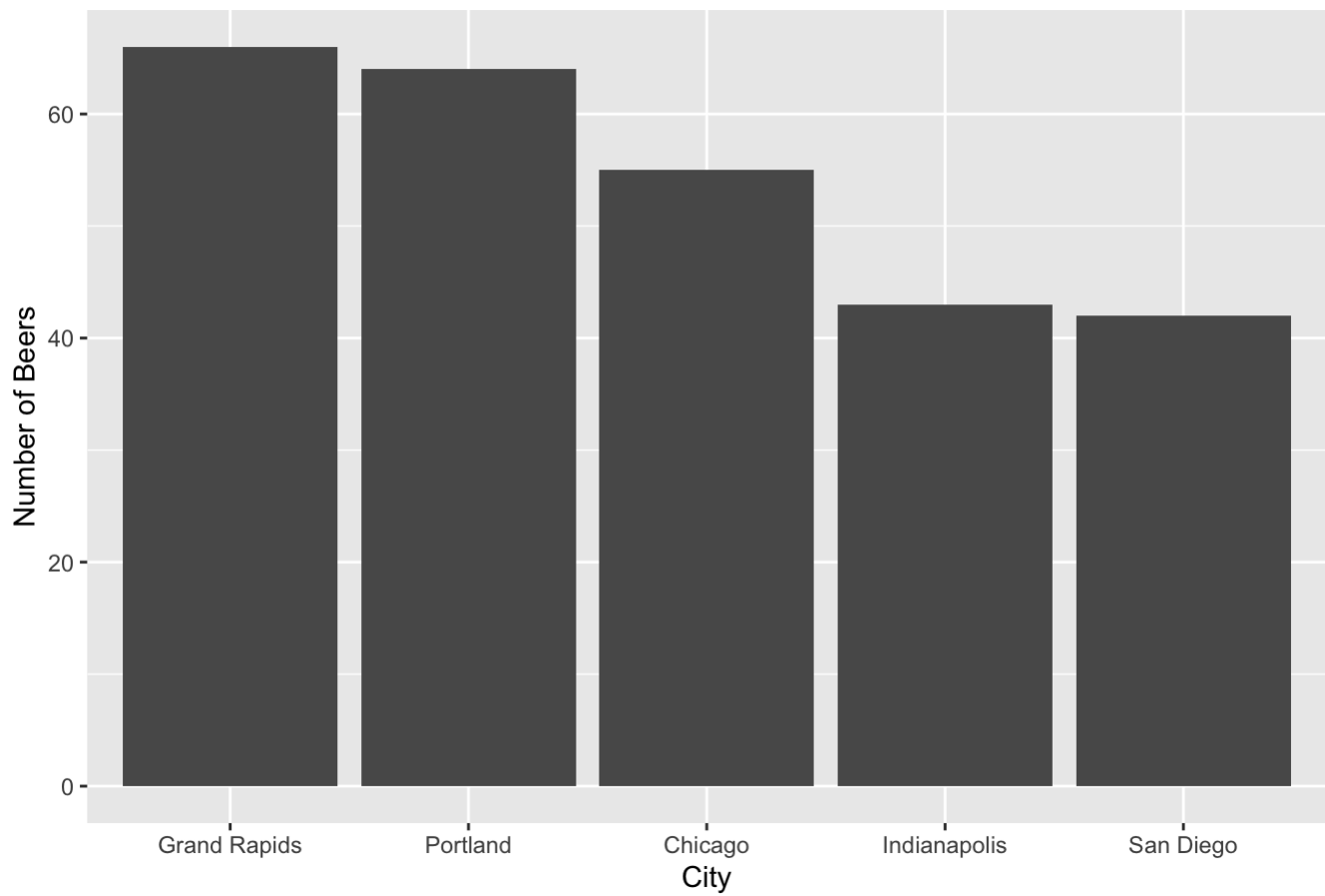
9. Knock their socks off! Find one other useful inference from the data that you feel Budweiser may be able to find value in. You must convince them why it is important and back up your conviction with appropriate statistical evidence. The following graph shows the leading 5 cities and 5 states known for beer consumption. By concentrating on promotional efforts and distribution in these regions, we have the potential to engage a broader customer base and boost our sales.

## Top variety of beers by state and city plotted using ggplot

```
top_cities <- head(sort(table(bdf4$City), decreasing = TRUE), 5)
top_states <- head(sort(table(bdf4$State), decreasing = TRUE), 5)

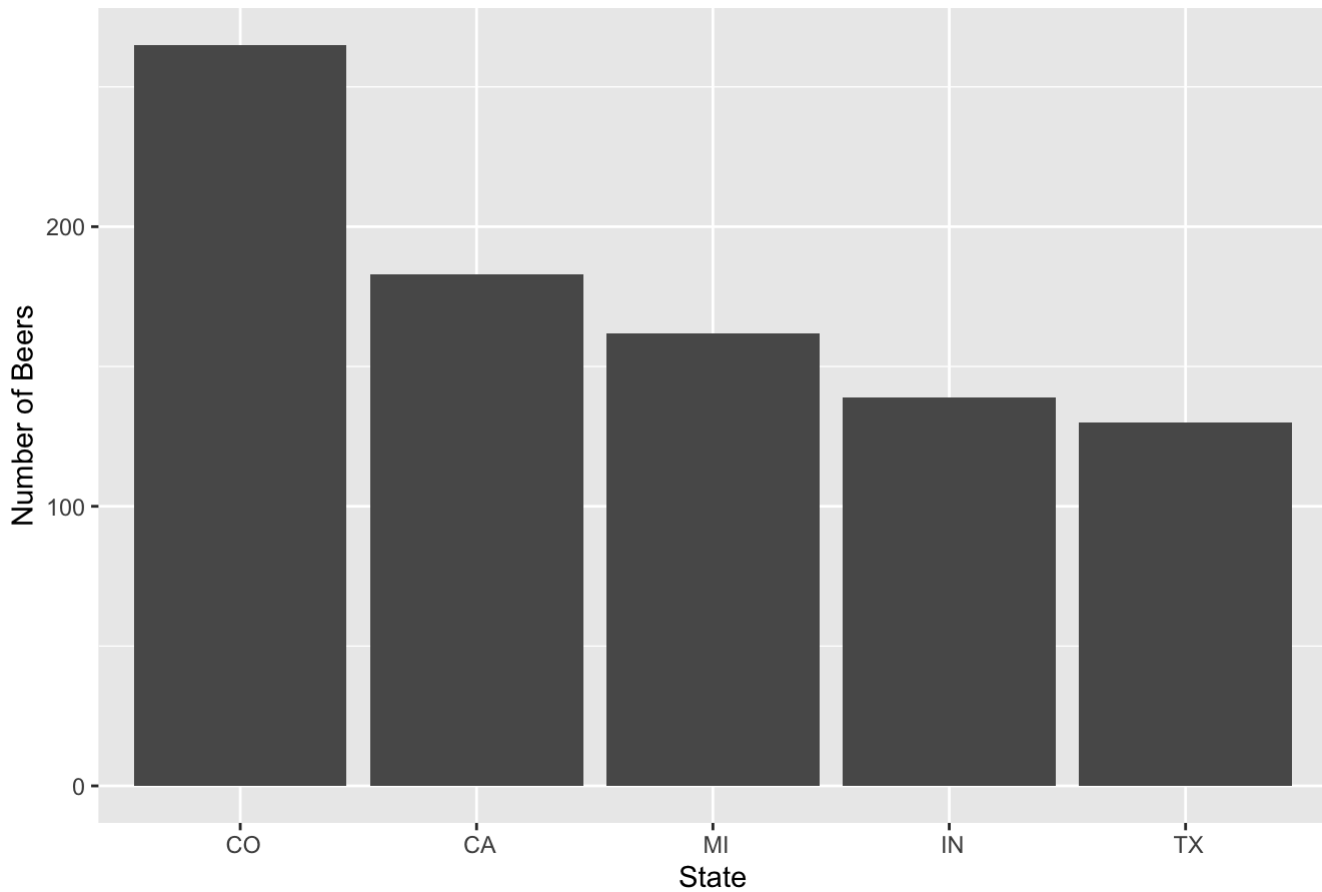
ggplot(as.data.frame(top_cities), aes(x = Var1, y = Freq)) +
  geom_bar(stat = "identity") +
  labs(title = "Top 5 Cities by Beer Variety", x = "City", y = "Number of Beers")
```

Top 5 Cities by Beer Variety



```
ggplot(as.data.frame(top_states), aes(x = Var1, y = Freq)) +  
  geom_bar(stat = "identity") +  
  labs(title = "Top 5 States by Beer Variety", x = "State", y = "Number of Beers")
```

Top 5 States by Beer Variety



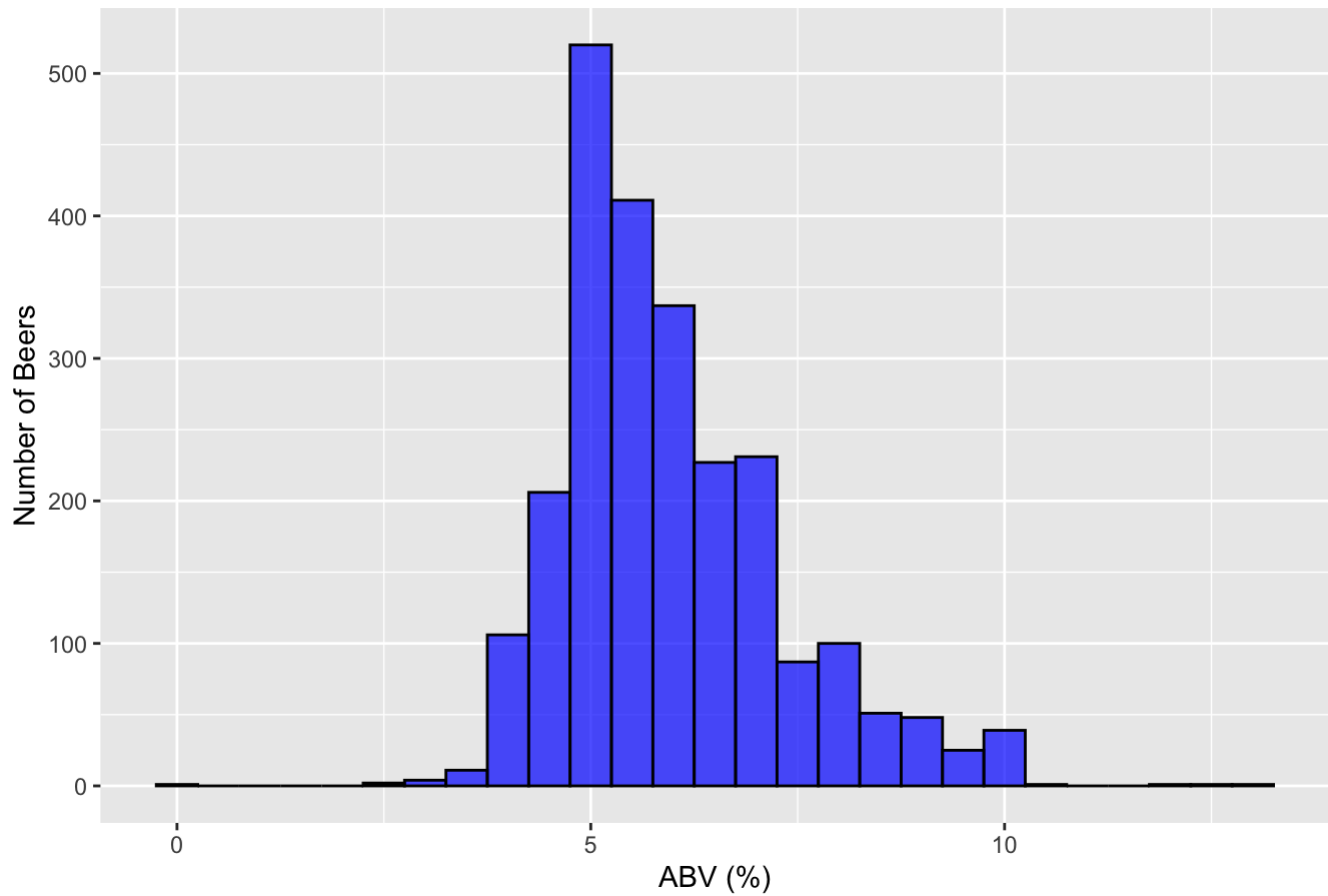
This illustrates the distribution of alcohol content and bitterness in beers using histograms. The majority of beers have an alcohol percentage close to 6% and a bitterness measure near 46 IBU. Should our beers go away significantly from these averages, it would be important to see the reasons why so we don't potentially lose money.

#ABV and IBU distribution by beer, plotted using ggplot

```
ggplot(bdf4, aes(x = ABV)) +  
  geom_histogram(binwidth = 0.5, fill = "blue", color = "black", alpha = 0.7) +  
  labs(title = "Distribution of Alcohol By Volume (ABV)", x = "ABV (%)", y = "Number of Beers")
```



Distribution of Alcohol By Volume (ABV)



```
ggplot(bdf4, aes(x = IBU)) +  
  geom_histogram(binwidth = 5, fill = "red", color = "black", alpha = 0.7) +  
  labs(title = "Distribution of International Bitterness Units (IBU)", x = "IBU", y = "Number of  
Beers")
```

Distribution of International Bitterness Units (IBU)

