

SCAT for Inland Oil Spills:

Shoreline Cleanup Assessment Technique: SCAT Process Part 2





Shoreline Assessment

Activities for:

- ❖ Cleanup Endpoints
- ❖ Pre-survey Planning
- ❖ Shoreline Surveys

Terminology and Forms



SCAT Activity 3: Cleanup Endpoints

Objectives

- Drives Shoreline Treatment Recommendations
- Provide Operations with environmental and safety constraints for cleanup in specific habitats
- Identify resource-specific constraints
- Develop endpoints appropriate for the habitat and its use



SCAT Activity 3: Cleanup Endpoints

- No detectable oil
- No visible oil
- No longer generates sheen
- No longer rubs off on contact
- Removal only if it causes no more harm than natural attenuation
- No further treatment recommended

This will be covered in more depth on Day 3.



SCAT Activity 4: Pre-survey Planning and Team Assignments

Objectives

Determine where to survey, logistics, and team assignments



SCAT Activity 4: Pre-survey Planning and Team Assignments

Methods

- **Revise the SCAT codes and forms if needed to fit spill conditions**
- Form teams with appropriate membership
- Assign survey areas (primary and backup) for each team, based on priorities, logistics, local expertise, and ownership
- Distribute segment maps for primary and backup areas; base sketch maps if available



SCAT Activity 4: Pre-survey Planning and Team Assignments

Methods (cont.)

- Distribute field equipment (see checklist in the Shoreline Assessment Manual)
- Brief team on survey *objectives, logistics, and safety issues*
- Identify team roles
- Discuss cleanup options and criteria for priorities





SCAT Activity 5: Shoreline Surveys

Objectives

- Collect data on habitat types, oiling conditions, ecological/human-use resources
- Reach **agreement** on cleanup recommendations



SCAT Activity 5: Shoreline Surveys

Methods

Confirm segment boundaries

Using standard terms and codes to describe:

- Habitat characteristics
- Surface oil conditions
- Subsurface oil conditions
- Special considerations (ecological, recreational, cultural)





SCAT Activity 5: Shoreline Surveys

Methods (cont.)

- Sketch the segment/delineate zones on a map, focusing on the oil and *special considerations*
- Log and locate all photographs taken
- Discuss and agree upon cleanup recommendations and priorities

DON'T GET BOGGED DOWN IN THE FORM!! ACTIVITIY SHOULD FOLLOW FROM OBJECTIVE, NOT VICE VERSA



Customize SCAT Terminology to Support Operations!!!

High Priority for Removal

Thick Oil/Mobile Oil

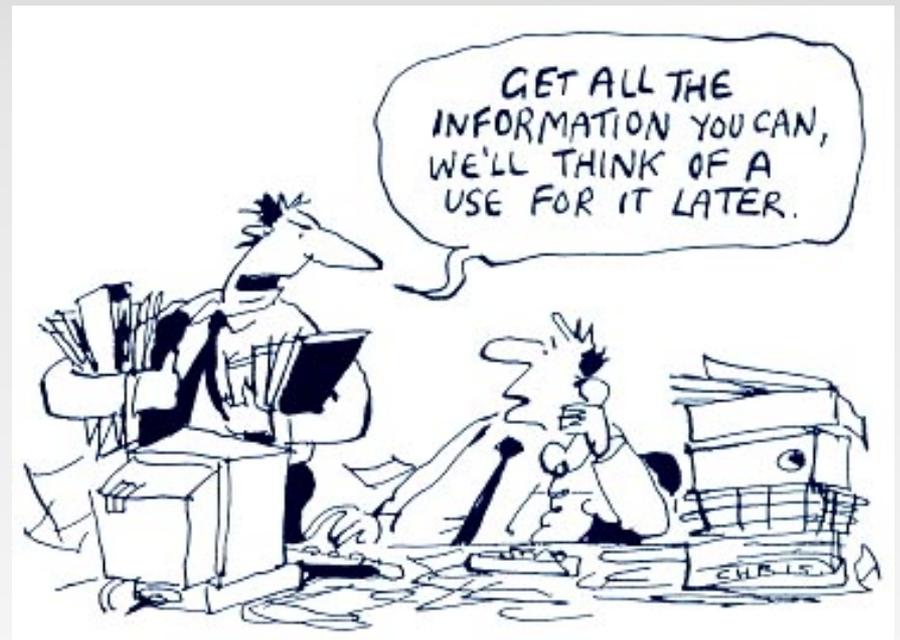
High Public Need

High Recreational Use

High Biological Sensitivity



Capturing Information



General Information on the Segment

River SOS

SAM, pg D-8

RIVER BANK SHORELINE OIL SUMMARY (SOS) FORM: _____ Spill _____ Page _____ of _____

| | | | | | |
|--|---|---|--|---|------------------------------|
| 1. GENERAL INFORMATION | | Date (dd/Month/yyyy) | Time (24h standard/daylight) ____ : ____ to ____ : ____ | Water Level Low / Mean / Bankfull / Overbank Falling / Steady / Rising | |
| Segment ID: | Bank: L / R | Segment Name: | | | |
| Survey By: Foot ___ ATV ___ Boat ___ Helicopter ___ Other _____ | | | Weather: Sun / Clouds / Fog / Rain / Snow / Windy / Calm | | |
| 2. SURVEY TEAM | Name | Organization | Name | Organization | |
| Team Number | | | | | |
| 3. SEGMENT | | Total Length: _____ meters | Length Surveyed: _____ meters | Datum: _____ | |
| Survey Start GPS: | WP: _____ | LAT: _____ | LONG: _____ | | |
| Survey End GPS: | WP: _____ | LAT: _____ | LONG: _____ | | |
| 4a. RIVER BANK TYPE: <i>Indicate only ONE Primary (dominant) type and ALL Secondary types. CIRCLE those OILED</i> | | | | | |
| BEDROCK: Cliff ___ Ramp ___ Shelf ___ | | UNCONSOLIDATED: Clay ___ Mud ___ Sand ___ Mixed Fine ___ Shell ___ Mixed Coarse ___ | | | |
| MAN-MADE: Solid ___ Permeable ___ | | Pebble-Cobble ___ Boulder ___ Rubble ___ Marsh/Swamp ___ Peat/Organics ___ Wooded ___ | | | |
| Description: _____ | | Vegetated ___ | | | |
| ESI Shoreline Type (primary) ___ (secondary) ___ | | Other: _____ | | | |
| 4b. OVERBANK / BACKSHORE TYPE: <i>Indicate only ONE Primary (P) and ANY Secondary (S) types.</i> | | | | | |
| Cliff/Bluff: ___ ht. ___ m. | Flat/Lowland/Field ___ | Dune ___ | Inlet/Channel ___ | Delta ___ | Lagoon ___ Marsh/Wetland ___ |
| Sloped: > (5°) (15°) (30°) | Man-Made: _____ | Other: _____ | | Wooded / Vegetated? _____ | |
| 4c. RIVER VALLEY CHARACTER: <i>Circle or select as appropriate.</i> | | | | | |
| Channel Width: <10 m | 10-100 m | >100 m estimate _____ m | Shoal(s) Present: Y/N | Point Bar Present: Y/N | |
| Water Depth: >1 m | 1-5 m | >5 m estimate _____ m | Bar-Shoal substrate: silt/sand/mixed/cobble/boulder/bedrock/debris | | |
| CHANNEL FORM: Cascade ___ Rapids ___ Pool ___ Riffle ___ Glide ___ Jam ___ Other: _____ | | | | | |
| RIVER FORM: Straight ___ Meander ___ Anastamosed ___ Braided ___ Other: _____ | | | | | |
| VALLEY FORM: Canyon ___ Confined or Leveed Channel ___ Flood Plain Valley ___ Other: _____ | | | | | |
| 5. OPERATIONAL FEATURES | | Oiled Debris? Yes / No | Type: _____ | Amount: _____ (bags/trucks) | |
| Direct backshore access? Yes / No | Alongshore access from next segment? Yes / No | Suitable for backshore staging? Yes / No | | | |
| Access Description / Restrictions: _____ | | | | Current Dominated Channel? Yes/No | |

6. OILING DESCRIPTION: Indicate 100% overlapping zones in different tidal zones by numbering them (e.g. A1, A2)

| Zone ID | WP # Start | WP # End | Substrate Type(s) Or ESI Code | River Bank Zone | | | | Oil Cover | | | | | | Oil Thickness | | | | | Oil Character | | | | | |
|---------|------------|----------|-------------------------------|-----------------|----|----|----|------------|-----------|--|----------------------|---------------|-----------------|---------------|----|----|----|----|---------------|----|----|----|----|----|
| | | | | | | | | Area | | Distribution | | Size | | | | | | | | | | | | |
| | | | | MS | LB | UB | OB | Length (m) | Width (m) | Distr. % (>1) <input type="checkbox"/> | Number per unit area | Avg Size (cm) | Large Size (cm) | TO | CV | CT | ST | FL | FR | MS | TB | PT | TC | SR |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

7. SUBSURFACE OILING CONDITIONS: Format: Indicate Zone ID in Pit #, e.g., A-1, B-2, B-3, (use only number if not in zone, e.g., 4, 5)

| Pit # | WP | Substrate Type Surface/Subsurface | River Bank Zone | | | | Pit Depth (cm) | Oiled Interval (cm-cm) | Subsurface Oil Character | | | | | | | Water Table (cm) | Sheen Color B,R,S,N | Clean Below Yes / No | |
|-------|----|-----------------------------------|-----------------|----|----|----|----------------|------------------------|--------------------------|----|----|----|----|----|----|------------------|---------------------|----------------------|---|
| | | | MS | LB | UB | OB | | | AP | OP | PP | OR | OF | TR | NO | | | | % |
| | | / | | | | | | - | | | | | | | | | | | |
| | | / | | | | | | - | | | | | | | | | | | |
| | | / | | | | | | - | | | | | | | | | | | |
| | | / | | | | | | - | | | | | | | | | | | |

8. COMMENTS: Cleanup Recommendations; Ecological/Recreational/Cultural Issues; Wildlife Observations; Oiling Descriptions

Sketch / Map: Yes / No Photos/Video: Yes / No Numbers: (-) Photographer Name: _____

Stream SOS

SAM, pg D-10

6-L. LEFT BANK (facing downstream) SURFACE OILING DESCRIPTION *Indicate 100% overlapping oil zones by numbering them (e.g. L-A1, L-A2).*

| Zone ID | WP # Start | WP # End | Substrate Type(s) or ESI Code | Stream Bank Zone | | | | Oil Cover | | | | | | Oil Thickness | | | | | Oil Character | | | | | | |
|---------|------------|----------|-------------------------------|------------------|----|----|----|------------|-----------|---------------|----------------------|---------------|-----------------|---------------|----|----|----|----|---------------|----|----|----|----|----|----|
| | | | | | | | | Area | | Distribution | | Size | | | | | | | | | | | | | |
| | | | | MS | LB | UB | OB | Length (m) | Width (m) | Distr. % (>1) | Number per unit area | Avg Size (cm) | Large Size (cm) | TO | CV | CT | ST | FL | FR | MS | TB | PT | TC | SR | AP |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

6-R. RIGHT BANK (facing downstream) SURFACE OILING CONDITIONS: *Indicate 100% overlapping oil zones by numbering them (e.g. R-A1, R-A2).*

| Zone ID | WP # Start | WP # End | Substrate Type(s) or ESI Code | River Bank Zone | | | | Oil Cover | | | | | | Oil Thickness | | | | | Oil Character | | | | | | | |
|---------|------------|----------|-------------------------------|-----------------|----|----|----|------------|-----------|---------------|----------------------|---------------|-----------------|---------------|----|----|----|----|---------------|----|----|----|----|----|----|----|
| | | | | | | | | Area | | Distribution | | Size | | | | | | | | | | | | | | |
| | | | | MS | LB | UB | OB | Length (m) | Width (m) | Distr. % (>1) | Number per unit area | Avg Size (cm) | Large Size (cm) | TO | CV | CT | ST | FL | FR | MS | TB | PT | TC | SR | AP | No |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

7. COMMENTS: *Cleanup Recommendations; Ecological/Recreational/Cultural Issues; Wildlife Observations; Oiling Descriptions*

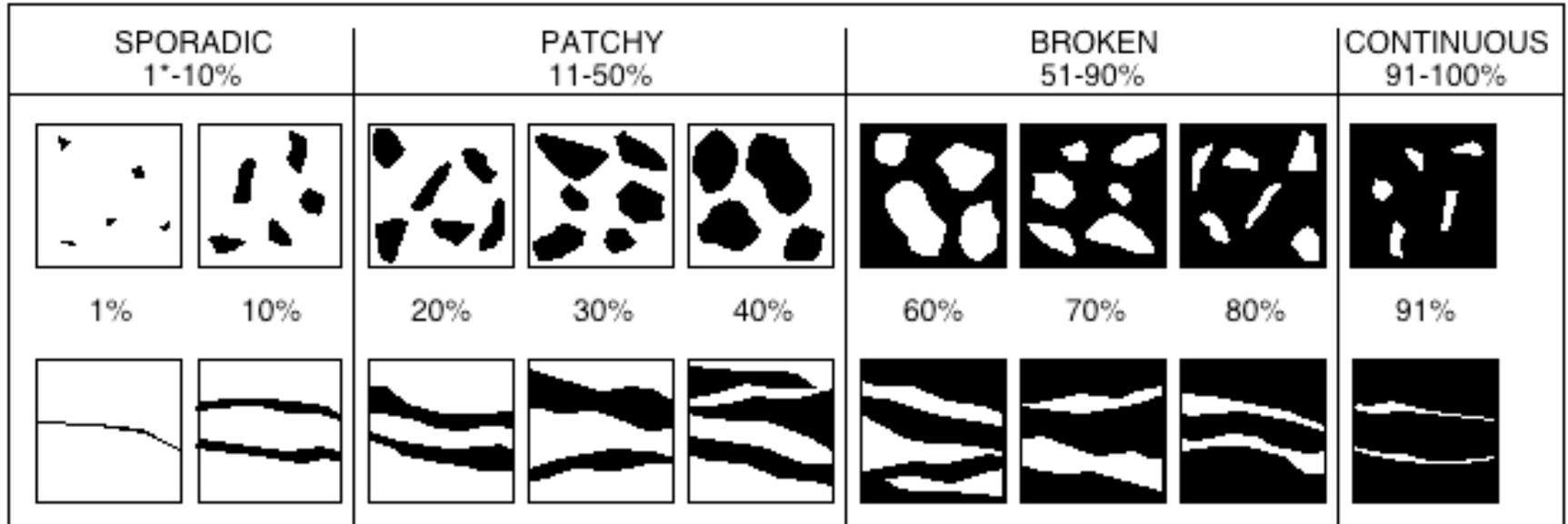


The original
creator of
SCAT forms

present job



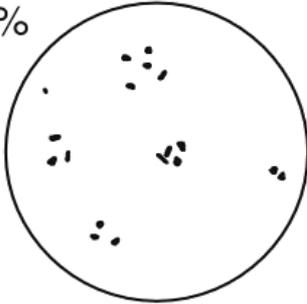
OIL COVER ESTIMATION CHART



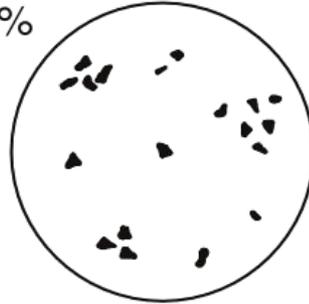
*TRACE = <1%

Comparison Chart for Visual Percent Cover Estimation

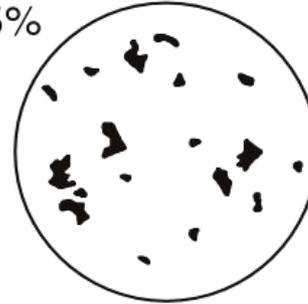
1%



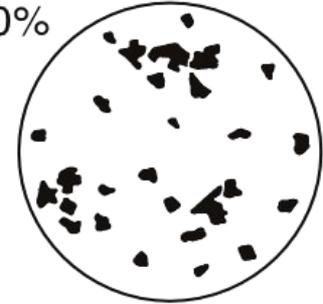
3%



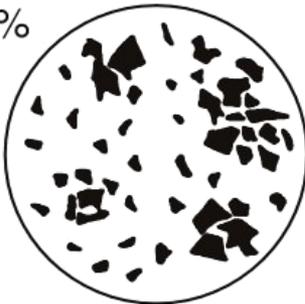
5%



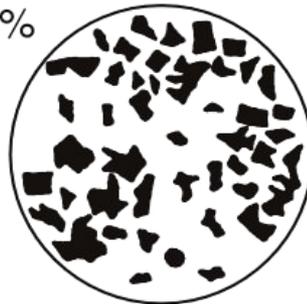
10%



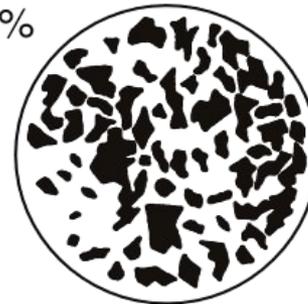
20%



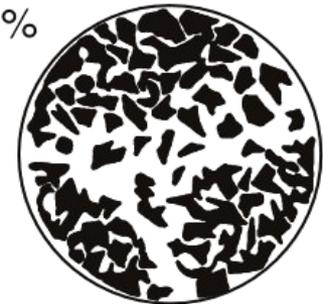
30%



40%



50%





SCAT Terminology

Surface Oil Distribution

| | | |
|----------|------------|---------------|
| C | Continuous | 91-100% cover |
| B | Broken | 51-90% |
| P | Patchy | 11-50% |
| S | Sporadic | <1-10% |
| T | Trace | <1% |



Continuous (91-100% Cover)



B

Broken (51-90% cover)



P

Patchy (11-50% cover)



2012 09 19

S

Sporadic (1-10% cover)



SCAT Terminology

Surface Oiling Descriptor – THICKNESS

- PO** Pooled/Thick Oil (fresh oil or mousse > 1 cm)
- CV** Cover (oil or mousse >0.1 cm to <1 cm on any surface)
- CT** Coat (visible oil <0.1 cm, can be scraped off with fingernail)
- ST** Stain (visible oil, cannot be scraped off with fingernail)
- FL** Film (transparent or iridescent sheen or oily film)



PO

Pooled /Thick Oil

Fresh or emulsified oil > 1cm thick





Cover

Fresh or emulsified oil 0.1 - 1.0 cm thick

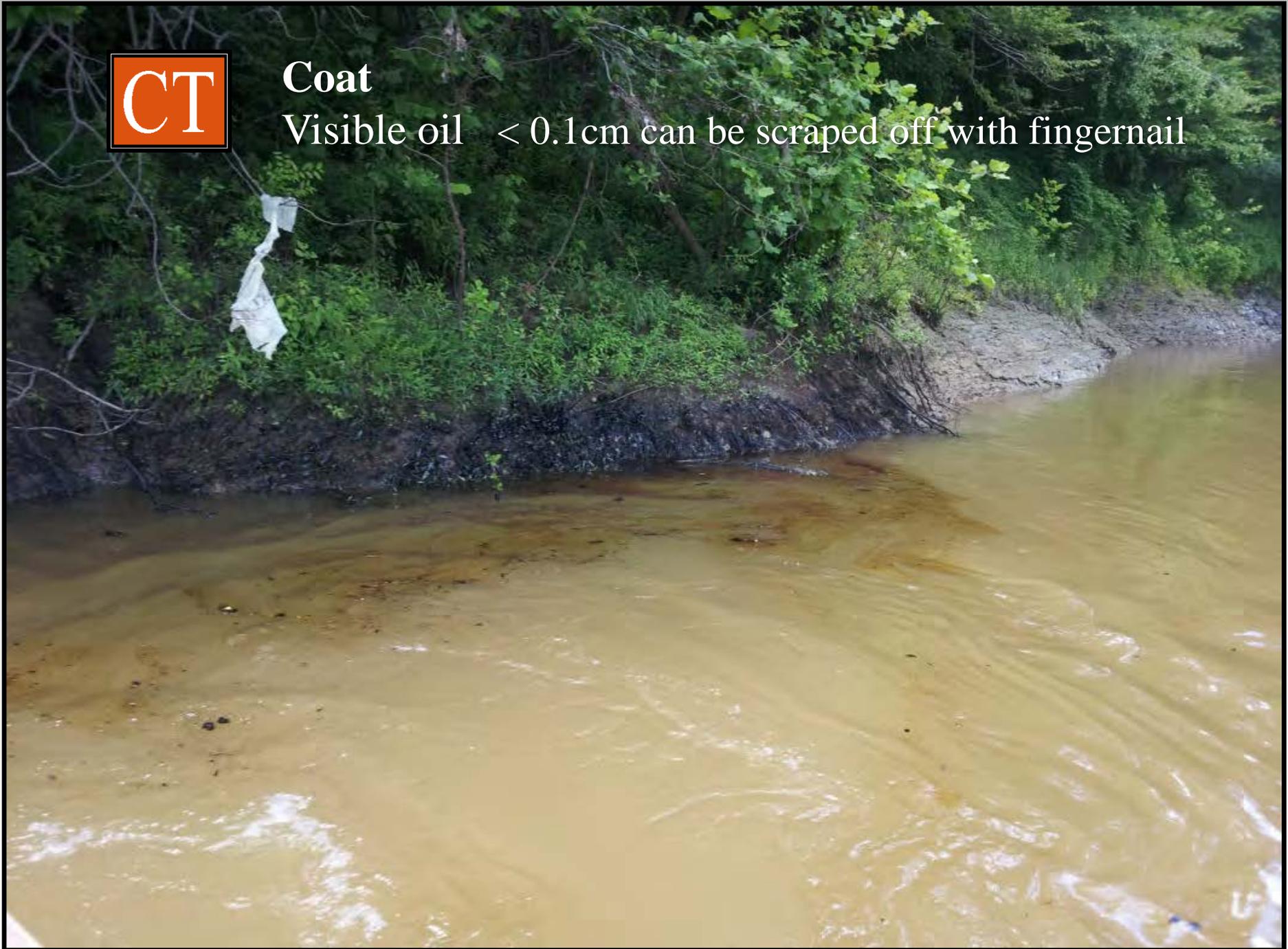


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Coat

Visible oil < 0.1cm can be scraped off with fingernail





Stain

Visible oil that cannot be scraped off with fingernail





Film

Transparent or iridescent sheen or oily film

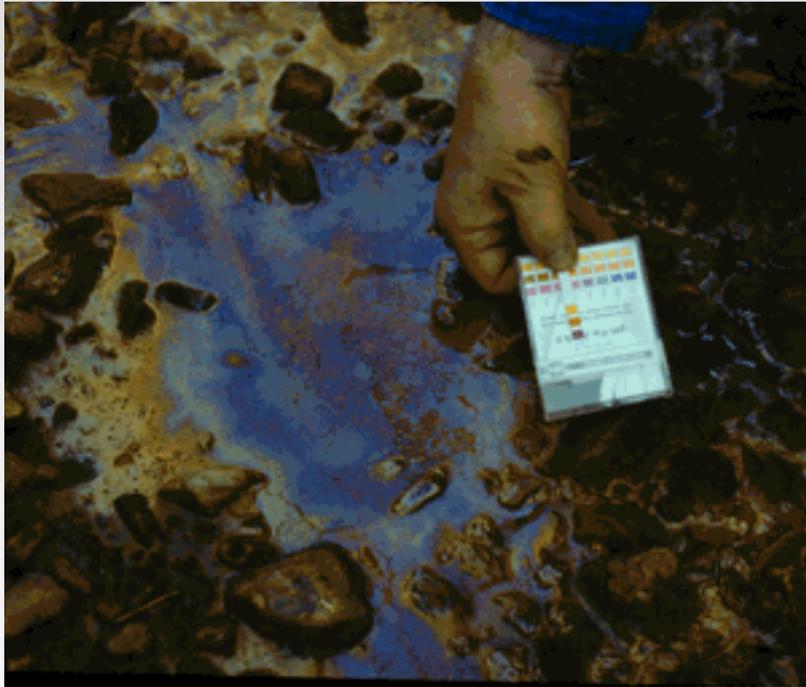


Bacterial Films – Not Oil Sheen!

Test: Break the film into pieces.

If edges are ragged and stay broken = Natural

If edges are swirly and the pieces come back together = Oil sheen



SCAT Terminology

Surface Oiling Descriptors - TYPE

- FR** Fresh Oil (unweathered, liquid oil)
- MS** Mousse (emulsified oil occurring over broad areas)
- TB** Tarballs (discrete accumulations of oil <10 cm in diameter)
- TC** Tar (highly weathered oil, of tarry, nearly solid consistency)





Fresh Oil

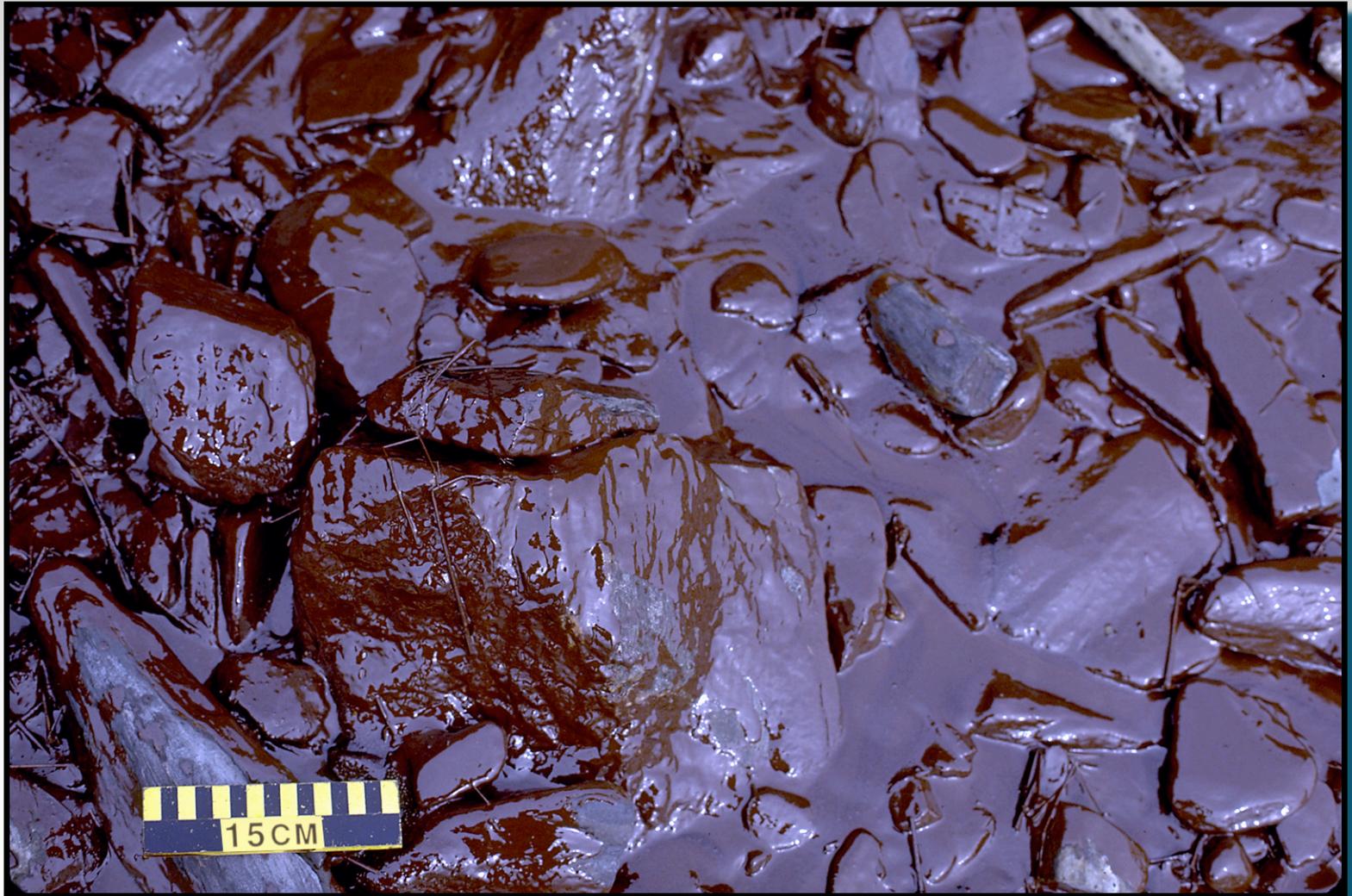
Unweathered liquid oil





Mousse

Emulsified oil





TB

Tar Balls

Discrete accumulations of oil < 10 cm in diameter





Patties

Discrete accumulations of oil > 10 cm in diameter





Tar

Highly weathered oil of nearly solid consistency



SCAT Terminology

Surface Oiling Descriptors - TYPE

- SR** Surface Oil Residue (non-cohesive, oiled surface sediments)
- AP** Asphalt Pavements (cohesive, heavily oiled surface sediments)
- NO** No oil (no evidence of any type of oil)



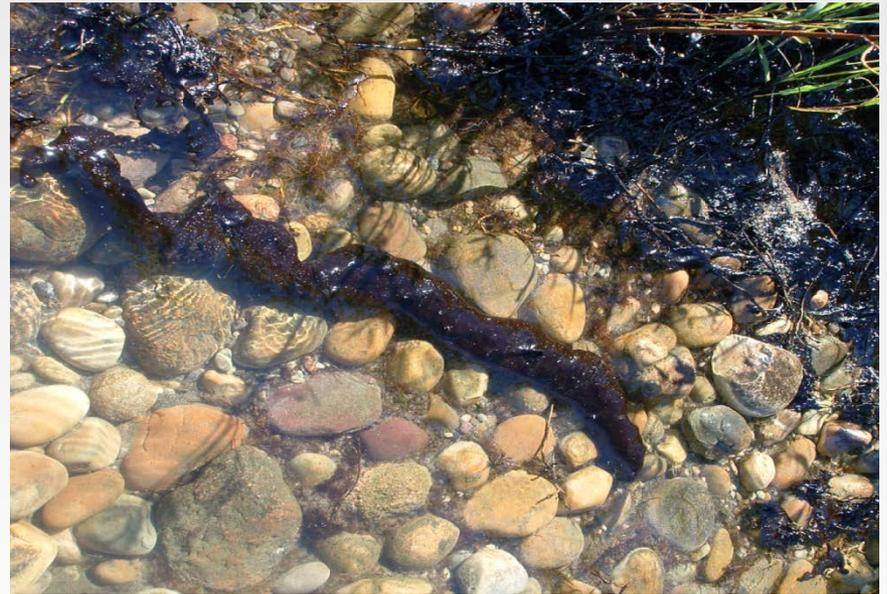
Surface Oil Residue

Non-cohesive, heavily oiled surface sediments



Mat and “Logs” Lake Wabamun, Canada

Revise the SCAT terms
as needed for unique
conditions!





Asphalt Pavement

Cohesive, heavily oiled surface sediments



SCAT Terminology

Subsurface Oiling Descriptors - TYPE

- OP Oil-Filled Pores (pore spaces completely filled with oil)
- PP Partially Filled Pores (oil does not flow out of the sediments when disturbed)
- OR Oil Residue (sediments are visibly oiled with black/brown coat or cover on the clasts, but little or no accumulation of oil within the pore spaces)



Oil-Filled Pores

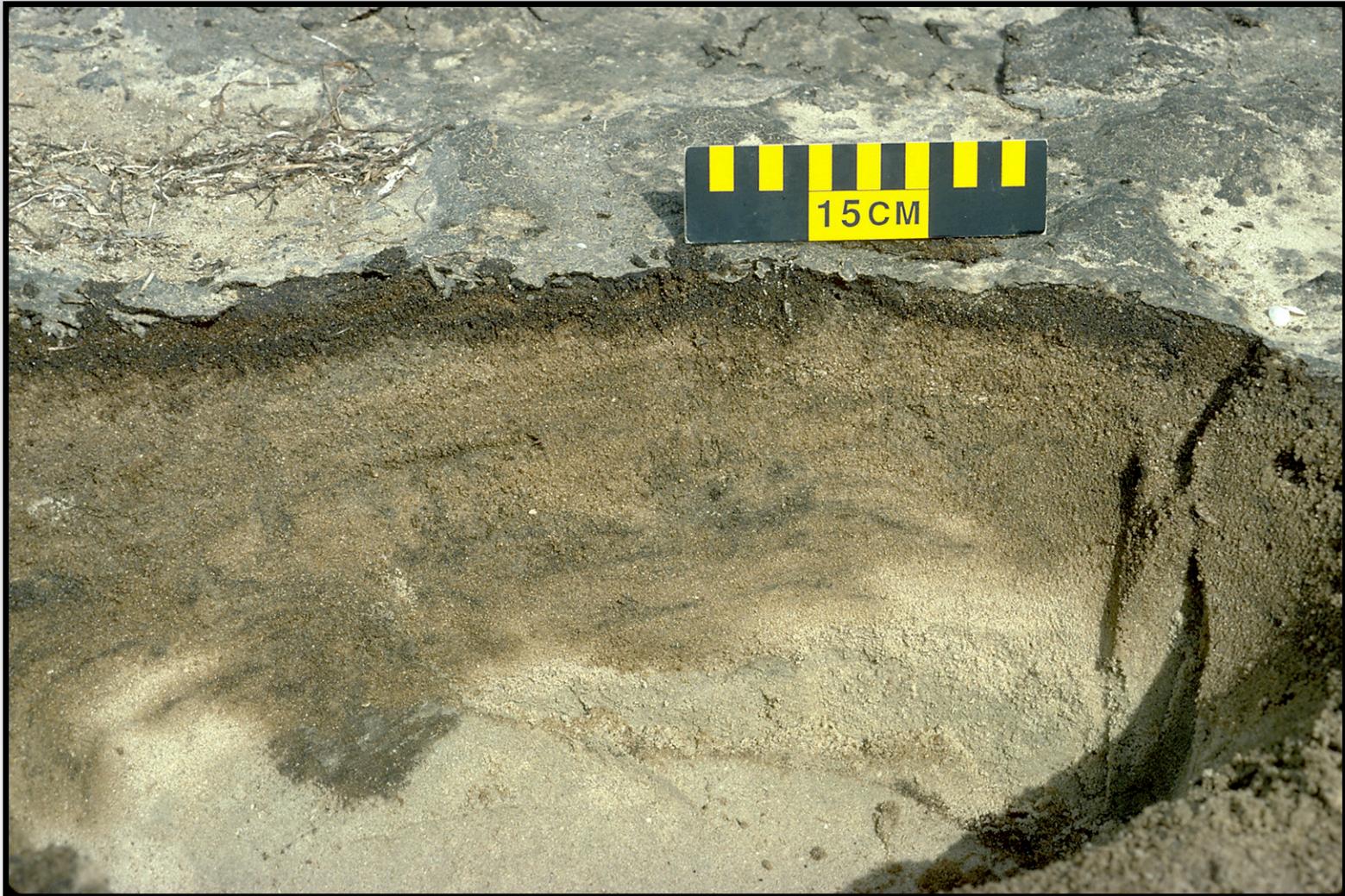
Pore spaces filled with liquid oil that flows out



OR

Oil Residue

Sediments visibly coated but no free oil in pore spaces



SCAT Terminology

Subsurface Oiling Descriptors – TYPE

- OF Oil Film (sediments are lightly oiled with an oil film, or stain on the clasts)
- TR Trace (discontinuous film or spots of oil, or an odor or tackiness)



Oil-Film

Sediments are lightly oiled with an oil sheen or stain





SCAT Form Exercise

You will fill out a form here in the class, based on a field basemap and photographs



STREAM BANK SHORELINE OILING SUMMARY FORM

STREAM BANK SHORELINE OILING SUMMARY FORM EXPLANATIONS

Calibration IS VERY IMPORTANT! Do a calibration exercise to make sure that all teams are consistently using the same terms and estimations.

Units: Use of metric units is preferred. However, if you must use English units, be consistent and note which are used (feet, inches).

Water Level: Circle the water level during the survey, and if the water level was rising or falling during the survey.

Segment/Survey Length: Always record both segment and survey lengths on the first survey, especially where the team creates the segments in the field. On repeat surveys, always enter in the Survey Length, especially if only part of the segment is surveyed.

Start/End GPS: The preferred format for latitude and longitude is decimal degrees, but be consistent among teams. Record the datum if different than WGS84.

SURFACE OILING CONDITIONS: Record the following for each bank of the stream, left and right, facing downstream

Zone ID: Use a different ID for each oil occurrence, e.g., two distinct bands of oil on the upper bank and in overbank areas, or along the bank where the oil distribution changes from 10 % to 50%. Describe each oil occurrence on a separate line.

Stream Bank Zone: Use the codes to indicate the location of the oil being described, as in the midstream (MS), lower bank (LB), upper bank (UB), or overbank (OB) zone above the normal water level.

Distribution: Enter the estimated percent of oil on the surface (preferred), or codes for the following intervals:

| | | |
|---|------------|---------------|
| C | Continuous | 91-100% cover |
| B | Broken | 51-90% |
| P | Patchy | 11-50% |
| S | Sporadic | <1-10% |
| T | Trace | <1% |

Surface Oiling Descriptors - Thickness: Use the following codes:

| | |
|----|--|
| TO | Thick Oil (fresh oil or mousse > 1 cm thick) |
| CV | Cover (oil or mousse from >0.1 cm to <1 cm on any surface) |
| CT | Coat (visible oil <0.1 cm, which can be scraped off with fingernail) |
| ST | Stain (visible oil, which cannot be scraped off with fingernail) |
| FL | Film (transparent or iridescent sheen or oily film) |

Surface Oiling Descriptors - Type

| | |
|----|--|
| FR | Fresh Oil (unweathered, liquid oil) |
| MS | Mousse (emulsified oil occurring over broad areas) |
| TB | Tar Balls (discrete accumulations of oil <10 cm in diameter) |
| PT | Patties (discrete accumulations of oil >10 cm in diameter) |
| TC | Tar (highly weathered oil, of tarry, nearly solid consistency) |
| SR | Surface Oil Residue (non-cohesive, oiled surface sediments) |
| AP | Asphalt Pavements (cohesive, heavily oiled surface sediments) |
| No | No oil (no evidence of any type of oil) |

SUBSURFACE OILING CONDITIONS

Oiled Interval: Measure the depths from the sediment surface to top/bottom of subsurface oiled layer. Enter multiple oil layers on separate lines.

Subsurface Oiling Descriptors: Use the following codes:

| | |
|----|---|
| OP | Oil-Filled Pores (pore spaces are completely filled with oil) |
| PP | Partially Filled Pores (the oil does not flow out of the sediments when disturbed) |
| OR | Oil Residue (sediments are visibly oiled with black/brown coat or cover on the clasts, but little or no accumulation of oil within the pore spaces) |
| OF | Oil Film (sediments are lightly oiled with an oil film, or stain on the clasts) |
| TR | Trace (discontinuous film or spots of oil, or an odor or tackiness) |

Sheen Color: Describe sheen on the water table as brown (B), rainbow (R), silver (S), or none (N)



INLAND SHORELINE AND WETLAND ASSESSMENT FORM - MDEQ SCAT

Denotes List or Checkbox

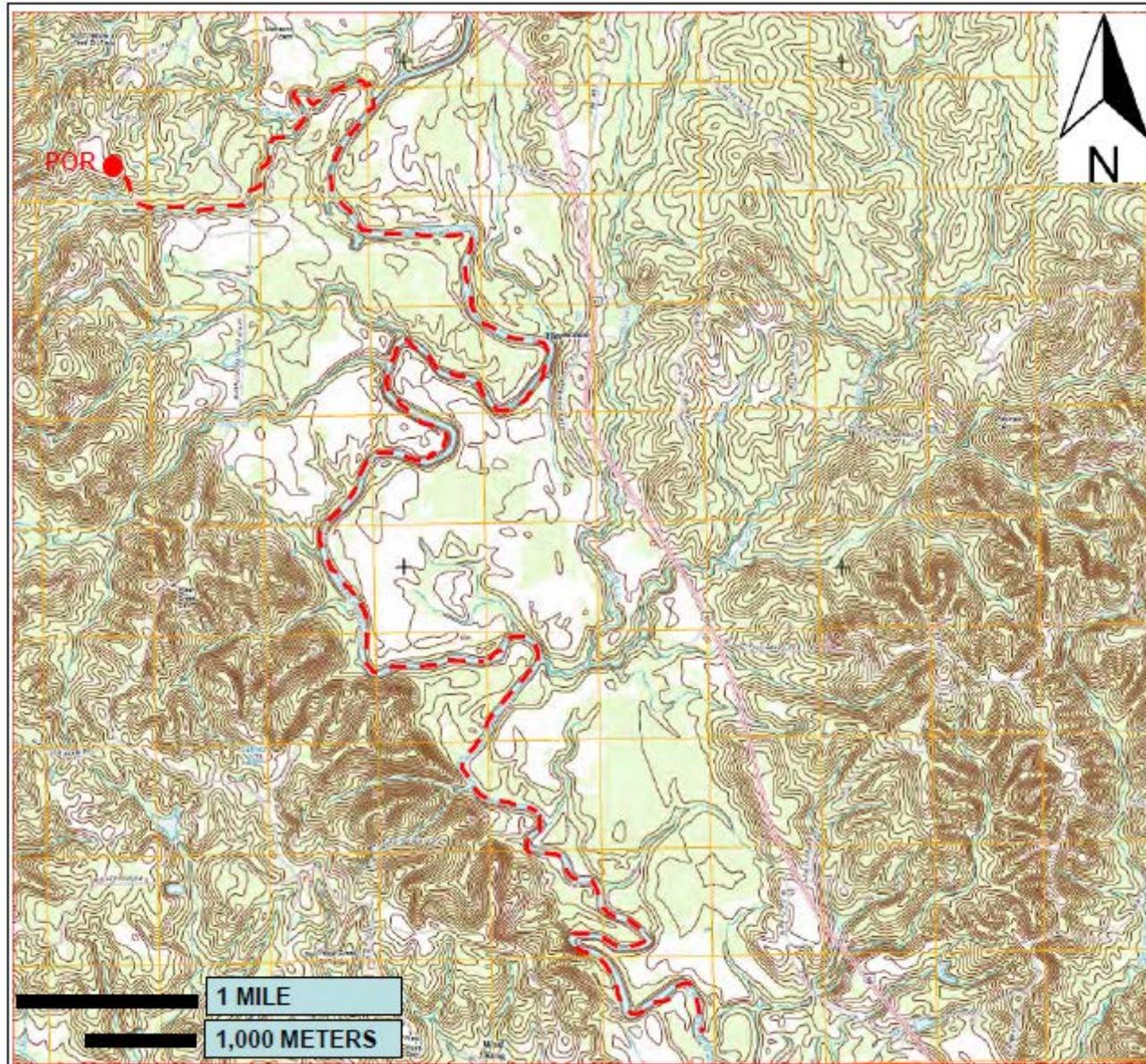
| 1. GENERAL INFORMATION | | Date (dd/mm/yy) | Description | Winds: | |
|---|--------------------------|----------------------------|---------------------|-------------------|--------------|
| Incident: | | | Time (24h Clock): | 24hr Precip.: | |
| Segment ID: | | | Temperature (F): | | |
| Survey By: <input type="checkbox"/> Foot <input type="checkbox"/> Boat <input type="checkbox"/> Air <input type="checkbox"/> Overlook <input type="checkbox"/> Other: | | | Weather Conditions: | | |
| 2. SURVEY TEAM | | Name | Organization | Affiliation | Phone Number |
| Signature: | | | | | |
| | | | | | |
| | | | | | |
| 3. SEGMENT | | Total Length: | Length Surveyed: | Differential GPS: | |
| Start GPS: N | | | W | | |
| End GPS: N | | | W | Comment: | |
| 4. SHORELINE HABITAT AND CHANNEL TYPE | | | | | |
| Primary (P) | Secondary (S) | Select one (P) and any (S) | | Units | |
| <input type="checkbox"/> | <input type="checkbox"/> | | Channel Width: | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | Channel Depth: | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | Cutbank Height: | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | |
| 5. HABITAT CHARACTER DESCRIPTION | | | | | |
| Physical Description: | | | | | |
| 7. OPERATIONAL FEATURES | | | | | |
| | Yes or No | Type and/or description: | | | |
| Access via boat only: | <input type="checkbox"/> | | | | |
| Oiled Debris: | <input type="checkbox"/> | | | | |
| Oiled Vegetation: | <input type="checkbox"/> | | | | |
| Can substrate support foot traffic: | <input type="checkbox"/> | | | | |
| Access Restrictions: | <input type="checkbox"/> | | | | |
| 8. OIL CONDITIONS | | | | | |
| | Description | | Comments | | |
| Oil Distribution: | | | | | |
| Oil Thickness: | | | | | |
| Oil Type: | | | | | |
| Oiled Wildlife: | | | | | |
| Subsurface Oil: | | | | | |
| 9. CLEANUP RECOMMENDATIONS | | Description | Comments | | |
| Cleanup Recommendations: | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Oiled Debris: | | | | | |
| Oiled Vegetation: | | | | | |
| Subsurface Oiling: | | | | | |
| Recreational: | | | | | |
| Wildlife, Cultural and Ecological: | | | | | |

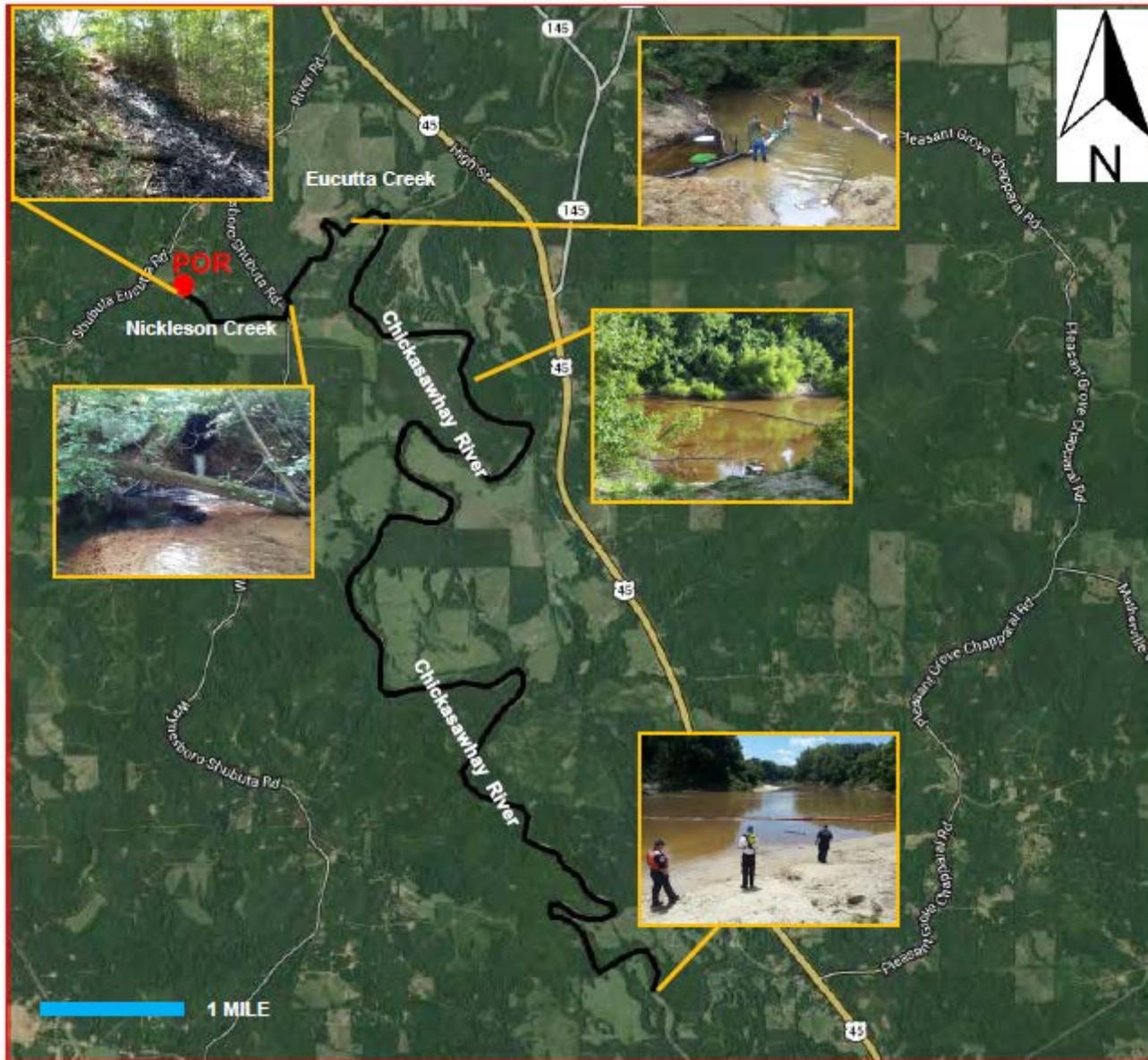


Shubuta Crude Oil Spill

On June 27th, 2013 ~200 barrels (8,946 gallons) of medium to heavy weight crude oil (21 API) spilled from a production tank battery and entered into Nickleson Creek followed by Eucatta Creek and then into the Chickasawhay River. Approximately 12 miles of waterway were impacted. Discharge may have occurred over 12 hours before being detected.







Div A-Segment 1 Zone 1



Div B-Segment 2 Zone 1



Div B-Segment 2 Zone 2



Div C-Segment 3 Zone 2



6. OILING DESCRIPTION: Indicate 100% overlapping zones in different tidal zones by numbering them (e.g. A1, A2)

| Zone ID | WP # Start | WP # End | Substrate Type(s) Or ESI Code | River Bank Zone | | | | Oil Cover | | | | | | Oil Thickness | | | | | Oil Character | | | | | |
|---------|------------|----------|-------------------------------|-----------------|----|----|----|------------|-----------|---------------|----------------------|---------------|-----------------|---------------|----|----|----|----|---------------|----|----|----|----|----|
| | | | | | | | | Area | | Distribution | | Size | | | | | | | | | | | | |
| | | | | MS | LB | UB | OB | Length (m) | Width (m) | Distr. % (>1) | Number per unit area | Avg Size (cm) | Large Size (cm) | TO | CV | CT | ST | FL | FR | MS | TB | PT | TC | SR |
| A | 112 | 114 | MUD | | ✓ | | | 1,500 | 0.5 | 100 | | | | | | ✓ | | | | | | | | |
| B | 114 | 115 | MUD | | ✓ | | | 8 | 1 | 100 | | | | | ✓ | | | | | | | | | |
| C | 115 | 118 | MUD | | ✓ | | | 1,950 | 0.3 | 100 | | | | | ✓ | | | | | | | | | |
| D | 118 | 119 | MUD | | ✓ | | | 900 | | | | | | | | | | | | | | | | ✓ |

7. SUBSURFACE OILING CONDITIONS: Format: Indicate Zone ID in Pit #, e.g., A-1, B-2, B-3, (use only number if not in zone, e.g., 4, 5)

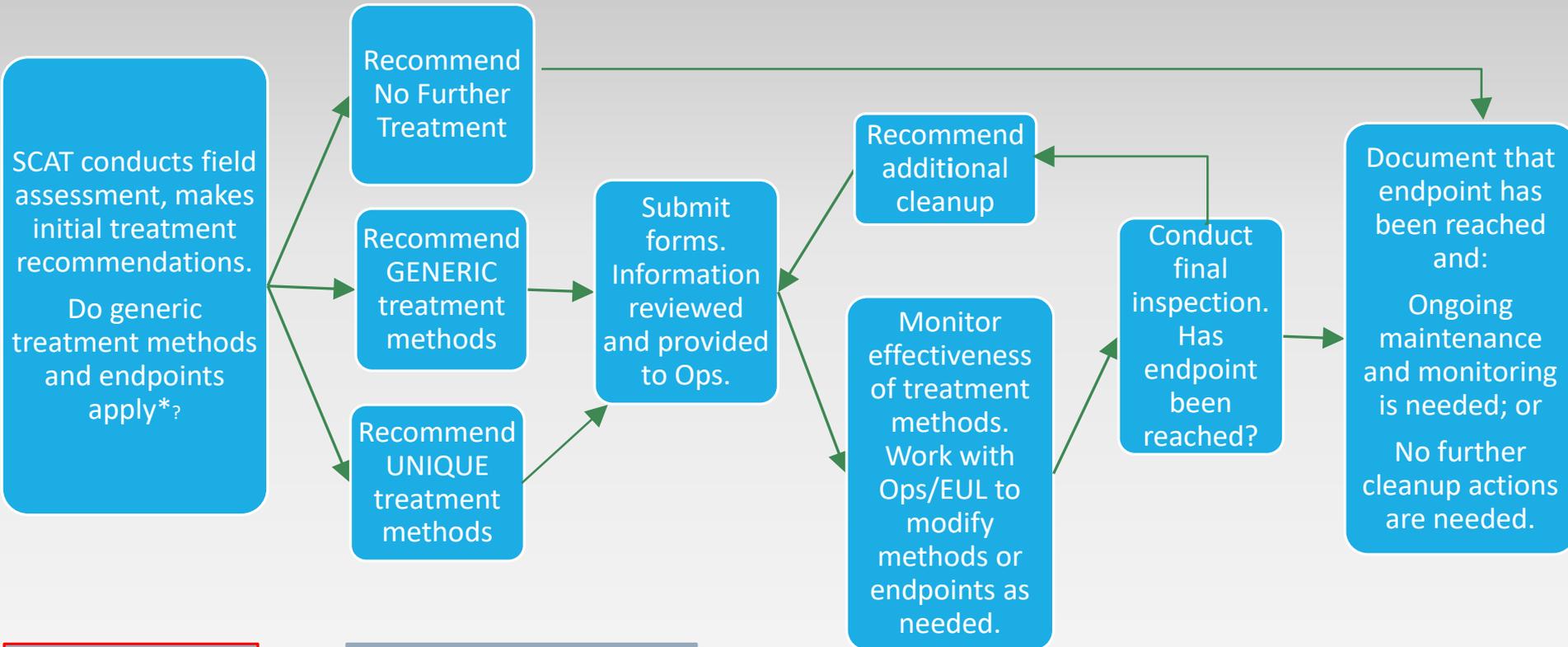
| Pit # | WP | Substrate Type Surface/Subsurface | River Bank Zone | | | | Pit Depth (cm) | Oiled Interval (cm-cm) | Subsurface Oil Character | | | | | | | Water Table (cm) | Sheen Color B,R,S,N | Clean Below Yes / No | | |
|-------|-----|-----------------------------------|-----------------|----|----|----|----------------|------------------------|--------------------------|----|----|----|----|----|----|------------------|---------------------|----------------------|---|---|
| | | | MS | LB | UB | OB | | | AP | OP | PP | OR | OF | TR | NO | | | | % | |
| A-1 | 113 | M / M | | ✓ | | | 15 | - | | | | | | | | ✓ | | - | - | - |
| C-1 | 117 | M / M | | ✓ | | | 10 | - | | | | | | | | ✓ | | - | - | - |
| | | / | | | | | | - | | | | | | | | | | | | |
| | | / | | | | | | - | | | | | | | | | | | | |

8. COMMENTS: Cleanup Recommendations; Ecological/Recreational/Cultural Issues; Wildlife Observations; Oiling Descriptions

FLUSH - LOW PRESSURE FROM BOATS IN ZONES A & C - AVOID SEDIMENT EROSION.
 ZONE B - USE SORBENTS TO RECOVER FLOATING OIL IN ROOT BALLS THEN
 PUSH UNTIL NO FREE BLACK OIL MOBILIZED.

Sketch (Map) Yes / No Photos/Video Yes / No Numbers: (14 - 30) Photographer Name: SMITH

SCAT TEAM ACTIONS



Shoreline Oiling Summary (SOS) for Assessment

Shoreline Treatment Recommendation (STR)

Shoreline Inspection Report (SIR)



* Generic Treatments and Endpoints provided in SCAT Workplan.

