DSTB September 2021 Report

September 29, 2021

1 GSF Sigma DS Geo TB Report September 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 = 'DS'

sbag_1_top = False
sbag_1_mid = False
sbag_1_bottom = False

sbag_2_top = False
sbag_2_mid = False
sbag_2_bottom = False

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

1.2.2 Shards and Stars

Wat shards: 36

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

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
Eddie87                 1.486
Plucky Haydon           1.761
wamakima5004            2.284
LGuy 21                 2.885
Ben8cv                  3.215
SloppySaberFlavor       3.431
Maxaron Lexilon         4.242
Masajj Vemtits          4.466
OttoVonGens             4.710
Exeel                   4.854
Name: pointsPerGP, dtype: float64
```

1.4.2 Lowest CM Waves Completed

[ ]:

```
if len(data) == 4:
    cm = data[3]['combatMissionWavesCompleted'] -␣
 ↪data[2]['combatMissionWavesCompleted']
else:
    cm = data[-1]['combatMissionWavesCompleted']
low_cm = cm.sort_values().head(n)
print(low_cm)
```

```
name
Theflavorgreen          2
Ben8cv                  4
Eddie87                 4
M1TTH                   5
Wolfman314              5
The Wall                5
SloppySaberFlavor       5
Plucky Haydon           5
MINI Stewabob           6
BabyYodaHitta           6
```

```
Name: combatMissionWavesCompleted, dtype: int64
```

1.4.3 Lowest TB Points

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

```
name
Eddie87                 7358173
Plucky Haydon          10605432
wamakima5004           13838458
LGuy 21                18126247
SloppySaberFlavor      19791269
Ben8cv                 19840931
M1TTH                  22416536
BabyYodaHitta          23493611
Larping Soccer Moms    24819078
PadawanTano            25326213
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
Dark Penguin              9.063
PadawanTano               9.045
Argarax                   8.506
ilekkund2                 8.484
Loadage                   8.421
BabyYodaHitta             8.108
Obi Won Sebroni           7.859
MINI Stewabob             7.695
AKB                       7.388
Doomslug the Destroyer    7.384
Name: pointsPerGP, dtype: float64
```

1.5.2 Highest Combat Waves Completed

```
[ ]: high_cm = cm.sort_values(
         ascending=False).head(n)
     print(high_cm)
```

```
name
s o l o            16
Argarax            16
```

```
Guntha Arbos       15
Loadage            14
BOHICA             13
AKB                12
Baxston Kane       12
OttoVonGens        12
Dark Penguin       12
Elros Halfelven    12
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             56218460
ilekkund            51733903
Loadage             48214623
BOHICA              47456736
Baxston Kane        46460696
Zhil Axfow          45725155
Argarax             43354950
AKB                 43224459
Heywood Jablowme    41089981
Philo Beddoe        40438463
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()

        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  75.16326530612245%      0%
Phase 2              70.72%  29.12%
Phase 3              74.78%  45.42%
Phase 4              36.28%   72.0%
```

1.6.2 Percent of CM Completed by Player

[ ]:
```
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          82.0  NaN   56.0   57.0   41.0   57.0  21.0  100.0
Masajj Vemtits          100.0  NaN    0.0    0.0  100.0    0.0  27.0  100.0
Doomslug the Destroyer   65.0  NaN    0.0    0.0   67.0   43.0  26.0  100.0
Larping Soccer Moms      75.0  NaN   94.0    0.0   73.0    0.0  38.0    0.0
Elros Halfelven          91.0  NaN   94.0    0.0   92.0    0.0  48.0  100.0
AKB                     100.0  NaN   94.0    0.0   92.0  100.0  48.0  100.0
SloppySaberFlavor        66.0  NaN   81.0    0.0   25.0    0.0  22.0    0.0
Agave                    91.0  NaN  100.0    0.0   92.0  100.0  37.0  100.0
ONE                      72.0  NaN   82.0   57.0    0.0    0.0  40.0    0.0
Philo Beddoe             75.0  NaN  100.0   57.0   84.0   57.0  41.0  100.0
Loadage                 100.0  NaN  100.0  100.0   92.0  100.0  68.0  100.0
BOHICA                   91.0  NaN  100.0   57.0  100.0  100.0  52.0  100.0
ilekkund                100.0  NaN  100.0  100.0   92.0  100.0  43.0  100.0
ilekkund2               100.0  NaN  100.0   43.0   75.0  100.0  40.0  100.0
Argarax                 100.0  NaN  100.0   57.0   92.0   43.0  69.0  100.0
MINI xipokemastrix      100.0  NaN   94.0   57.0   42.0    0.0  44.0    0.0
The Wall                 72.0  NaN   79.0   57.0   77.0    0.0  23.0    0.0
TacoPizza                91.0  NaN  100.0   57.0  100.0    0.0  31.0  100.0
Baxston Kane            100.0  NaN  100.0   57.0   92.0  100.0  48.0  100.0
GANIC                    82.0  NaN   94.0    0.0   92.0    0.0  34.0    0.0
Heywood Jablowme         91.0  NaN  100.0    0.0   84.0    0.0  41.0  100.0
Dark Penguin            100.0  NaN   87.0   43.0   92.0  100.0  48.0  100.0
PadawanTano              72.0  NaN   87.0    0.0   69.0    0.0  32.0  100.0
Guntha Arbos             81.0  NaN   81.0    0.0  100.0    0.0  69.0    0.0
s o l o                 100.0  NaN  100.0  100.0  100.0  100.0  69.0  100.0
BabyYodaHitta            59.0  NaN   52.0    0.0   48.0   57.0  21.0  100.0
Flywire                   0.0  NaN    0.0    0.0  100.0  100.0  46.0  100.0
OttoVonGens             100.0  NaN   25.0    0.0   92.0  100.0  49.0  100.0
MINI Stewabob            75.0  NaN    0.0    0.0   67.0   57.0  26.0    0.0
Exeel                    91.0  NaN   62.0  100.0    0.0    0.0  40.0  100.0
Calens                   82.0  NaN   87.0    0.0   75.0   43.0  34.0  100.0
Zhil Axfow              100.0  NaN   94.0  100.0   92.0  100.0  44.0  100.0
Eddie87                  72.0  NaN    0.0    0.0    0.0    0.0  17.0    0.0
Neeb                     82.0  NaN   87.0    0.0   84.0   57.0  26.0    0.0
Promethean               91.0  NaN  100.0    0.0   92.0    0.0  31.0    0.0
EvilCoyote2011          100.0  NaN  100.0    0.0  100.0   57.0  37.0  100.0
```

```
Higgs                 72.0  NaN   87.0   57.0   75.0   43.0  26.0  100.0
Ben8cv                91.0  NaN  100.0    0.0    6.0    0.0  13.0  100.0
ShootMeow             91.0  NaN  100.0    0.0   92.0   57.0  42.0  100.0
joker                 16.0  NaN   81.0   57.0   85.0   43.0  38.0  100.0
Gryphix               82.0  NaN  100.0   43.0  100.0  100.0  44.0  100.0
LGuy 21               50.0  NaN    0.0    0.0   92.0    0.0  21.0  100.0
Plucky Haydon         91.0  NaN    0.0    0.0    0.0    0.0  19.0  100.0
Zlada14               75.0  NaN  100.0   43.0  100.0    0.0  31.0    0.0
Theflavorgreen        66.0  NaN   32.0   57.0   48.0   57.0  10.0    0.0
Chaunce                0.0  NaN   25.0  100.0  100.0  100.0  44.0  100.0
wamakima5004           0.0  NaN   25.0    0.0   84.0    0.0  38.0    0.0
Wolfman314             0.0  NaN   94.0    0.0  100.0  100.0  17.0  100.0
Maxaron Lexilon        0.0  NaN   62.0    0.0   92.0  100.0  25.0  100.0
```

1.6.3 Average TB Points per GP

```
[ ]: print(avgPointsPerGP)
```

```
6.059
```

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                               56218460        7.214
      ilekkund                              51733903        7.123
      Loadage                               48214623        8.421
      BOHICA                                47456736        6.786
      Baxston Kane                          46460696        7.110
      Zhil Axfow                            45725155        7.335
      Argarax                               43354950        8.506
      AKB                                   43224459        7.388
      Heywood Jablowme                      41089981        5.952
      Philo Beddoe                          40438463        6.972
      EvilCoyote2011                        40414678        6.841
      ilekkund2                             40331398        8.484
      ShootMeow                             40072528        6.316
      Gryphix                               39936997        6.019
      Dark Penguin                          38534918        9.063
      Calens                                38131246        6.354
      Agave                                 37744694        6.438
      Neeb                                  37094914        6.441
      Higgs                                 36900654        6.768
      Elros Halfelven                       36889995        5.947
      TacoPizza                             36865508        7.090
```

Wolfman314	36615103	5.884
Guntha Arbos	35349314	5.669
Chaunce	35048463	5.435
ONE	34647747	5.562
Zlada14	33402608	5.530
OttoVonGens	32842378	4.710
joker	32017230	6.333
GANIC	31812993	6.630
Flywire	31017462	5.643
Doomslug the Destroyer	30797676	7.384
Exeel	30553680	4.854
Obi Won Sebroni	28596418	7.859
The Wall	28262665	5.599
Promethean	28139242	5.234
Maxaron Lexilon	27261396	4.242
MINI Stewabob	26743510	7.695
Theflavorgreen	26425209	5.132
Masajj Vemtits	26370242	4.466
MINI xipokemastrix	25514414	6.056
PadawanTano	25326213	9.045
Larping Soccer Moms	24819078	7.282
BabyYodaHitta	23493611	8.108
M1TTH	22416536	4.982
Ben8cv	19840931	3.215
SloppySaberFlavor	19791269	3.431
LGuy 21	18126247	2.885
wamakima5004	13838458	2.284
Plucky Haydon	10605432	1.761
Eddie87	7358173	1.486