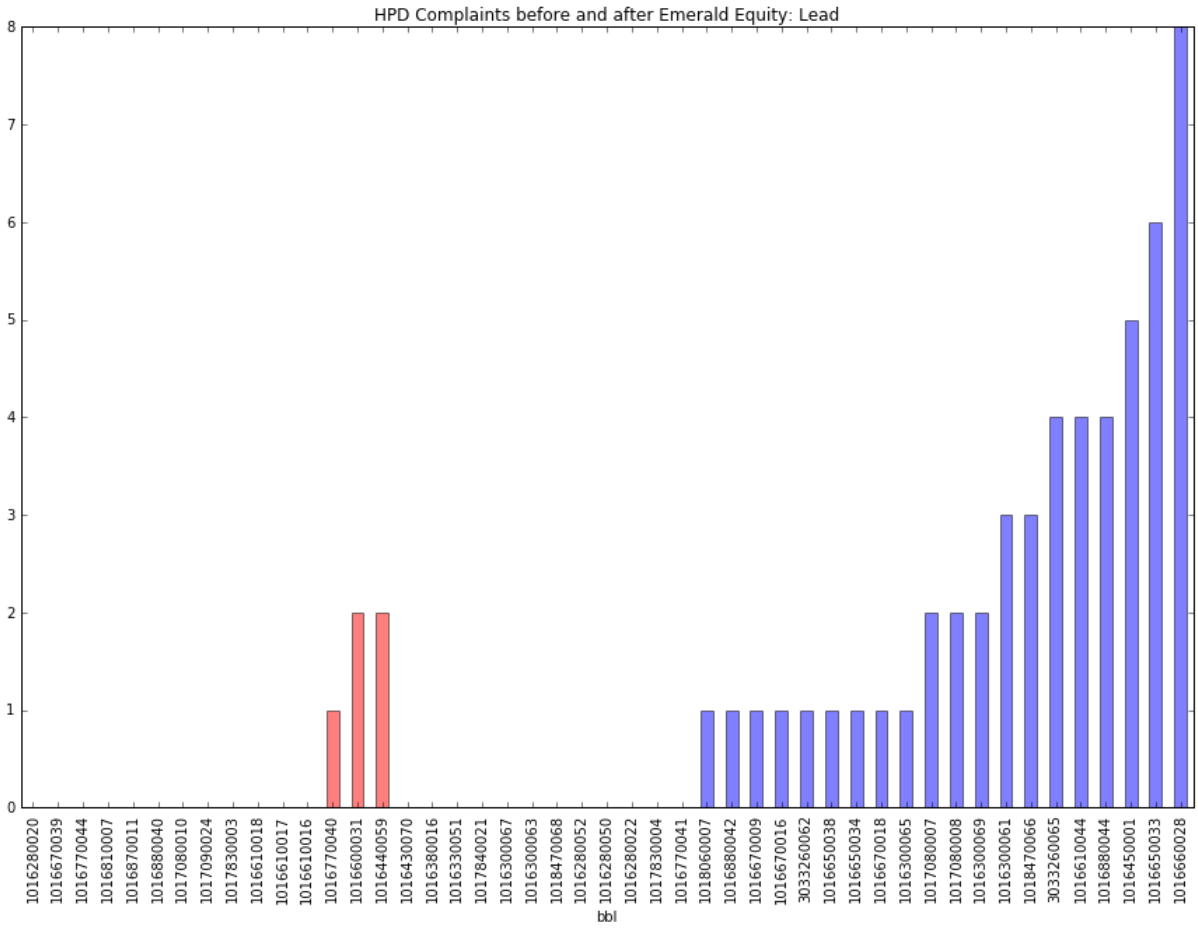
In [78]:
```
import matplotlib
import pandas as pd
import re
%matplotlib inline
import matplotlib.pyplot as plt

#Read in the csv. Throw out bad lines-- there are just a few of the 9000--
- and suppress warnings.
filepath = "/Users/GeorgiaKromrei/Desktop/Personal_Drive/S18_Dataviz/East
_Harlem_housing_analysis/emerald_equity_hpd_violations.csv"
df = pd.read_csv(filepath, error_bad_lines=False, warn_bad_lines=False)
#Wrap text, because I want to see those commplaints in their entirety
pd.set_option('display.max_colwidth', -1)

filepath2 = "./emerald_equity_dob_complaints.csv"
df_dob = pd.read_csv(filepath2)

df_recent = pd.read_csv("./emerald_equity_dob_complaints1.csv")
df_historical = pd.read_csv("./emerald_equity_dob_complaints_historical.c
sv")

df_hpdnonrecent = pd.read_csv("./nonrecent_hpd_violations.csv")
df_hpdrecent = pd.read_csv("./recent_hpd_violations.csv")
```

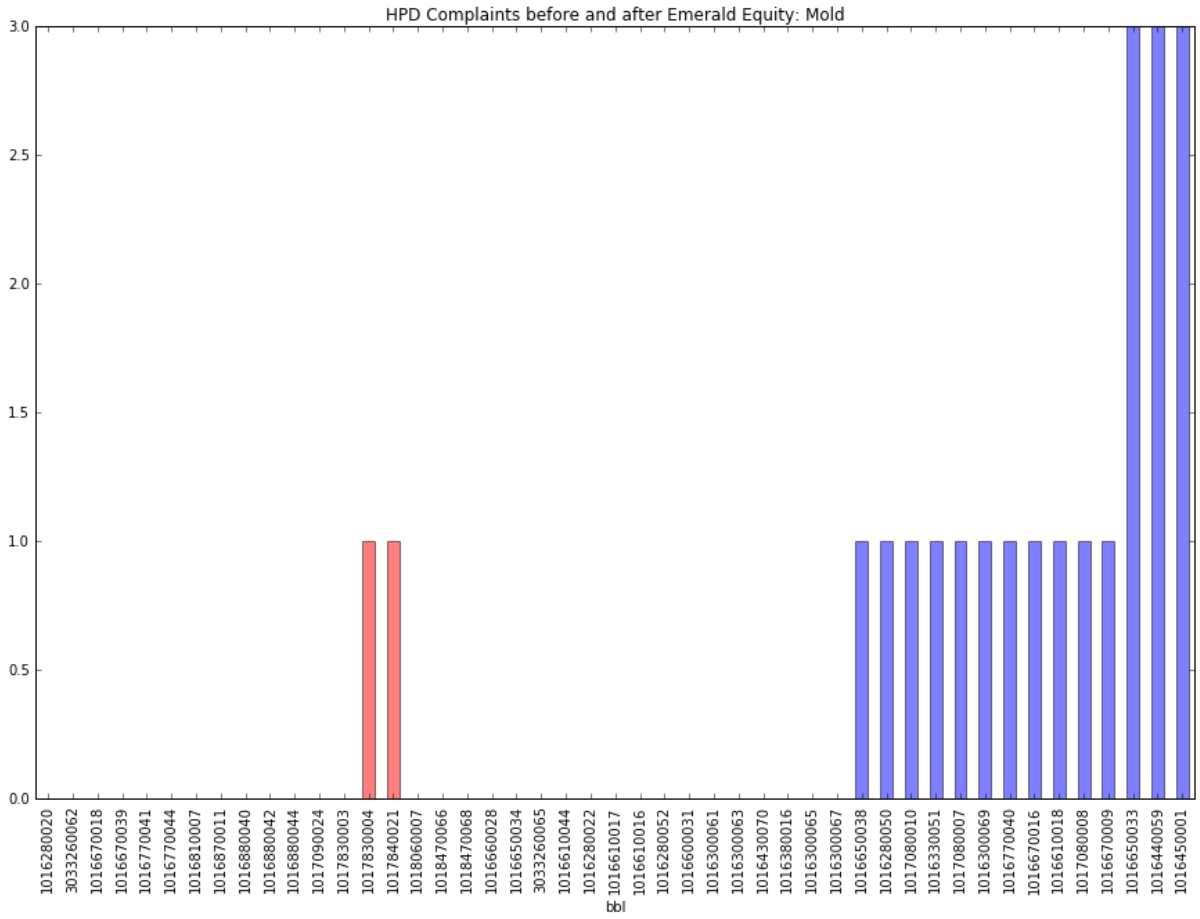
In [79]:
```
#These are the things I want to pay attention to
df_hpdrecent['Mold'] = df_hpdrecent['novdescription'].str.contains('MOLD'
).astype(int)
df_hpdrecent['Gas'] = df_hpdrecent['novdescription'].str.contains('GAS').
astype(int)
#df['Floors'] = df['novdescription'].str.contains('FLOOR').astype(int)
df_hpdrecent['Heat'] = df_hpdrecent['novdescription'].str.contains('HEAT'
).astype(int)
#df['Smoke'] = df['novdescription'].str.contains('SMOKE DETECTOR').astype
(int)
df_hpdrecent['Pests'] = df_hpdrecent['novdescription'].str.contains('PEST
|RODENT|ROACH|MICE').astype(int)
df_hpdrecent['Scalding_Water'] = df_hpdrecent['novdescription'].str.conta
ins('SCALDING').astype(int)
df_hpdrecent['Lead'] = df_hpdrecent['novdescription'].str.contains('LEAD'
).astype(int)
#df['Paint'] = df['novdescription'].str.contains('PEELING PAINT').astype
(int)

#set index as bbl
df_hpdrecent.set_index('bbl', inplace=True)

#These are the things I want to pay attention to
df_hpdnonrecent['Mold'] = df_hpdnonrecent['novdescription'].str.contains(
'MOLD').astype(int)
df_hpdnonrecent['Gas'] = df_hpdnonrecent['novdescription'].str.contains(
'GAS').astype(int)
#df['Floors'] = df['novdescription'].str.contains('FLOOR').astype(int)
df_hpdnonrecent['Heat'] = df_hpdnonrecent['novdescription'].str.contains(
'HEAT').astype(int)
#df['Smoke'] = df['novdescription'].str.contains('SMOKE DETECTOR').astype
(int)
df_hpdnonrecent['Pests'] = df_hpdnonrecent['novdescription'].str.contains
('PEST|RODENT|ROACH|MICE').astype(int)
df_hpdnonrecent['Scalding_Water'] = df_hpdnonrecent['novdescription'].str
.contains('SCALDING').astype(int)
df_hpdnonrecent['Lead'] = df_hpdnonrecent['novdescription'].str.contains(
'LEAD').astype(int)
#df['Paint'] = df['novdescription'].str.contains('PEELING PAINT').astype
(int)

#set index as bbl
df_hpdnonrecent.set_index('bbl', inplace=True)
```

In [80]:
```
#Now that I have s
df_hpdnonrecent = df_hpdnonrecent.groupby(df_hpdnonrecent.index).sum()
df_hpdrecent = df_hpdrecent.groupby(df_hpdrecent.index).sum()
df = pd.concat([df_hpdrecent, df_hpdnonrecent], axis=1)
```

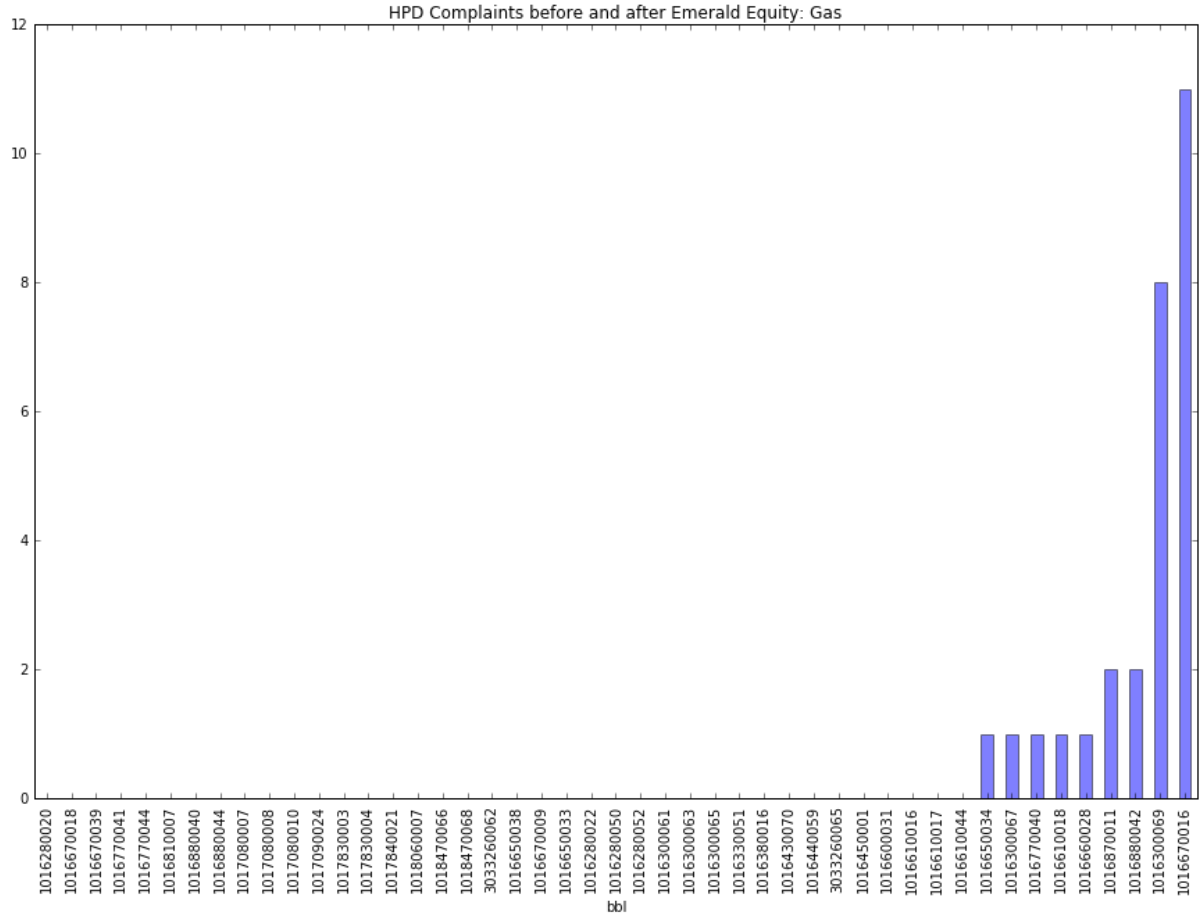
In [81]:
```
df_hpdnonrecent['Lead'].sort_values(ascending=True).plot(kind='bar', stacked=True, figsize=(15, 10), color = 'red', alpha=.5)
df_hpdrecent['Lead'].sort_values(ascending=True).plot(kind='bar', stacked=True, figsize=(15, 10), color = 'blue', alpha =.5)
plt.title("HPD Complaints before and after Emerald Equity: Lead")
plt.savefig('hpd-lead-complaints.png')
```



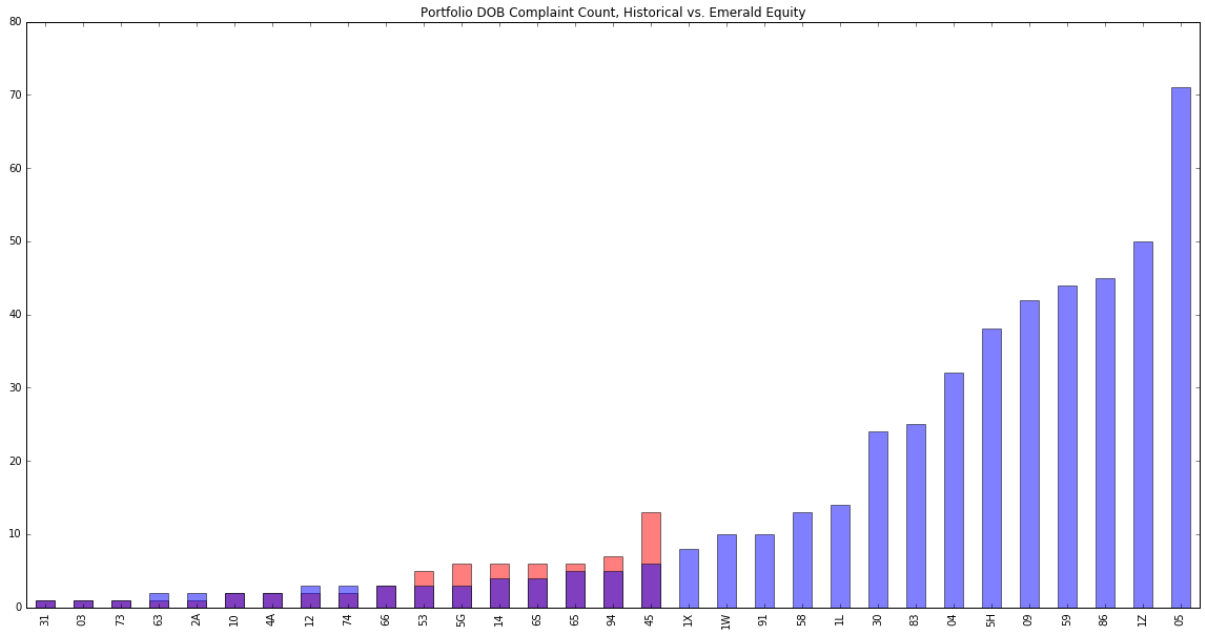
In [82]:
```
df_hpdnonrecent['Mold'].sort_values(ascending=True).plot(kind='bar', stac
ked=True, figsize=(15, 10), color = 'red', alpha=.5)
df_hpdrecent['Mold'].sort_values(ascending=True).plot(kind='bar', stacked
=True, figsize=(15, 10), color = 'blue', alpha =.5)
plt.title("HPD Complaints before and after Emerald Equity: Mold")
plt.savefig('hpd-mold-complaints.png')
```



In [83]:
```
df_hpdnonrecent['Gas'].sort_values(ascending=True).plot(kind='bar', stacked=True, figsize=(15, 10), color = 'red', alpha=.5)
df_hpdrecent['Gas'].sort_values(ascending=True).plot(kind='bar', stacked=True, figsize=(15, 10), color = 'blue', alpha =.5)
plt.title("HPD Complaints before and after Emerald Equity: Gas")
plt.savefig('hpd-gas-complaints.png')
```

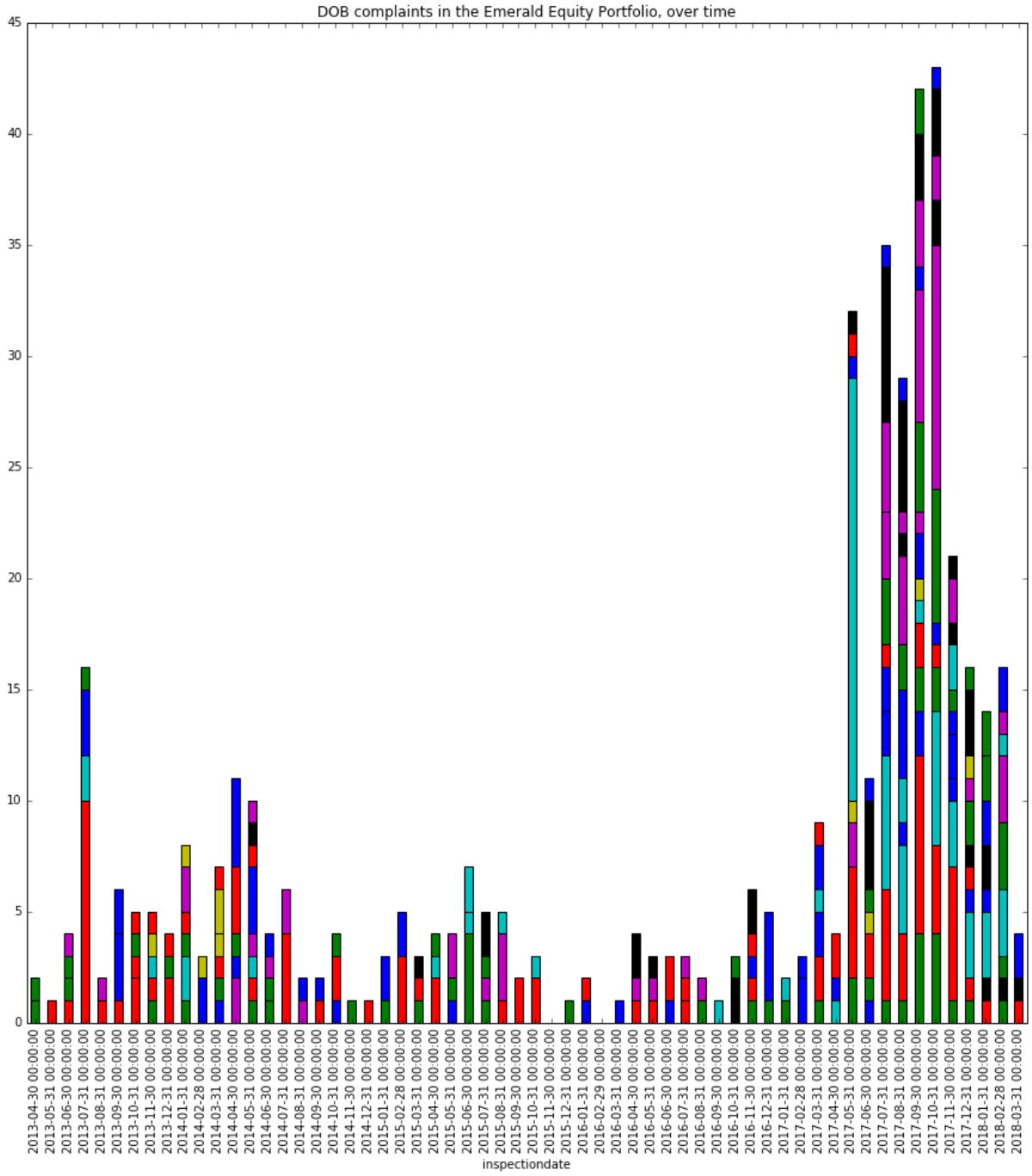


In [84]:
```
#This data is from 2016-8-30 to 2017-01-01

df_historical['complaintcategory'].value_counts(ascending=True).plot(kind
='bar', figsize=(20,10), alpha=.5, color='red')

#This data is from 2017-01-01 to 2018-03-11
df_recent['complaintcategory'].value_counts(ascending=True).plot(kind='ba
r', figsize=(20,10), alpha=.5)
plt.title("Portfolio DOB Complaint Count, Historical vs. Emerald Equity")
plt.savefig("dob_complaints.png")
```



In [85]:
```
df_dob['inspectiondate']= pd.to_datetime(df_dob['inspectiondate'], infer_
datetime_format=True, errors='ignore')
df_dob = df_dob.groupby('inspectiondate')['complaintcategory'].value_coun
ts().unstack().fillna(0)
df_dob = df_dob.resample('M').sum()
```

In [86]:
```
df_dob.plot(kind='bar', stacked=True, figsize = (15, 15), legend=False)
plt.title("DOB complaints in the Emerald Equity Portfolio, over time")
plt.savefig("DOB_overtime.png")
```



In [ ]:
```
```