LSTB October 2021 Report

October 14, 2021

1 GSF Sigma LS Geo TB Report October 2021

1.1 Load Data

[ ]:

```
import pandas as pd
import math
file_paths = ['phase_1.csv','phase_2.csv','phase_3.csv','phase_4.csv']
data = []

for i in range(len(file_paths)):
        try:
                data.append(pd.read_csv(file_paths[i], index_col=0).
 ↪drop_duplicates().fillna(0))
        except:
                continue
```

[ ]:

```
data[-1]['pointsPerGP'] = round(data[-1]['territoryPointsContributed'] /
                                (data[-1]['shipGP']+data[-1]['characterGP']), 3)
avgPointsPerGP = round(data[-1]['pointsPerGP'].mean(), 3)
```

1.2 Input

1.2.1 Sandbagging

[ ]:

```
tbType = 'LS'

sbag_1_top = False
sbag_1_mid = True
sbag_1_bottom = False

sbag_2_top = False
sbag_2_mid = False
sbag_2_bottom = True

sbag_3_top = True
sbag_3_mid = True
sbag_3_bottom = False
```

1.2.2 Shards and Stars

KAM shards: 32

Phase 4	Phase 3	Phase 2	Phase 1
x	3	2	2
x	x	3	3
x	1	3	3

1.3 Calculations

1.3.1 TB Points per CM

LS GEO TB

[ ]:

```
if (tbType == 'LS'):
    p1_ships_1 = [0,523900]
    p1_ships_2 = [0,0]
    p2_ships_2 = [0,0]
    p3_ships_2 = [0,0]
    p4_ships_2 = [0,0]

    if(sbag_1_top):
        p2_ships_1 = p1_ships_1
    else:
        p2_ships_1 = [0,900000]
    if(sbag_2_top):
        p3_ships_1 = p2_ships_1
    else:
        p3_ships_1 = [0,1800000]
    if(sbag_3_top):
        p4_ships_1 = p3_ships_1
    else:
        p4_ships_1 = [0,2750000]

    p1_ground_1 = [0,403000,573500,840000,1155000]
    p1_ground_2 = [0,403000,573500,840000,1155000]

    if(sbag_1_bottom):
        p2_ground_1 = p1_ground_1
        p2_ground_2 = p1_ground_2
    else:
        p2_ground_1 = [0,434000,704000,1014750,1377000]
        p2_ground_2 = [0,434000,704000,1014750,1377000]
    if(sbag_2_bottom):
        p3_ground_1 = p2_ground_1
        p3_ground_2 = p2_ground_2
    else:
        p3_ground_1 = [0,464000,775500,1105000,1627500]
        p3_ground_2 = [0,464000,775500,1105000,1627500]
    if(sbag_3_bottom):
        p4_ground_1 = p3_ground_1
        p4_ground_2 = p3_ground_2
    else:
        p4_ground_1 = [0,511500,867000,1242500,1837500]
        p4_ground_2 = [0,511500,867000,1242500,1837500]

    p1_ground_3 = [0,403000,573500,840000,1155000]
    p1_ground_4 = [0,523900,745550,1092000,1501500]
    p1_ground_5 = [0,0,0,0,0]

    if(sbag_1_mid):
        p2_ground_3 = p1_ground_3
        p2_ground_4 = p1_ground_4
        p2_ground_5 = p1_ground_5
    else:
        p2_ground_3 = [0,434000,704000,1014750,1377000]
        p2_ground_4 = [0,434000,704000,1014750,1377000]
        p2_ground_5 = [0,564200,915200,1319175,1790100]
    if(sbag_2_mid):
        p3_ground_3 = p2_ground_3
        p3_ground_4 = p2_ground_4
        p3_ground_5 = p2_ground_5
    else:
        p3_ground_3 = [0,464000,775500,1105000,1627500]
        p3_ground_4 = [0,464000,775500,1105000,1627500]
        p3_ground_5 = [0,0,0,0,0]
    if(sbag_3_mid):
        p4_ground_3 = p3_ground_3
        p4_ground_4 = p3_ground_4
        p4_ground_5 = p3_ground_5
    else:
        p4_ground_3 = [0,511500,867000,1242500,1837500]
        p4_ground_4 = [0,664950,1127100,1615250,2388750]
        p4_ground_5 = [0,867000,1837500,0,0]
```

DS GEO TB

[ ]:

```
if (tbType == 'DS'):

    p1_ships_1 = [0,0]
    p1_ships_2 = [0,0]
    p2_ships_1 = [0,825000]
    p2_ships_2 = [0,1072500]

    if(sbag_2_top):
        p3_ships_1 = p2_ships_1
        p3_ships_2 = p2_ships_2
    else:
        p3_ships_1 = [0,1665000]
        p3_ships_2 = [0,2164500]
    if(sbag_3_top):
        p4_ships_1 = p3_ships_1
        p4_ships_2 = p3_ships_2
    else:
        p4_ships_1 = [0,2750000]
        p4_ships_2 = [0,0]

    p1_ground_1 = [0,187500,297500,500000,792000]
    p1_ground_2 = [0,187500,297500,500000,792000]

    if(sbag_1_bottom):
        p2_ground_1 = p1_ground_1
        p2_ground_2 = p1_ground_2
    else:
        p2_ground_1 = [0,270000,420000,708000,1080000]
        p2_ground_2 = [0,270000,420000,708000,1080000]
    if(sbag_2_bottom):
        p3_ground_1 = p2_ground_1
        p3_ground_2 = p2_ground_2
    else:
        p3_ground_1 = [0,336000,540000,910000,1352000]
        p3_ground_2 = [0,336000,540000,910000,1352000]
    if(sbag_3_bottom):
        p4_ground_1 = p3_ground_1
        p4_ground_2 = p3_ground_2
    else:
        p4_ground_1 = [0,405000,675000,1038500,1564000]
        p4_ground_2 = [0,405000,675000,1038500,1564000]

    p1_ground_3 = [0,187500,297500,500000,792000]
    p1_ground_4 = [0,187500,297500,500000,792000]
    p1_ground_5 = [0,0,0,0,0]

    if(sbag_1_mid):
        p2_ground_3 = p1_ground_3
        p2_ground_4 = p1_ground_4
        p2_ground_5 = p1_ground_5
    else:
        p2_ground_3 = [0,270000,420000,708000,1080000]
        p2_ground_4 = [0,270000,420000,708000,1080000]
        p2_ground_5 = [0,351000,546000,920400,1404000]
    if(sbag_2_mid):
        p3_ground_3 = p2_ground_3
        p3_ground_4 = p2_ground_4
        p3_ground_5 = p2_ground_5
    else:
        p3_ground_3 = [0,336000,540000,910000,1352000]
        p3_ground_4 = [0,336000,540000,910000,1352000]
        p3_ground_5 = [0,0,0,0,0]
    if(sbag_3_mid):
        p4_ground_3 = p3_ground_3
        p4_ground_4 = p3_ground_4
        p4_ground_5 = p3_ground_5
    else:
        p4_ground_3 = [0,405000,675000,1038500,1564000]
        p4_ground_4 = [0,405000,675000,1038500,1564000]
        p4_ground_5 = [0,1350050,2033200,0,0]
```

1.3.2 CM Points

[ ]:

```
global ground_missions
ground_missions = {}
ground_missions[1] = [p1_ground_1, p1_ground_2,
                      p1_ground_3, p1_ground_4, p1_ground_5]
ground_missions[2] = [p2_ground_1, p2_ground_2,
                      p2_ground_3, p2_ground_4, p2_ground_5]
ground_missions[3] = [p3_ground_1, p3_ground_2,
                      p3_ground_3, p3_ground_4, p3_ground_5]
ground_missions[4] = [p4_ground_1, p4_ground_2,
                      p4_ground_3, p4_ground_4, p4_ground_5]

global ship_missions
ship_missions = {}
ship_missions[1] = [p1_ships_1, p1_ships_2]
ship_missions[2] = [p2_ships_1, p2_ships_2]
ship_missions[3] = [p3_ships_1, p3_ships_2]
ship_missions[4] = [p4_ships_1, p4_ships_2]

global max_ground
max_ground = {}
max_ground[1] =␣
 ↪p1_ground_1[4]+p1_ground_2[4]+p1_ground_3[4]+p1_ground_4[4]+p1_ground_5[4]
max_ground[2] = p2_ground_1[4]+p2_ground_2[4] + \
    p2_ground_3[4]+p2_ground_4[4]+p2_ground_5[4]
max_ground[3] =␣
 ↪p3_ground_1[4]+p3_ground_2[4]+p3_ground_3[4]+p3_ground_4[4]+p3_ground_5[4]
max_ground[4] = p4_ground_1[4]+p4_ground_2[4] + \
    p4_ground_3[4]+p4_ground_4[4]+p4_ground_5[2]

global max_ships
```

```
max_ships = {}
max_ships[1] = p1_ships_1[1]+p1_ships_2[1]
max_ships[2] = p2_ships_1[1]+p2_ships_2[1]
max_ships[3] = p3_ships_1[1]+p3_ships_2[1]
max_ships[4] = p4_ships_1[1]+p4_ships_2[1]
```

1.4 Low Performers

1.4.1 Lowest TB Points per GP

[ ]:

```
n = 10
low_ppg = data[-1]['pointsPerGP'].sort_values().head(n)
print(low_ppg)
```

```
name
M1TTH                 3.200
EvilCoyote2011        3.223
Bail Writte           3.299
Zhil Axfow            3.626
Philo Beddoe          3.837
Plucky Haydon         4.171
Maxaron Lexilon       4.284
Ben8cv                4.302
Wolfman314            4.453
Masajj Vemtits        4.461
Name: pointsPerGP, dtype: float64
```

1.4.2 Lowest CM Waves Completed

[ ]:

```
low_cm = data[-1]['combatMissionWavesCompleted'].sort_values().head(n)
print(low_cm)
```

```
name
M1TTH                      6
Zhil Axfow                 9
Bail Writte               10
EvilCoyote2011            10
BabyYodaHitta             11
Philo Beddoe              13
Higgs                     13
Doomslug the Destroyer    15
ONE                       16
Guntha Arbos              17
Name: combatMissionWavesCompleted, dtype: int64
```

1.4.3 Lowest TB Points

[ ]:

```
low_tb = data[-1]['territoryPointsContributed'].sort_values().head(n)
print(low_tb)
```

```
name
M1TTH                     14394823
BabyYodaHitta             15200224
EvilCoyote2011            19110288
Dark Penguin              21034645
Doomslug the Destroyer    21931633
Obi Won Sebroni           22201267
Philo Beddoe              22373244
Zhil Axfow                22714146
PadawanTano               23011900
TacoPizza                 23261653
Name: territoryPointsContributed, dtype: int64
```

1.5 Top Performers

1.5.1 Highest TB Points per GP

[ ]:

```
high_ppg = data[-1]['pointsPerGP'].sort_values(ascending = False).head(n)
print(high_ppg)
```

```
name
Tommyboy85     8.137
PadawanTano    8.057
AKB            7.761
ilekkund2      7.653
Loadage        7.496
GANIC          7.356
s o l o        7.341
ilekkund       7.138
OttoVonGens    7.041
Agave          7.010
Name: pointsPerGP, dtype: float64
```

1.5.2 Highest Combat Waves Completed

[ ]:

```
high_cm = data[-1]['combatMissionWavesCompleted'].sort_values(
    ascending=False).head(n)
print(high_cm)
```

```
name
Tommyboy85          69
OttoVonGens         66
s o l o             66
ilekkund            59
AKB                 58
```

```
Exeel                 53
Loadage               52
Elros Halfelven       51
Heywood Jablowme      48
Gryphix               46
Name: combatMissionWavesCompleted, dtype: int64
```

1.5.3 Highest TB Points

[ ]:

```
high_tb = data[-1]['territoryPointsContributed'].sort_values(
    ascending=False).head(n)
print(high_tb)
```

```
name
s o l o               57490393
ilekkund              51969893
Tommyboy85            51336186
OttoVonGens           49322163
Heywood Jablowme      46286316
AKB                   45962808
Gryphix               44393192
Exeel                 44265676
Loadage               43409493
Agave                 41389010
Name: territoryPointsContributed, dtype: int64
```

1.6 Guild Performance

[ ]:

```
def toPoints(points,waves):
    i = 0
    point_value = pd.Series([0]*len(waves),index = waves.index)
    while(i<len(waves)):
        point_value[i] = points[waves.iloc[i].astype('int64')]
        i+=1
    return point_value
```

[ ]:

```
def percents(df,phase):
        if(not (("Ch 5") in df.columns)):
                df['Ch 5'] = [0]*len(df)

        if(not (("Fl 1") in df.columns)):
                df['Fl 1'] = [0]*len(df)

        if(not (("Fl 2") in df.columns)):
                df['Fl 2'] = [0]*len(df)
        df['ground'] = toPoints(ground_missions[phase][0], df['Ch␣
 ↪1'])+toPoints(ground_missions[phase][1], df['Ch␣
 ↪2'])+toPoints(ground_missions[phase][2], df['Ch␣
 ↪3'])+toPoints(ground_missions[phase][3], df['Ch␣
 ↪4'])+toPoints(ground_missions[phase][4], df['Ch 5'])

        df['ship'] = toPoints(ship_missions[phase][0], df['Fl 1'])+ \
            toPoints(ship_missions[phase][1], df['Fl 2'])

        df['ground_perc'] = round((df['ground']/max_ground[phase])*100, 0)

        df['ship_perc'] = round((df['ship']/max_ships[phase])*100, 0)

        ground_perc = df['ground_perc'].mean()
        ship_perc = df['ship_perc'].mean()

        # ground_perc = round(
        #     pd.Series(df['ground']/max_ground[phase]).mean()*100, 0)

        # ship_perc = round(
        #     pd.Series(df['ship']/max_ships[phase]).mean()*100, 0)

        return (ground_perc,ship_perc)
```

1.6.1 Percent of Combat Mission Points per Phase

[ ]:

```
perc = list()
for i in range(len(data)):
        (ground_perc, ship_perc) = percents(data[i], i + 1)
        if math.isnan(ship_perc):
                ship_perc = 0
        if math.isnan(ground_perc):
                ground_perc = 0

        perc.append([str(ground_perc) + '%', str(ship_perc) + '%'])

for i in range(len(data),4):
        perc.append(['NA','NA'])

perc_points = pd.DataFrame(perc, index=[
                           'Phase 1', 'Phase 2', 'Phase 3', 'Phase 4'],␣
 ↪columns=['Ground', 'Ships'])
print(perc_points)
```

```
         Ground  Ships
Phase 1   40.9%  36.0%
Phase 2  42.52%  54.0%
Phase 3  43.28%   6.0%
Phase 4  39.16%  46.0%
```

1.6.2 Percent of CM Completed by Player

[ ]:

```python
player_perc = pd.DataFrame()
for i in range(len(data)):
    ground_name = 'P' + str(i+1) + 'G'
    ship_name = 'P' + str(i+1) + 'S'
    player_perc[ground_name] = data[i]['ground_perc']
    player_perc[ship_name] = data[i]['ship_perc']
print(player_perc)
```

```
                          P1G    P1S    P2G    P2S    P3G    P3S    P4G    P4S
name
Obi Won Sebroni           0.0    0.0   41.0    0.0   24.0    0.0   29.0    0.0
Doomslug the Destroyer   32.0    0.0   25.0    0.0   29.0    0.0    7.0    0.0
Zhil Axfow                8.0    0.0   16.0    0.0   24.0    0.0    7.0    0.0
JustinAlexander11        55.0  100.0   58.0  100.0   67.0    0.0   16.0    0.0
Revanche Gilder          44.0  100.0   66.0  100.0   60.0    0.0   57.0    0.0
Tommyboy85               94.0  100.0   94.0  100.0  100.0    0.0  100.0  100.0
Philo Beddoe             17.0    0.0   33.0    0.0   29.0    0.0    0.0    0.0
ilekkund                100.0  100.0   79.0  100.0   78.0    0.0   81.0  100.0
ilekkund2                65.0  100.0   41.0  100.0   61.0    0.0   68.0  100.0
Argarax                  65.0  100.0    0.0    0.0   46.0    0.0   23.0    0.0
MINI Stewabob            42.0  100.0   16.0  100.0   24.0    0.0   11.0  100.0
MINI xipokemastrix        0.0    0.0   24.0  100.0   23.0    0.0   18.0  100.0
TacoPizza                32.0    0.0   21.0    0.0   34.0    0.0   23.0    0.0
ShootMeow                50.0  100.0   53.0  100.0   24.0    0.0   45.0  100.0
Heywood Jablowme         82.0    0.0   43.0    0.0   94.0    0.0   61.0  100.0
PadawanTano               0.0    0.0   33.0  100.0   46.0    0.0   11.0  100.0
Plucky Haydon            92.0  100.0   25.0  100.0    0.0    0.0   91.0    0.0
BabyYodaHitta            23.0    0.0   19.0    0.0   23.0    0.0    0.0    0.0
Baxston Kane             55.0    0.0   54.0  100.0   59.0    0.0   36.0  100.0
GANIC                    50.0    0.0   54.0  100.0   61.0  100.0   53.0  100.0
Neeb                     47.0    0.0   36.0    0.0   34.0    0.0   38.0    0.0
Elros Halfelven          78.0  100.0   94.0  100.0   46.0    0.0   78.0    0.0
Exeel                    94.0  100.0   75.0  100.0  100.0    0.0   23.0    0.0
wamakima5004             30.0    0.0   82.0  100.0   46.0    0.0   29.0  100.0
Loadage                  57.0  100.0   82.0  100.0   84.0    0.0   64.0  100.0
Higgs                    16.0    0.0   24.0    0.0   34.0    0.0    7.0    0.0
Ben8cv                   23.0    0.0   33.0    0.0   30.0    0.0   23.0    0.0
joker                     0.0    0.0   37.0    0.0   24.0    0.0   24.0    0.0
Gryphix                  63.0    0.0  100.0  100.0   30.0    0.0   54.0  100.0
AKB                      70.0    0.0   83.0  100.0   94.0    0.0   92.0  100.0
SloppySaberFlavor        70.0    0.0   66.0    0.0  100.0    0.0   23.0    0.0
ONE                       0.0    0.0   27.0    0.0   40.0    0.0    0.0    0.0
Theflavorgreen            0.0    0.0   27.0    0.0   42.0    0.0   13.0    0.0
```

```
Promethean             0.0    0.0   24.0  100.0   30.0    0.0   55.0  100.0
EvilCoyote2011         0.0    0.0   19.0    0.0    0.0    0.0   19.0    0.0
Masajj Vemtits         0.0    0.0    0.0    0.0   30.0    0.0   16.0    0.0
Calens                77.0    0.0   79.0    0.0   40.0    0.0   57.0    0.0
Wolfman314             0.0    0.0    0.0  100.0   23.0    0.0   34.0  100.0
Agave                 53.0  100.0   17.0  100.0   83.0  100.0   58.0  100.0
Flywire               50.0  100.0   61.0  100.0   30.0    0.0   73.0    0.0
Dark Penguin          40.0    0.0   24.0    0.0   40.0    0.0    7.0    0.0
Guntha Arbos           0.0    0.0   37.0    0.0   14.0    0.0    0.0    0.0
OttoVonGens          100.0  100.0   94.0  100.0   89.0    0.0   85.0  100.0
Zlada14               59.0    0.0    0.0  100.0   29.0    0.0   74.0  100.0
Maxaron Lexilon        0.0    0.0   25.0    0.0    0.0    0.0   39.0  100.0
The Wall              38.0    0.0    0.0    0.0    0.0    0.0   47.0  100.0
s o l o              100.0  100.0   87.0  100.0  100.0  100.0   79.0  100.0
Chaunce               59.0  100.0   62.0  100.0   46.0    0.0   73.0  100.0
M1TTH                 15.0  100.0   11.0  100.0    0.0    0.0    0.0    0.0
Bail Writte            0.0    0.0   25.0    0.0    0.0    0.0   37.0    0.0
```

1.6.3 Average TB Points per GP

[ ]:

```
print(avgPointsPerGP)
```

```
5.683
```

1.6.4 Guild TB Points and TB Points per GP

[ ]:

```
data[-1].loc[:,['territoryPointsContributed','pointsPerGP']].
↪sort_values(by=['territoryPointsContributed'], ascending=False)
```

[ ]:

```
                        territoryPointsContributed  pointsPerGP
name
s o l o                                   57490393        7.341
ilekkund                                  51969893        7.138
Tommyboy85                                51336186        8.137
OttoVonGens                               49322163        7.041
Heywood Jablowme                          46286316        6.609
AKB                                       45962808        7.761
Gryphix                                   44393192        6.618
Exeel                                     44265676        6.994
Loadage                                   43409493        7.496
Agave                                     41389010        7.010
Baxston Kane                              41349455        6.294
Chaunce                                   40155023        6.171
ShootMeow                                 39660334        6.202
Revanche Gilder                           38034129        6.755
ilekkund2                                 36715708        7.653
Flywire                                   35563908        6.462
GANIC                                     35474026        7.356
```

Promethean	34587740	6.433
Elros Halfelven	34573751	5.566
Argarax	33628977	6.451
JustinAlexander11	33496109	5.948
SloppySaberFlavor	32155318	5.489
Guntha Arbos	31030584	4.955
Calens	30963522	5.123
Zlada14	30687684	5.071
Neeb	30076602	5.207
wamakima5004	29344248	4.839
ONE	28919525	4.613
Wolfman314	27892975	4.453
Maxaron Lexilon	27599683	4.284
Theflavorgreen	27282366	5.266
Bail Writte	26945257	3.299
Ben8cv	26670796	4.302
Higgs	26545273	4.838
Masajj Vemtits	26361638	4.461
The Wall	25379005	4.989
Plucky Haydon	25206470	4.171
MINI xipokemastrix	24946590	5.946
MINI Stewabob	24409087	6.958
joker	24275476	4.768
TacoPizza	23261653	4.466
PadawanTano	23011900	8.057
Zhil Axfow	22714146	3.626
Philo Beddoe	22373244	3.837
Obi Won Sebroni	22201267	5.997
Doomslug the Destroyer	21931633	5.178
Dark Penguin	21034645	4.934
EvilCoyote2011	19110288	3.223
BabyYodaHitta	15200224	5.166
M1TTH	14394823	3.200