|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **DATE:** | Start: **TIME** End: | **GRID ID** | **For Certification**( Yes / No ) | **Pass Certification**( Yes / No ) |
|  **RECORDER: CONTRACTOR:**  |
| Site # |  |  |
| Lat / Long |  |  |
| Location |  |  |
| Where Platform, channel bank, edge of mangroves, etc. |
| Hardness |  |  |
| Oil Type + % |  |  |
| Recent oil + %  |  |  |
| Stumps % |  |  |
| Live Mangrove %: |  Nypa %:  | Live Mangrove %: | Nypa %:  |
|  Regeneration: Yes / No |  Crabs: None/ Few / Many | Regeneration Yes / No | Crabs: None/ Few / Many |
|  Plant ready: Yes / No |  Periwinkles: None/ Few / Many | Plant ready: Yes / No | Periwinkles: None / Few /Many  |
|  **SUBSURFACE OIL** AP=Asphalt, BO=Black Oil, BR0+Brown Oil, NO=No Oil, SS=Silver or Rainbow sheen, TR=Trace. |
| *Sketch pit* |  | Oil type% Oil:Depth: |
|  |  |  |
| Oil type |  |  |
| % in pit |  |  |
|  |  |  |
| Depth: | -5-15-25 | -5-15-25 |
| **Cleanup****Method(s)**Phase 1 | Where? Channel, banks, platform, strand line?Depth of most oiling? | Where? Channel, banks, platform, strand line?Depth of most oiling? |
| NotesRestrictions | Avoid live mangrovesPREVIOUS WORK OBSERVED ( Yes / No ) | Avoid live mangrovesPREVIOUS WORK OBSERVED ( Yes / No ) |
| Phase 2 Actions |  |  |
| Chemistry  |  0-5 cm 15-20 cm Regulator | 0-5 cm 15-20 cm Regulator |
| **Signatories:** | *Name / Signature* | Bodo Community: |  |
| SCAT Leader |  | Chemistry: |  |
| DPR: |  | SPDC:  |  |
| NOSDRA: |  | Other(s): |  |
| RSMENV: |  |  |  |



*Figure SI-1 Subsurface TPH versus ground surface TPH. The solid red line represents a 1:1 line. The dashed red line is a linear regression line of Log transformed TPH values (R2 =0.12).*

*Table SI-1 Statistic characteristics of TPH in sediment samples classified per SCAT pit oil observation class. Std: standard deviation, RSD: Relative standard deviation (100% x standard deviation / mean). The classification in this table corresponds to the Box plots shown in Figure 11 in the main paper.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | **None** | **Silver sheen** | **Brown oil** | **Black oil** | **Tar** | **Recent** |
| **Ground surface**  |
| count | 65 | 95 | 11 | 3 | 9 | 103 |
| mean | 68200 | 45876 | 55700 | 21867 | 50333 | 73266 |
| std | 70874 | 42563 | 43164 | 18051 | 39460 | 113141 |
| RSD | 104% | 93% | 77% | 83% | 78% | 154% |
| min | 510 | 430 | 4900 | 3900 | 3900 | 162 |
| 25%-ile | 10000 | 19200 | 30000 | 12800 | 20700 | 21150 |
| 50%-ile | 38000 | 33000 | 35000 | 21700 | 40000 | 54000 |
| 75%-ile | 97000 | 59500 | 76000 | 30850 | 60000 | 87000 |
| max | 320000 | 220000 | 140000 | 40000 | 121000 | 950000 |
| **Subsurface** |
| count | 0 | 83 | 142 | 113 | 0 | 0 |
| mean |   | 6085 | 22457 | 37479 |   |   |
| std |   | 13310 | 31825 | 43204 |   |   |
| RSD |   | 219% | 142% | 115% |   |   |
| min |   | 0 | 138 | 450 |   |   |
| 25%-ile |   | 535 | 2520 | 7200 |   |   |
| 50%-ile |   | 1870 | 9750 | 19800 |   |   |
| 75%-ile |   | 4300 | 29000 | 59000 |   |   |
| max |   | 87000 | 184000 | 260000 |   |   |

*Table SI-2 Statistic characteristics of TPH in sediment samples classified according to a proposed close-out criterion for Phase 2 under which SS plus BO ≤25%. SS indicates silver sheen, BO indicates black oil and BRO indicates brown oil. The classification in this table corresponds to the Box plots shown in Figure 12 in the main paper.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | **None** | **Silver sheen** | **SS or BO <=25%** | **BO/BRO >25%** | **Tar** | **Recent** |
| **Ground surface**  |
| count | 35 | 30 | 21 | 2 | 4 | 82 |
| mean | 86493 | 33230 | 22009 | 17950 | 66725 | 65228 |
| std | 76504 | 34544 | 24989 | 19870 | 55915 | 110532 |
| RSD | 88% | 104% | 114% | 111% | 84% | 169% |
| min | 510 | 430 | 430 | 3900 | 3900 | 162 |
| 25%-ile | 17150 | 9425 | 6800 | 10925 | 27975 | 19175 |
| 50%-ile | 90000 | 23500 | 12900 | 17950 | 71000 | 52000 |
| 75%-ile | 137000 | 34500 | 31000 | 24975 | 109750 | 85500 |
| max | 320000 | 143000 | 96000 | 32000 | 121000 | 950000 |
| **Subsurface** |
| count | 0 | 46 | 112 | 48 | 0 | 0 |
| mean |   | 5006 | 13282 | 28373 |   |   |
| std |   | 13419 | 21665 | 32206 |   |   |
| RSD |   | 268% | 163% | 114% |   |   |
| min |   | 0 | 0 | 920 |   |   |
| 25%-ile |   | 485 | 1195 | 7100 |   |   |
| 50%-ile |   | 1610 | 3800 | 17950 |   |   |
| 75%-ile |   | 3675 | 11025 | 36250 |   |   |
| max |   | 87000 | 93000 | 184000 |   |   |



*Figure SI-2 Variogram of TPH measured on the ground surface samples (top) and in the subsurface samples (bottom). The experimental data is shown with the red dots and the black line represents an exponential variogram model fitted to the data*

*Table SI-3 Results of 5 replicate SCAT oil in pit observations at a SCAT site.* BO+BRO = Black Oil + Brown Oil. SS = Sheen

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Site** | **Oil type** | **%Oil observed in Scat Pits** | **Average % oil coverage** | **Standard deviation (%)** | **Relative SD (%)** |
| **Pit 1** | **Pit 2** | **Pit 3** | **Pit 4** | **Pit 5** |  |  |  |
| 1-H10-1 | BO+BRO | 65 | 5 | 0 | 20 | 50 | 28 | 28 | 101% |
| 1-I10-1 | BO+BRO | 50 | 25 | 20 | 70 | 50 | 43 | 20 | 48% |
| 1-K10-1 | BO+BRO | 85 | 75 | 80 | 50 | 100 | 78 | 18 | 23% |
| 1-L10-1 | BO+BRO | 80 | 98 | 80 | 70 | 60 | 77.6 | 14 | 18% |
| 1-N10-1 | BO+BRO | 75 | 80 | 85 | 55 | 80 | 75 | 12 | 16% |
| 2-F15-1 | BO+BRO | 65 | 60 | 5 | 65 | 9 | 40.8 | 31 | 76% |
| 2-I15-1 | BO+BRO | 5 | 1 | 5 | 20 | 40 | 14.2 | 16 | 114% |
| 2-L15-1 | SS | 80 | 98 | 99 | 95 | 95 | 93.4 | 8 | 8% |
| 2-K15-1 | BO+BRO | 15 | 65 | 20 | 65 | 35 | 40 | 24 | 60% |
| 3-H18-1 | BO+BRO | 95 | 90 | 98 | 60 | 50 | 78.6 | 22 | 28% |
| 3-I18-1 | BO+BRO | 45 | 70 | 30 | 100 | 98 | 68.6 | 31 | 46% |
| 3-K18-1 | BO+BRO | 20 | 50 | 40 | 30 | 75 | 43 | 21 | 49% |
| 3-M18-1 | BO+BRO | 65 | 20 | 65 | 40 | 35 | 45 | 20 | 44% |
| 4-E23-1 | BO+BRO | 70 | 80 | 85 | 90 | 90 | 83 | 8 | 10% |
| 4-G23-1 | BO+BRO | 10 | 80 | 5 | 0 | 0 | 19 | 34 | 181% |
| 4-L23-1 | BO+BRO | 1 | 5 | 70 | 5 | 1 | 16.4 | 30 | 183% |
| 4-M23-1 | BO+BRO | 50 | 98 | 100 | 90 | 6 | 68.8 | 41 | 59% |
| 4-P23-1 | BO+BRO | 90 | 40 | 2 | 10 | 65 | 41.4 | 37 | 89% |
| 4-Q23-1 | BO+BRO | 80 | 60 | 75 | 65 | 6 | 57.2 | 30 | 52% |
| 5-L26-1 | SS | 95 | 80 | 60 | 70 | 90 | 79 | 14 | 18% |
| 5-M26-1 | BO+BRO | 2 | 2 | 1 | 35 | 10 | 10 | 14 | 144% |
| 5-O26-1 | BO+BRO | 55 | 65 | 25 | 15 | 50 | 42 | 21 | 50% |
| 5-R26-1 | BO+BRO | 0 | 5 | 2 | 0 | 20 | 5.4 | 8 | 156% |
| 6-K30-1 | BO+BRO | 10 | 20 | 20 | 30 | 9 | 17.8 | 9 | 48% |
| 6-O30-1 | SS | 80 | 99 | 90 | 95 | 80 | 88.8 | 9 | 10% |
| 6-Q30-1 | BO+BRO | 98 | 90 | 100 | 98 | 90 | 95.2 | 5 | 5% |
| 6-S30-1 | SS | 98 | 95 | 70 | 20 | 60 | 68.6 | 32 | 46% |
| 6-V30-1 | SS | 95 | 60 | 20 | 20 | 40 | 47 | 32 | 67% |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | Average relative standard deviation | 62% |
|  |  |  |  |  |  | Minimum relative standard deviation | 5% |
|  |  |  |  |  |  | Maximum relative standard deviation | 183% |