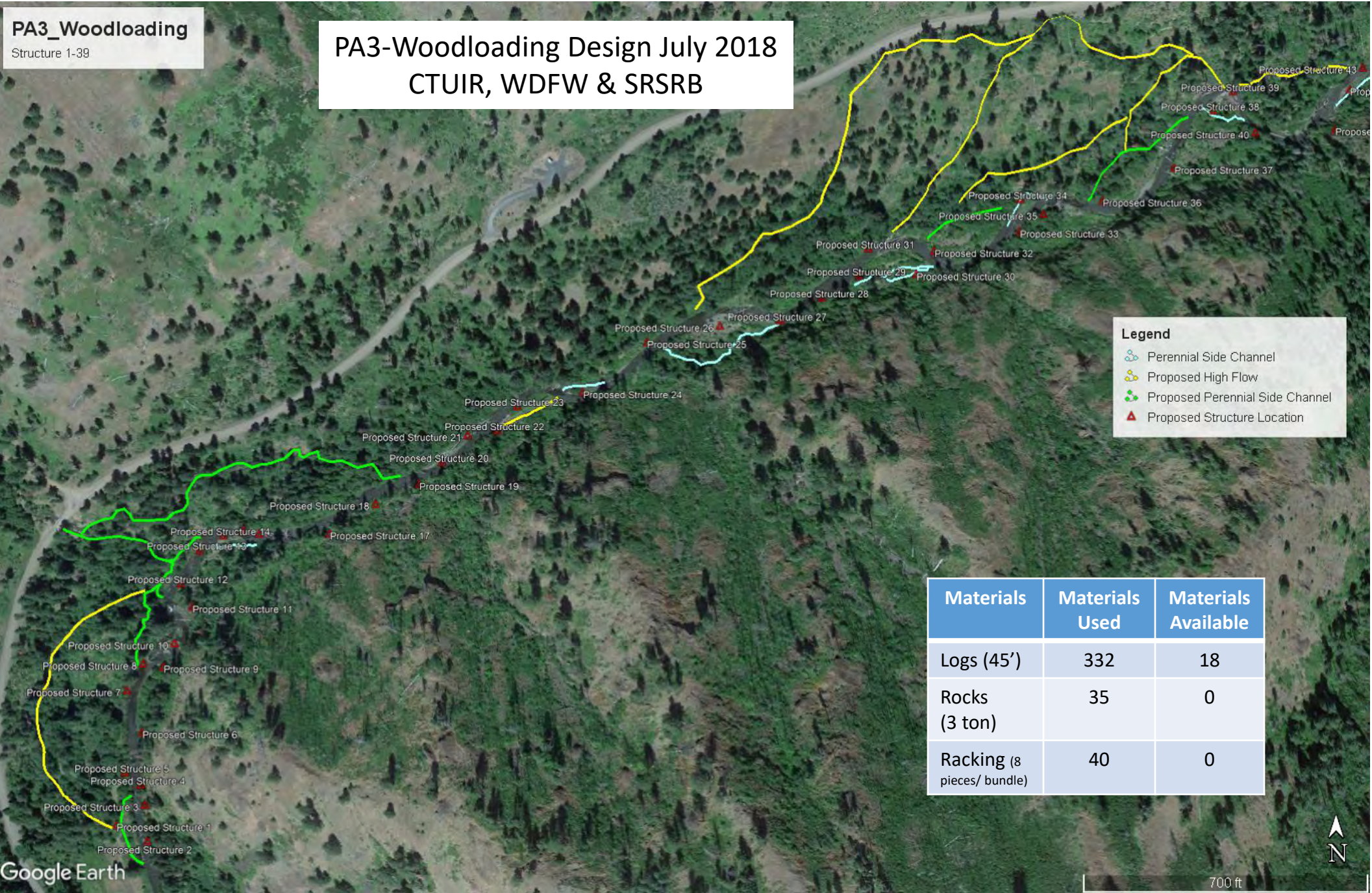


# PA3-Woodloading Design July 2018

## CTUIR, WDFW & SRSRB



**Legend**

- Perennial Side Channel
- Proposed High Flow
- Proposed Perennial Side Channel
- Proposed Structure Location

| Materials                  | Materials Used | Materials Available |
|----------------------------|----------------|---------------------|
| Logs (45')                 | 332            | 18                  |
| Rocks (3 ton)              | 35             | 0                   |
| Racking (8 pieces/ bundle) | 40             | 0                   |

**Notes:**

- Structure #2 has been removed from the design.
- 62 structures total including 60 designed by Bruce and 2 recommended for addition by Kris B. The include Structure #1, 46b both on the floodplain and 54b a pair of logs added to existing structure below 54.

# PA3\_Woodloading

Structure 40-61



# PA3\_Woodloading

Structure 1-5

| Structure # | 1 | 2 | 3  | 4 | 5 |
|-------------|---|---|----|---|---|
| Logs        | 2 | 0 | 10 | 3 | 2 |
| Rock        | 0 | 0 | 4  | 0 | 0 |
| Racking     | 1 | 0 | 1  | 0 | 1 |



**#1**  
Proposed Structure 1

**#3**  
Proposed Structure 3

**#5**  
Proposed Structure 5

**#4**  
Proposed Structure 4

**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel

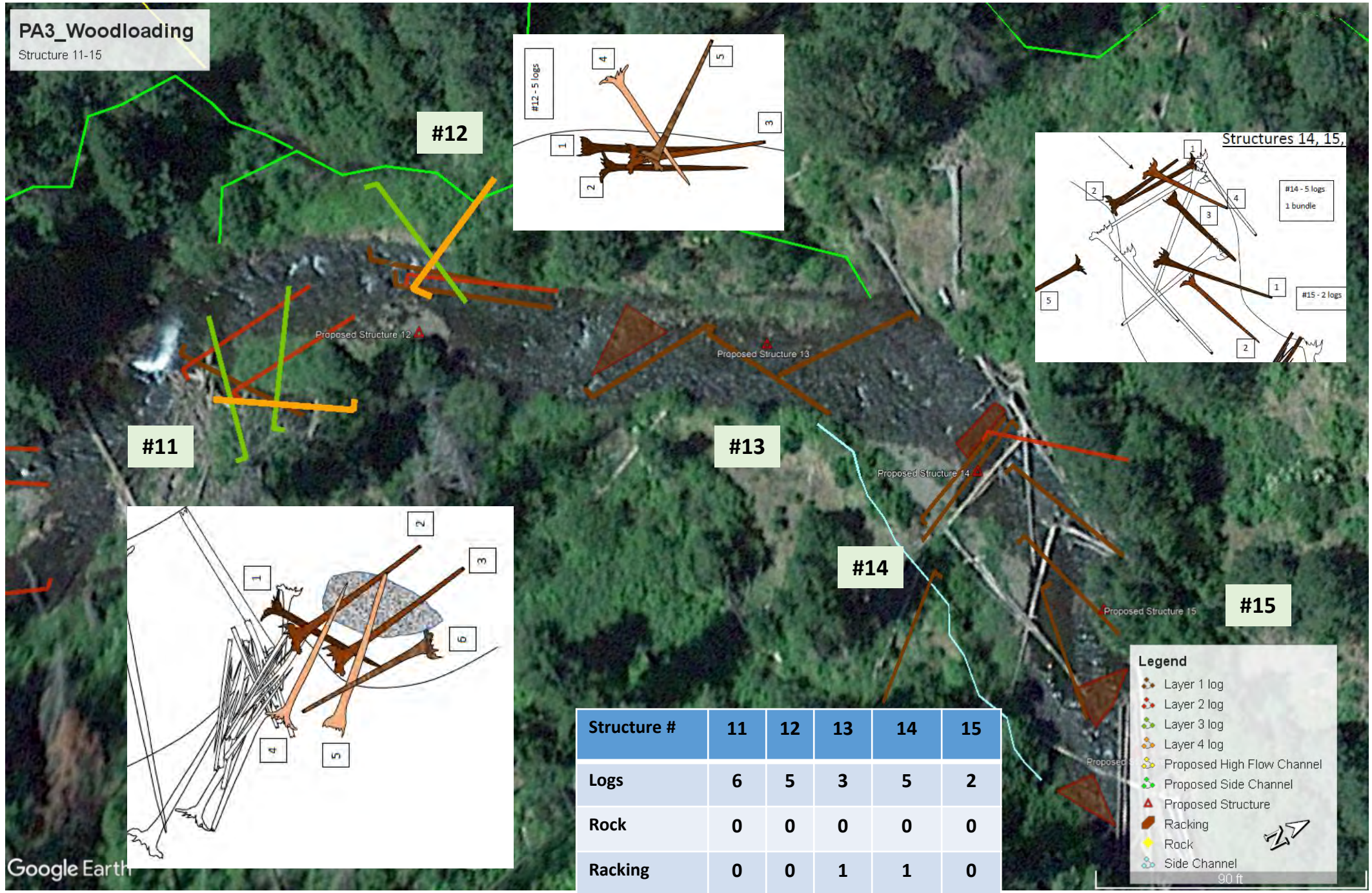
# PA3\_Woodloading

Structure 6-10

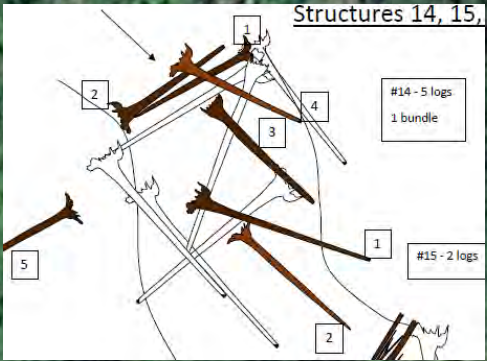
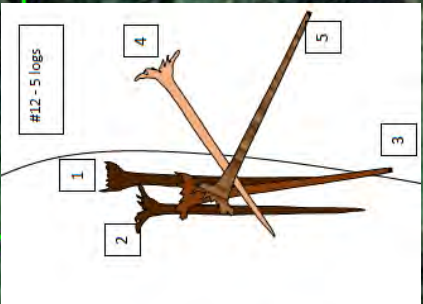


# PA3\_Woodloading

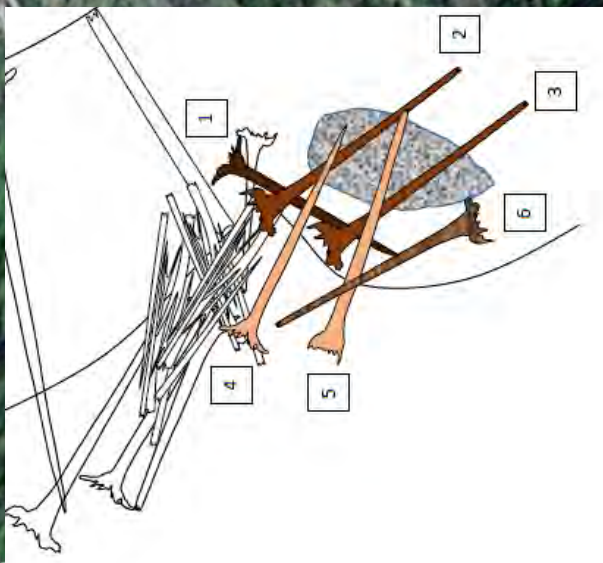
Structure 11-15



#12



#11



#13

#14

#15

| Structure # | 11 | 12 | 13 | 14 | 15 |
|-------------|----|----|----|----|----|
| Logs        | 6  | 5  | 3  | 5  | 2  |
| Rock        | 0  | 0  | 0  | 0  | 0  |
| Racking     | 0  | 0  | 1  | 1  | 0  |

**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel

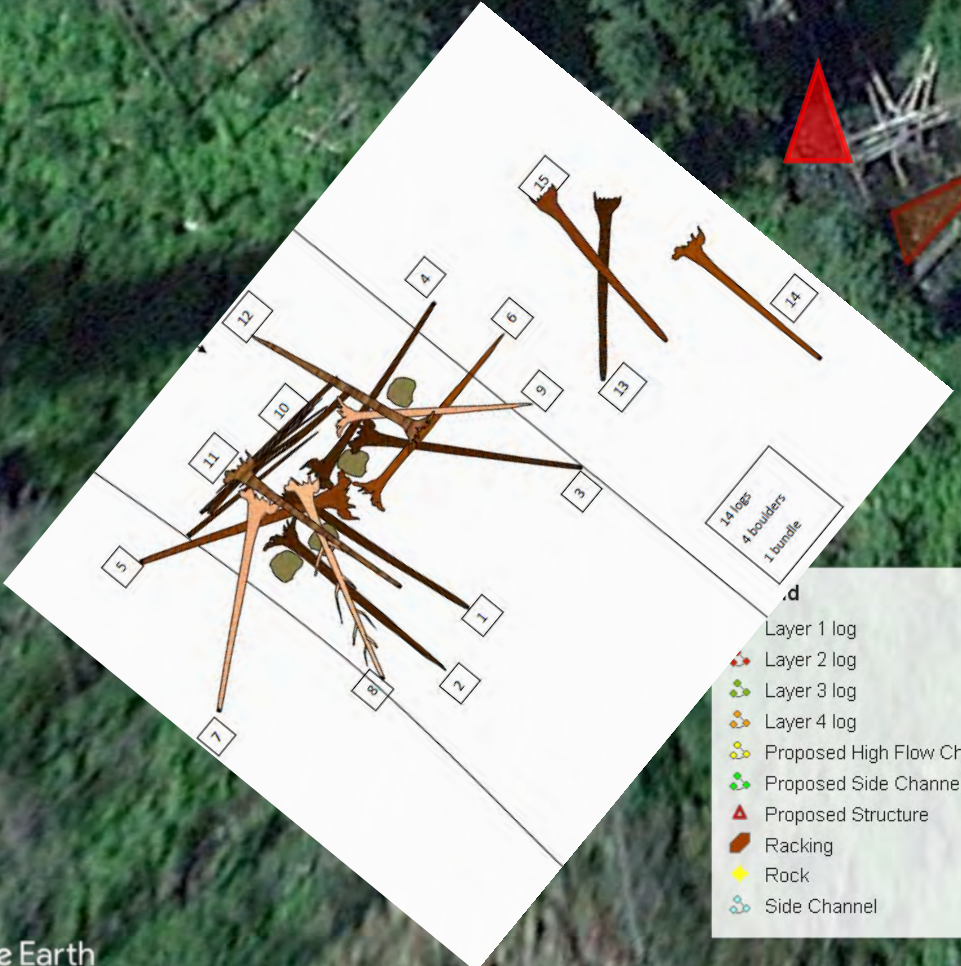
90 ft

**PA3\_Woodloading**  
Structure 16-17

Proposed Structure 16

**#16**

| Structure # | 16 | 17 |
|-------------|----|----|
| Logs        | 0  | 14 |
| Rock        | 0  | 4  |
| Racking     | 4  | 1  |



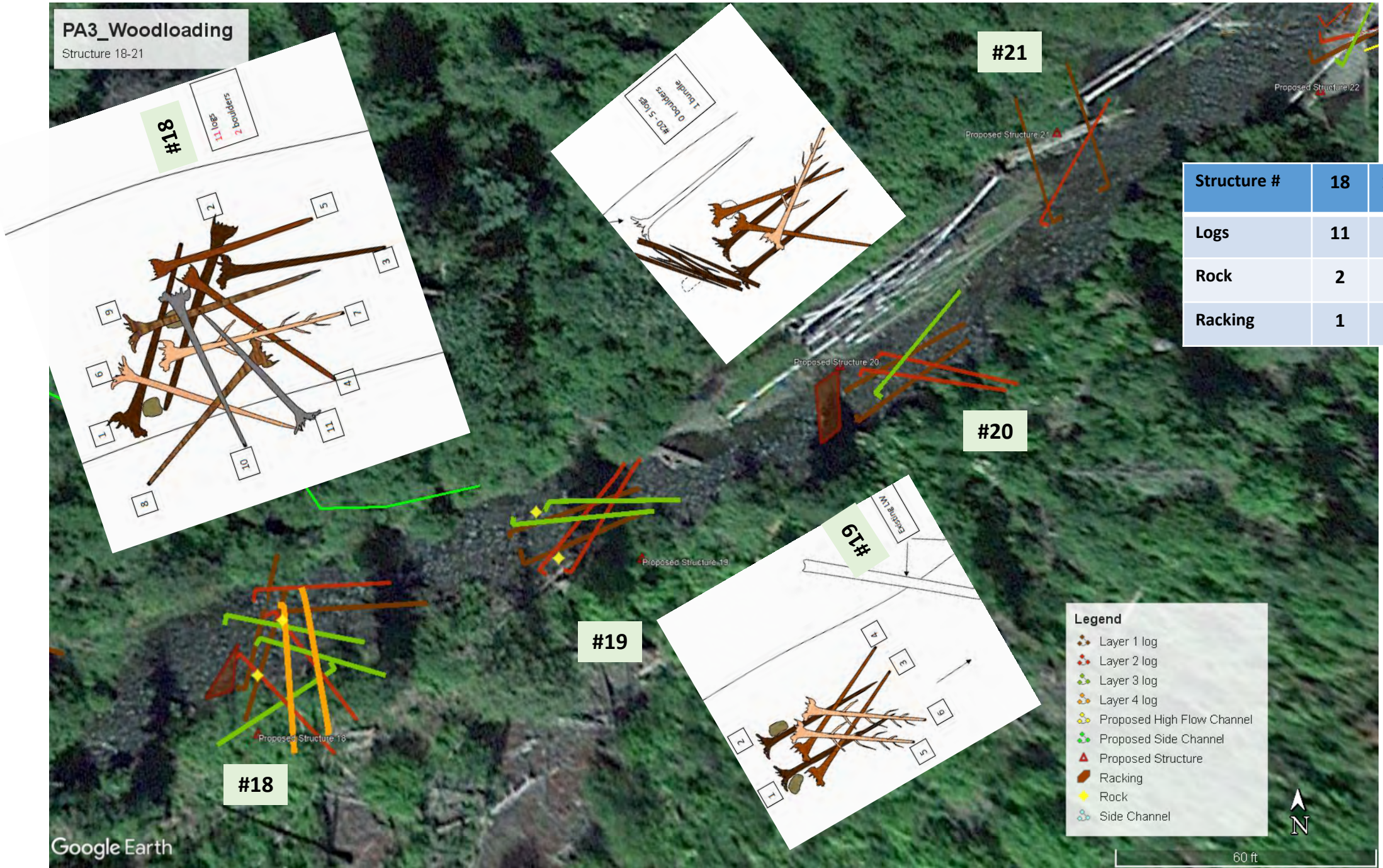
Proposed Structure 17

**#17**



PA3\_Woodloading

Structure 18-21



| Structure # | 18 | 19 | 20 | 21 |
|-------------|----|----|----|----|
| Logs        | 11 | 6  | 5  | 3  |
| Rock        | 2  | 2  | 0  | 0  |
| Racking     | 1  | 0  | 1  | 0  |

**Legend**

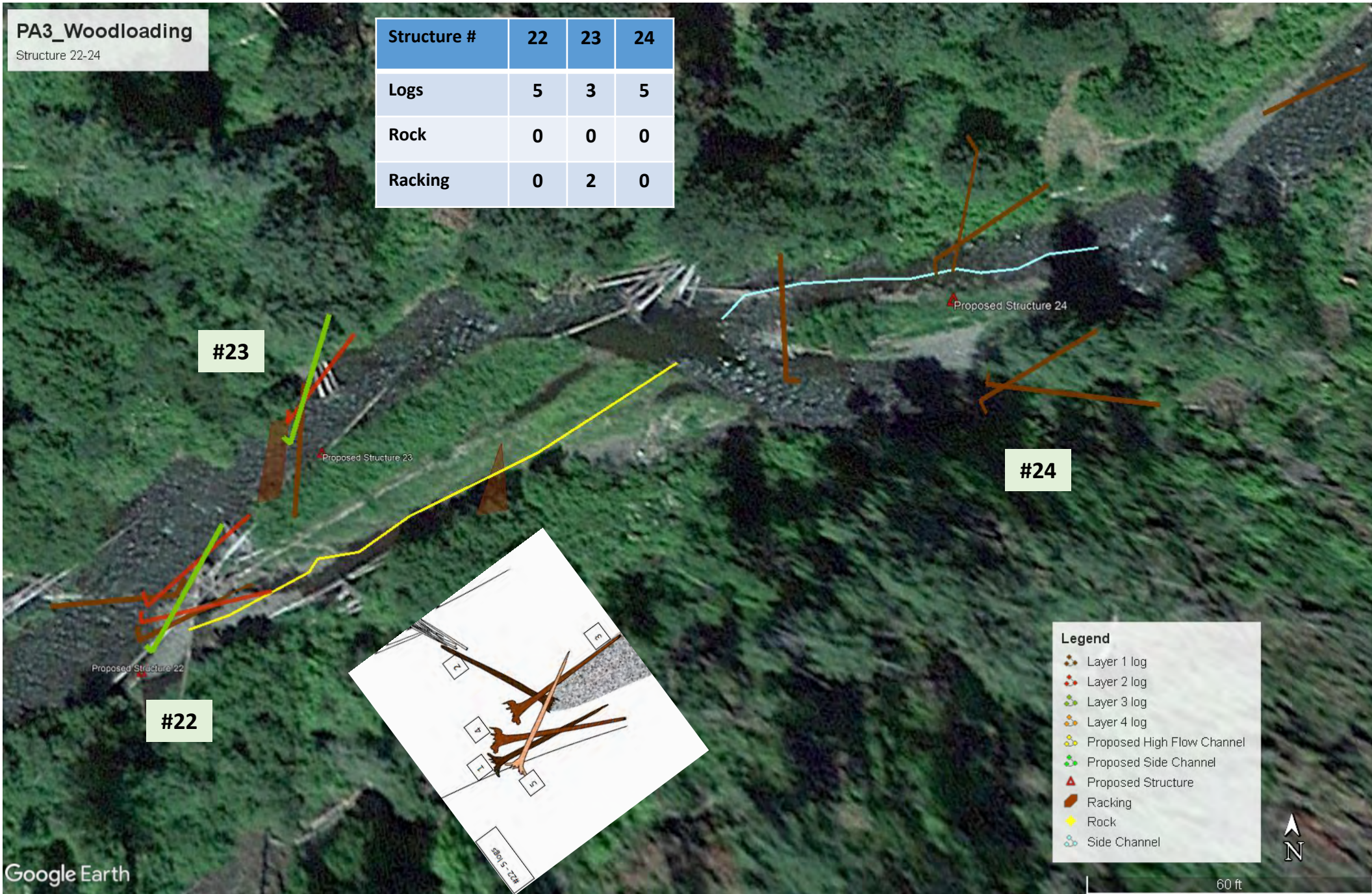
- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel



# PA3\_Woodloading

Structure 22-24

| Structure # | 22 | 23 | 24 |
|-------------|----|----|----|
| Logs        | 5  | 3  | 5  |
| Rock        | 0  | 0  | 0  |
| Racking     | 0  | 2  | 0  |



#23

#24

#22

- Legend**
- Layer 1 log
  - Layer 2 log
  - Layer 3 log
  - Layer 4 log
  - Proposed High Flow Channel
  - Proposed Side Channel
  - Proposed Structure
  - Racking
  - Rock
  - Side Channel



60 ft



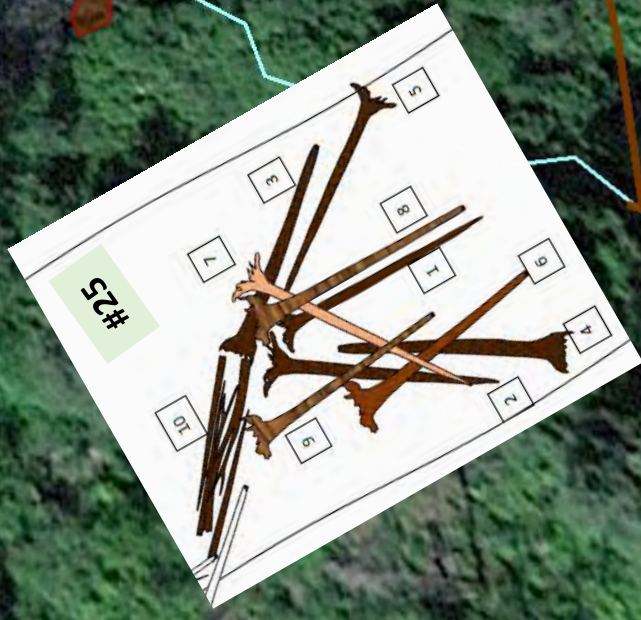
# PA3\_Woodloading

Structure 25-26

| Structure # | 25 | 26 |
|-------------|----|----|
| Logs        | 12 | 25 |
| Rock        | 0  | 4  |
| Racking     | 1  | 5  |

#25

#26



**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel

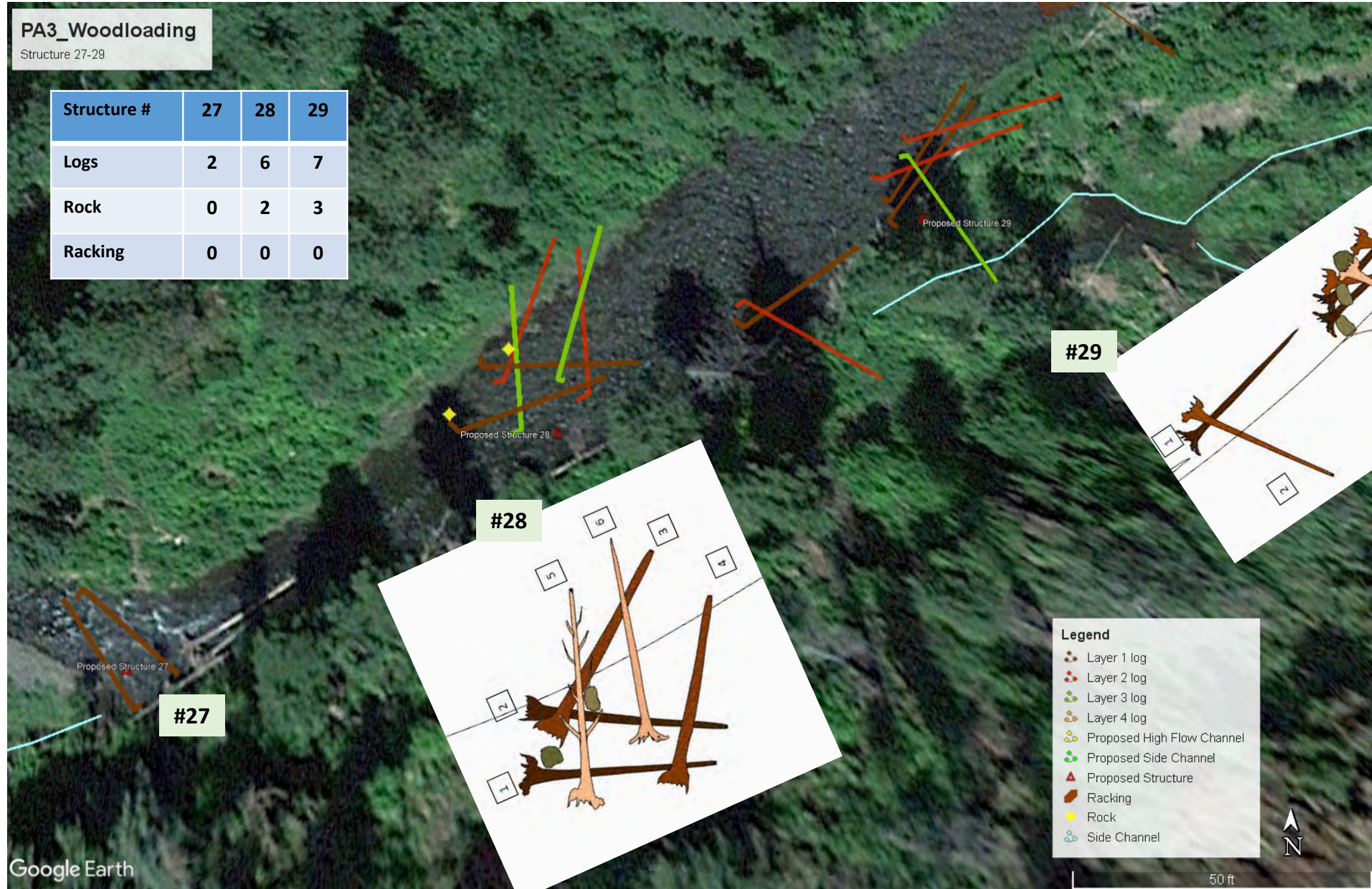


50 ft

# PA3\_Woodloading

Structure 27-29

| Structure # | 27 | 28 | 29 |
|-------------|----|----|----|
| Logs        | 2  | 6  | 7  |
| Rock        | 0  | 2  | 3  |
| Racking     | 0  | 0  | 0  |



#29

#28

#27

**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel



50 ft

# PA3\_Woodloading

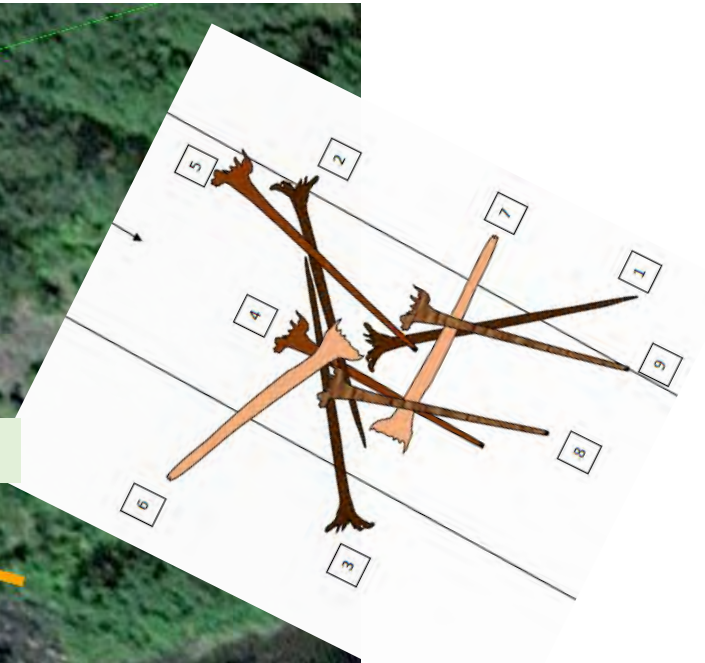
Structure 30-32

| Structure # | 30 | 31 | 32 |
|-------------|----|----|----|
| Logs        | 2  | 2  | 9  |
| Rock        | 0  | 0  | 0  |
| Racking     | 0  | 1  | 1  |

#31

#32

#30



**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel

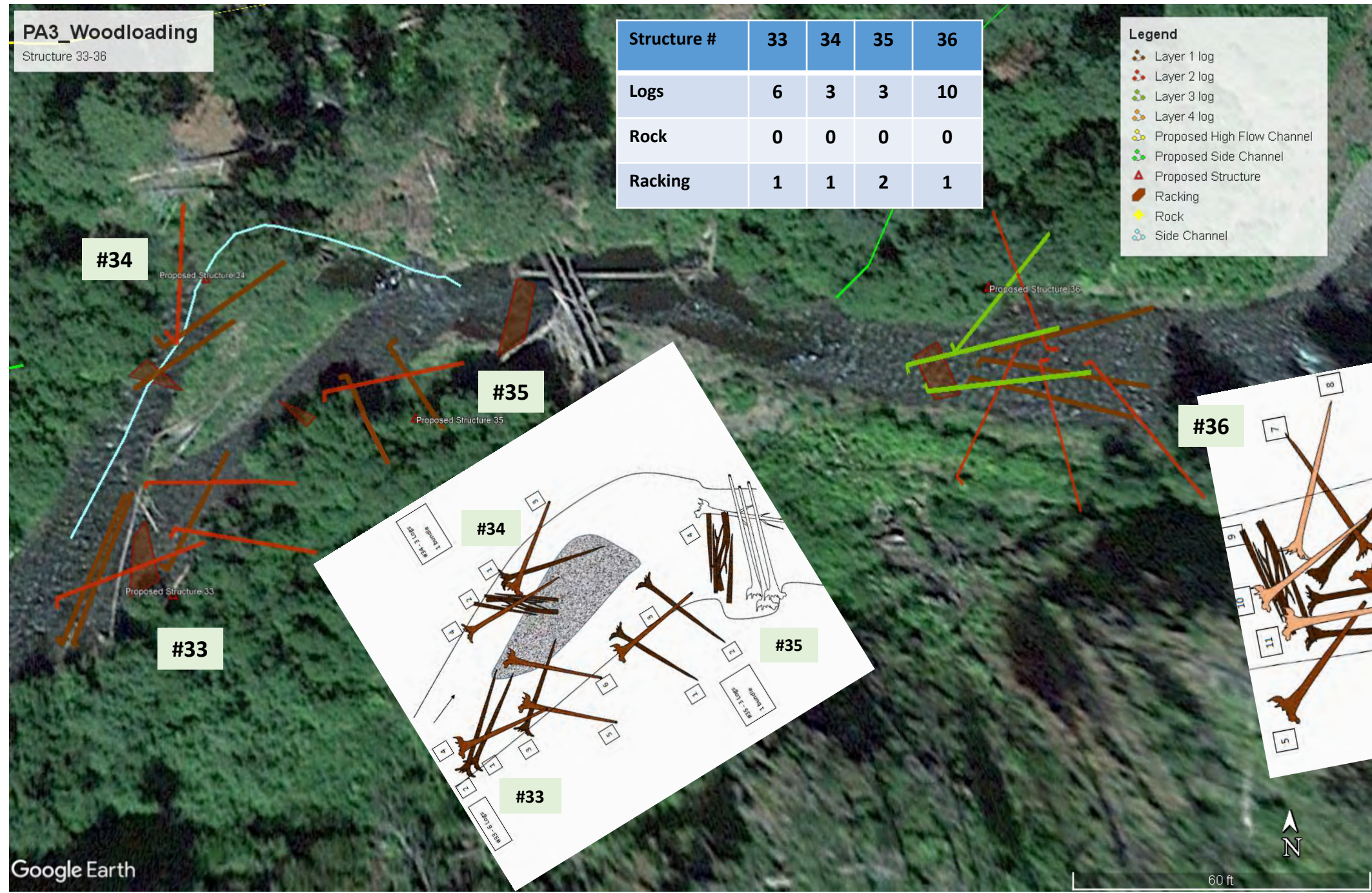
# PA3\_Woodloading

Structure 33-36

| Structure # | 33 | 34 | 35 | 36 |
|-------------|----|----|----|----|
| Logs        | 6  | 3  | 3  | 10 |
| Rock        | 0  | 0  | 0  | 0  |
| Racking     | 1  | 1  | 2  | 1  |

**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel

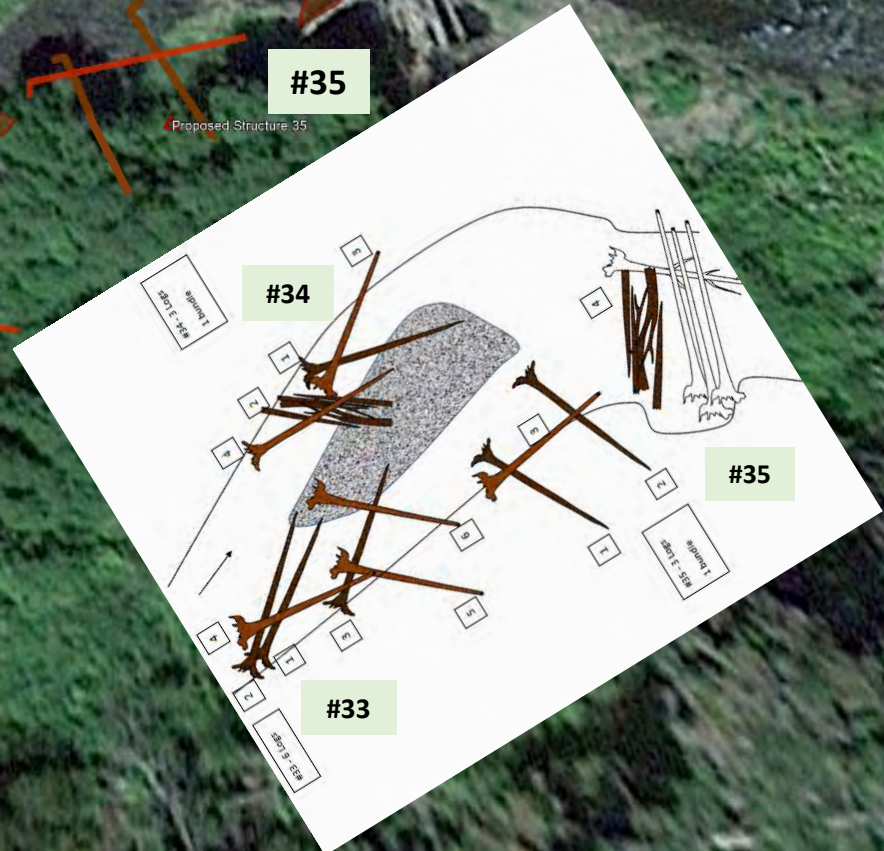


#34

#35

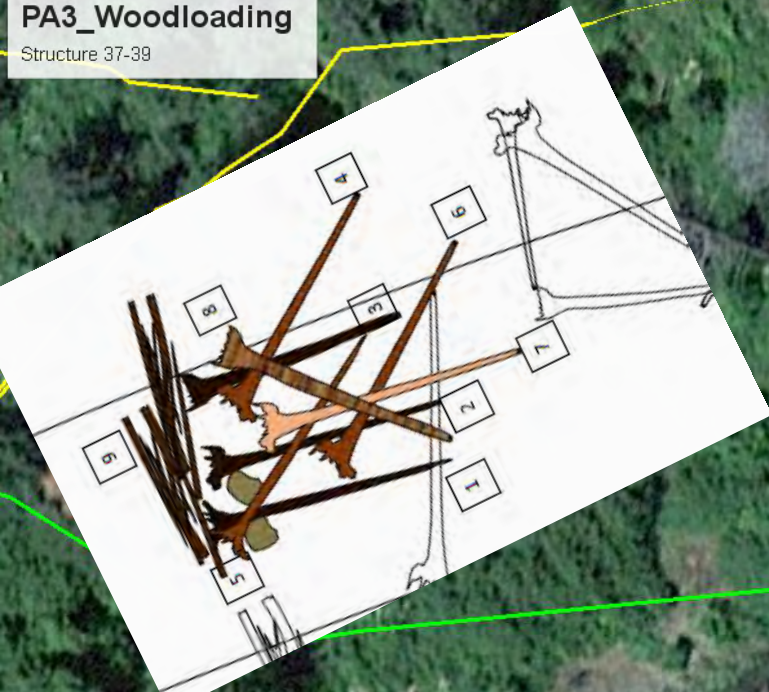
#36

#33



# PA3\_Woodloading

Structure 37-39



| Structure # | 37 | 38 | 39 |
|-------------|----|----|----|
| Logs        | 8  | 3  | 2  |
| Rock        | 2  | 0  | 0  |
| Racking     | 1  | 0  | 0  |

**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel

#37

#38

#39

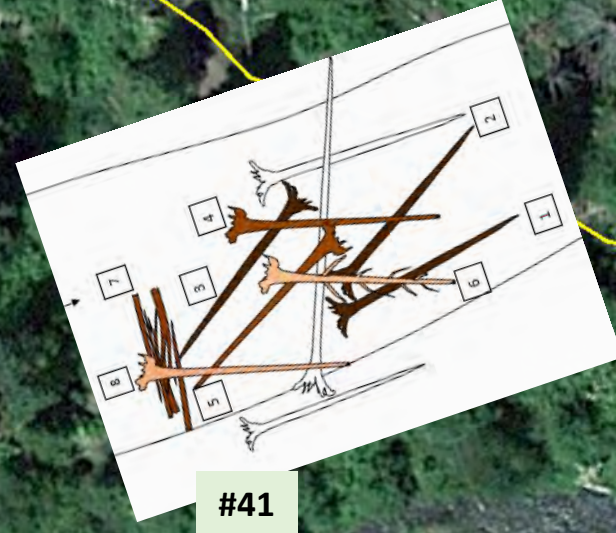


# PA3\_Woodloading

Structure 40-43

**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel



**#40**

Proposed Structure 40

**#43**

Proposed Structure 43

**#42**

Proposed Structure 42

**#41**

Proposed Structure 41

| Structure # | 40 | 41 | 42 | 43 |
|-------------|----|----|----|----|
| Logs        | 3  | 7  | 4  | 4  |
| Rock        | 0  | 0  | 0  | 0  |
| Racking     | 0  | 1  | 0  | 0  |



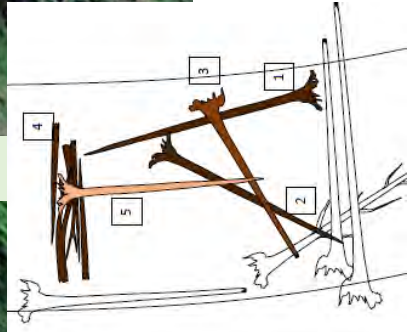
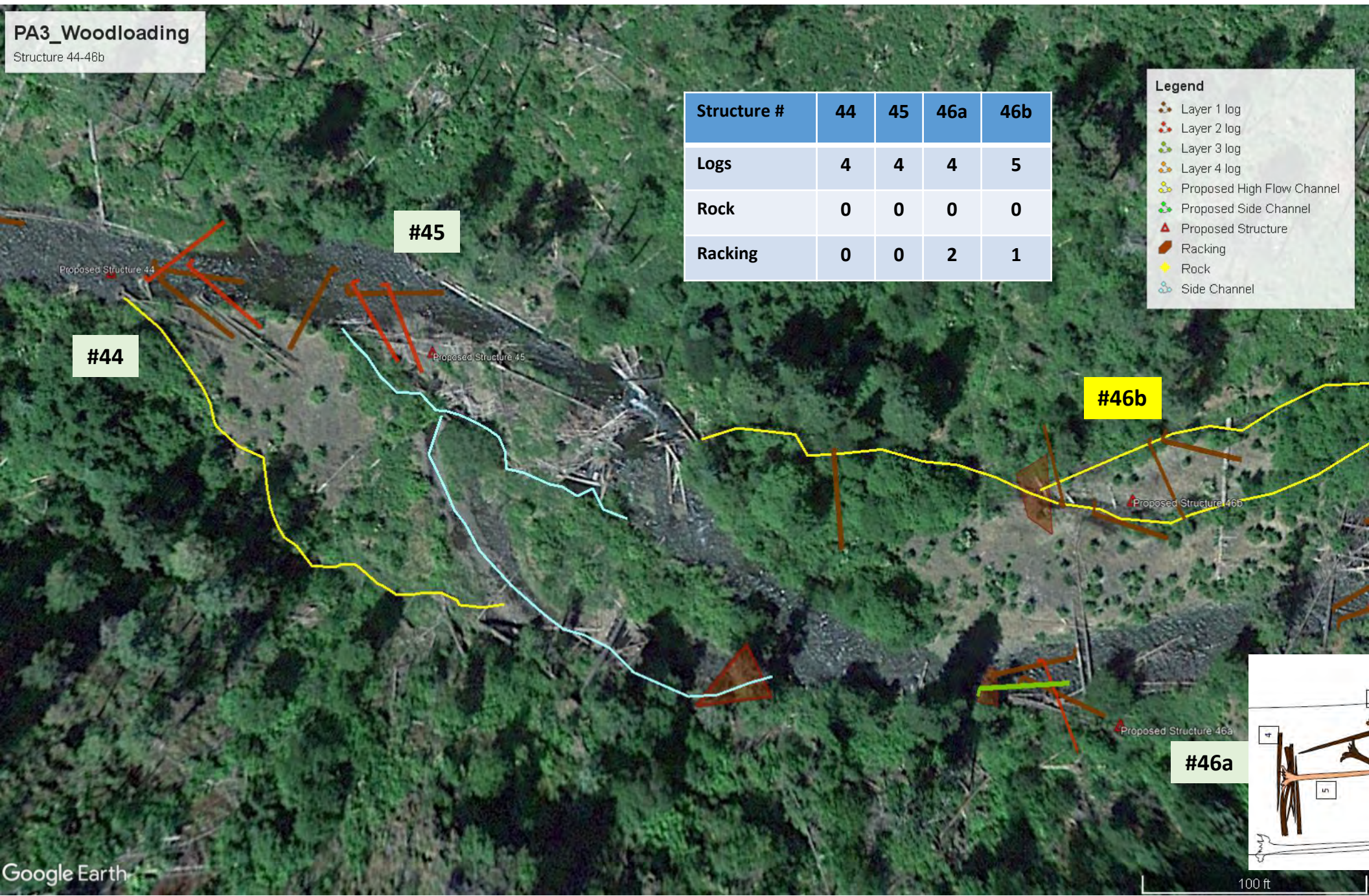
# PA3\_Woodloading

Structure 44-46b

| Structure # | 44 | 45 | 46a | 46b |
|-------------|----|----|-----|-----|
| Logs        | 4  | 4  | 4   | 5   |
| Rock        | 0  | 0  | 0   | 0   |
| Racking     | 0  | 0  | 2   | 1   |

**Legend**

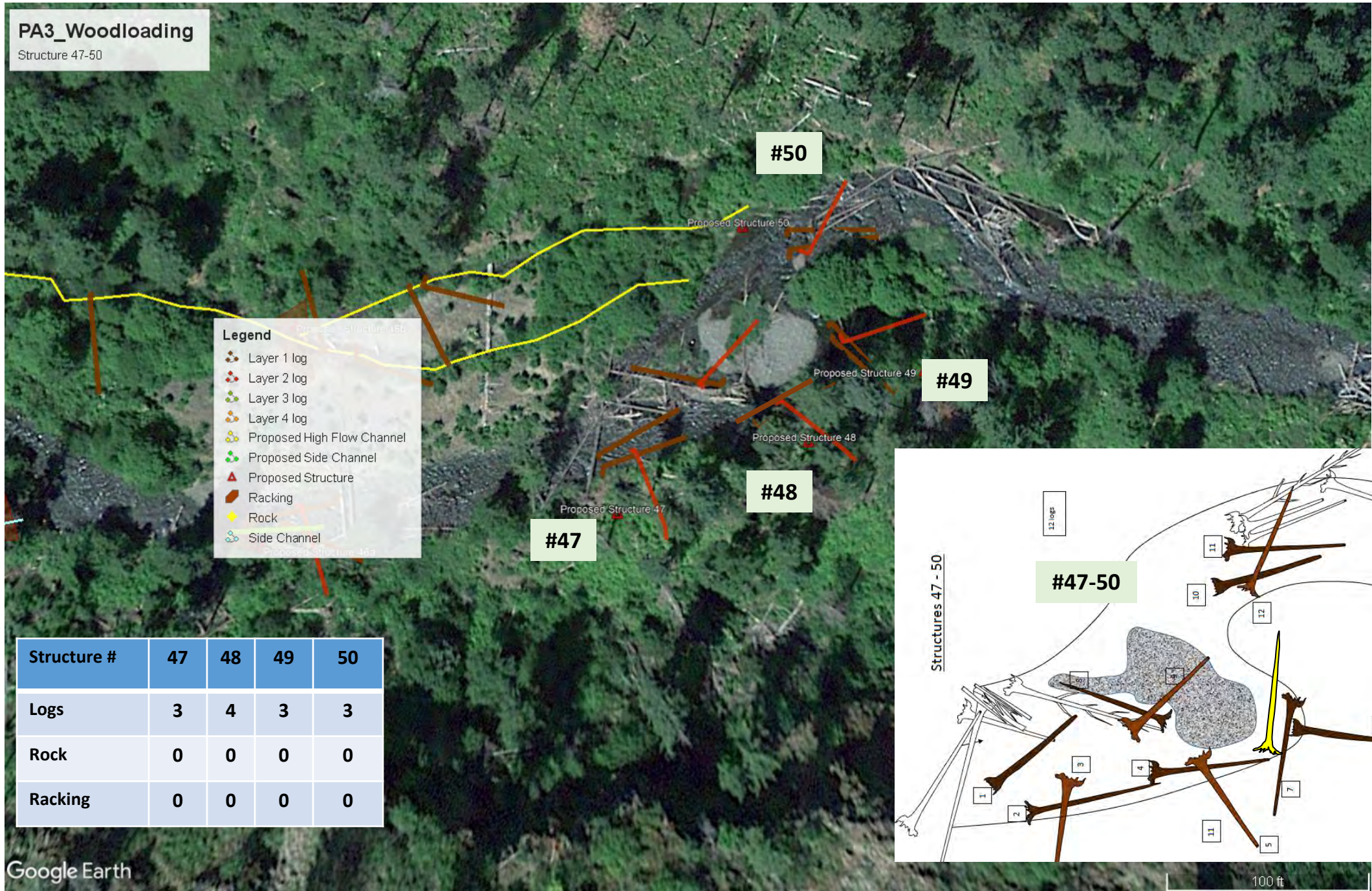
- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel



100 ft

# PA3\_Woodloading

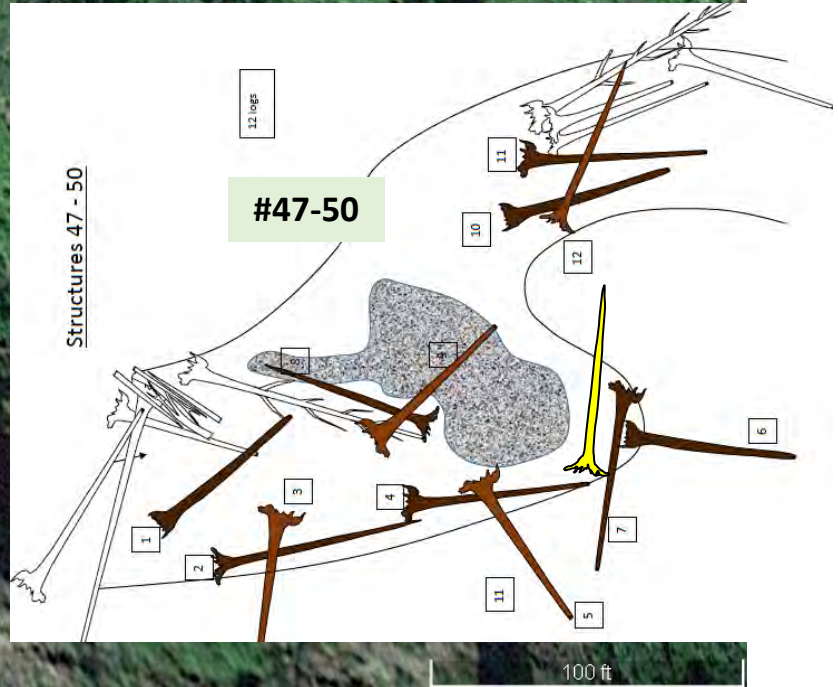
Structure 47-50



**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel

| Structure # | 47 | 48 | 49 | 50 |
|-------------|----|----|----|----|
| Logs        | 3  | 4  | 3  | 3  |
| Rock        | 0  | 0  | 0  | 0  |
| Racking     | 0  | 0  | 0  | 0  |

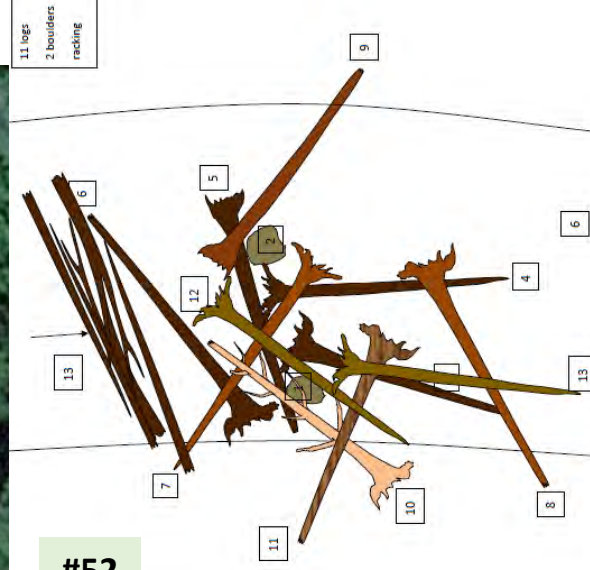




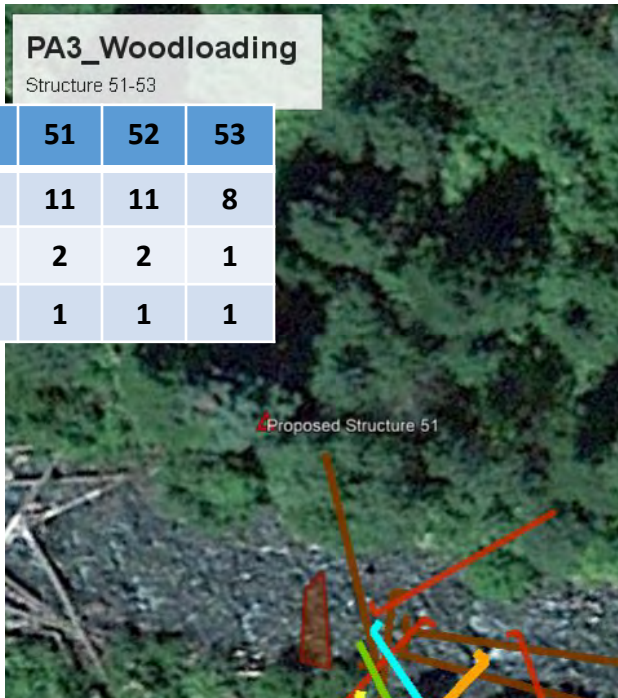
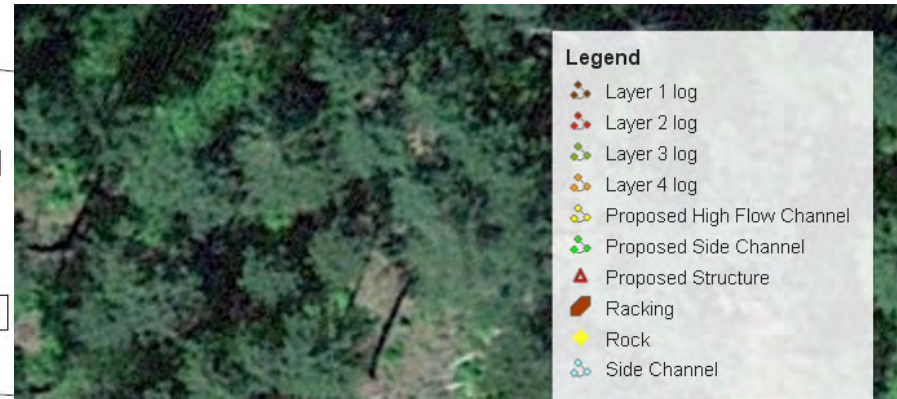
# PA3\_Woodloading

Structure 51-53

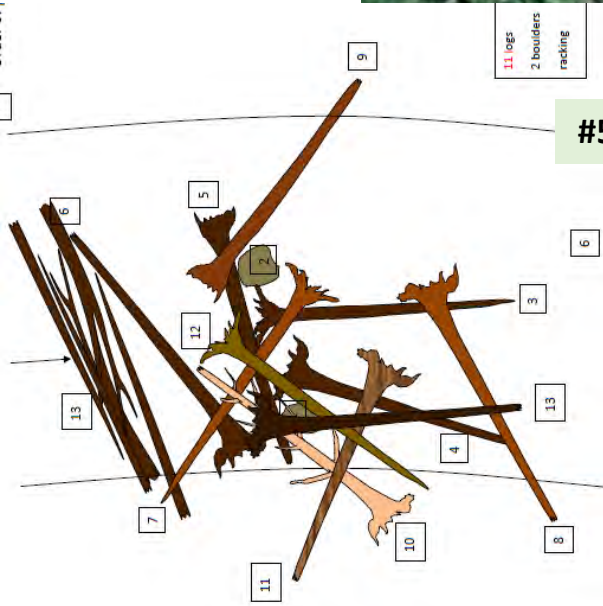
| Structure # | 51 | 52 | 53 |
|-------------|----|----|----|
| Logs        | 11 | 11 | 8  |
| Rock        | 2  | 2  | 1  |
| Racking     | 1  | 1  | 1  |



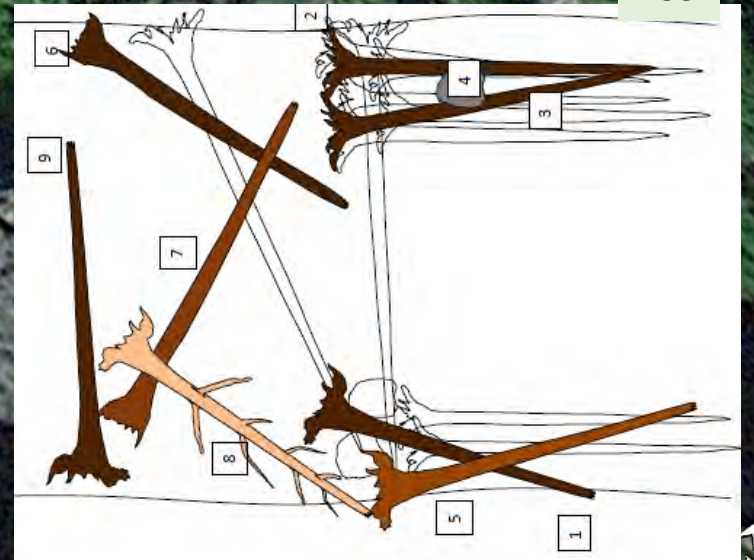
#52



#51



#53



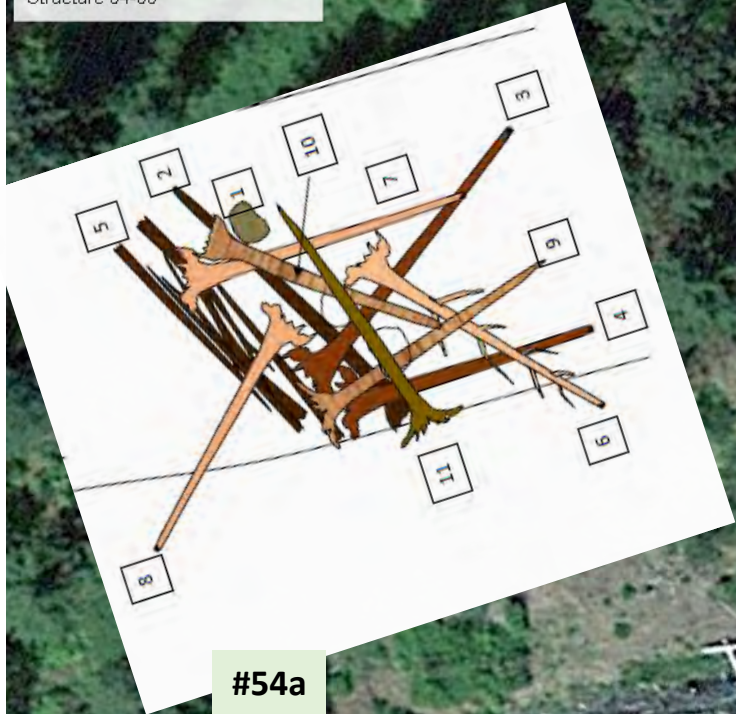
# PA3\_Woodloading

Structure 54-55

| Structure # | 54a | 54b | 55 |
|-------------|-----|-----|----|
| Logs        | 9   | 2   | 6  |
| Rock        | 1   | 0   | 2  |
| Racking     | 1   | 0   | 1  |

**Legend**

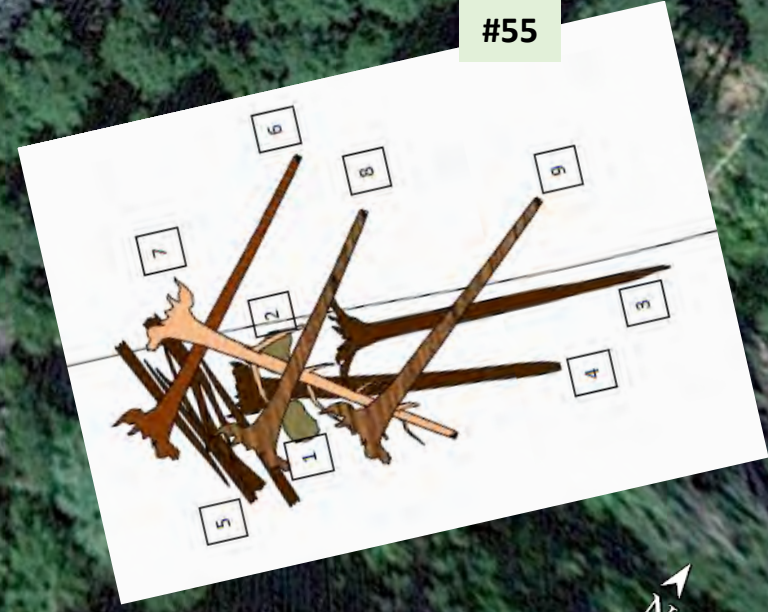
- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel



#54a

#54b

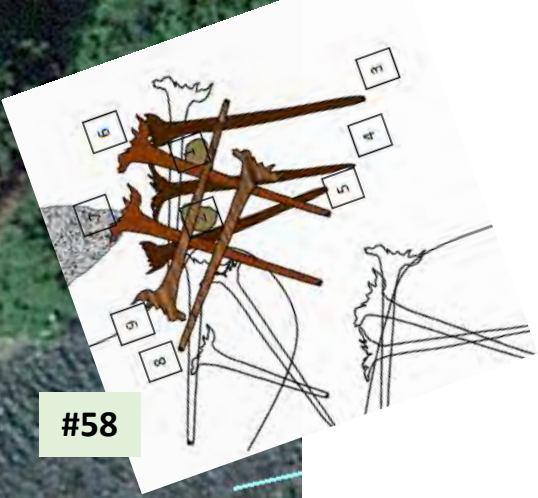
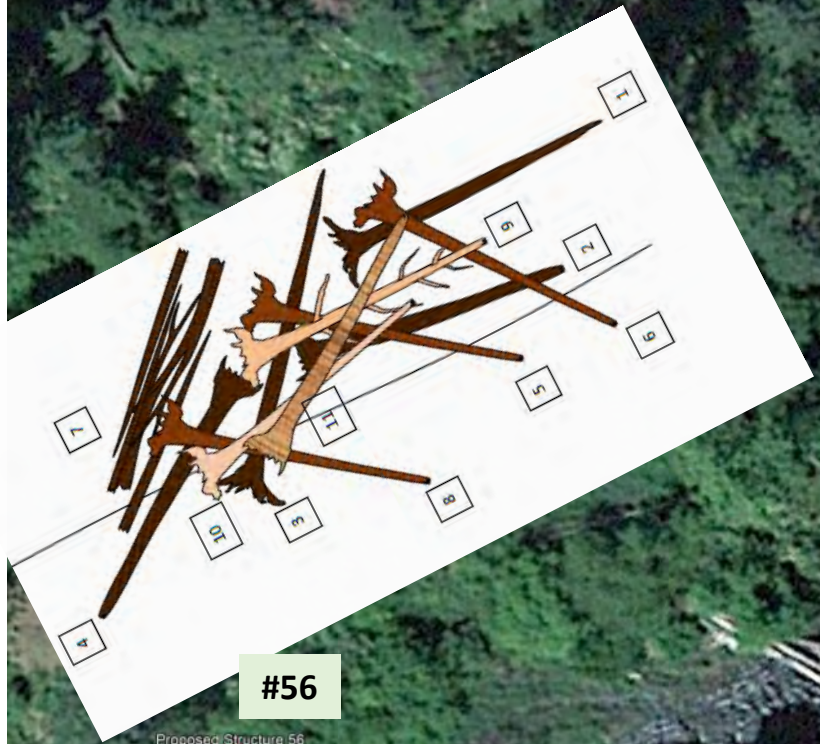
#55



# PA3\_Woodloading

Structure 56-58

| Structure # | 56 | 57 | 58 |
|-------------|----|----|----|
| Logs        | 10 | 2  | 7  |
| Rock        | 0  | 0  | 2  |
| Racking     | 1  | 0  | 0  |



#57

Proposed Structure 57



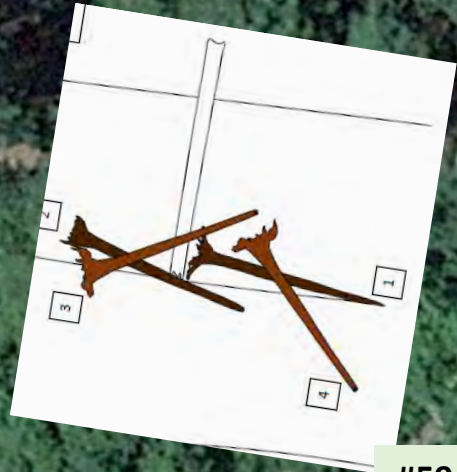
**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel

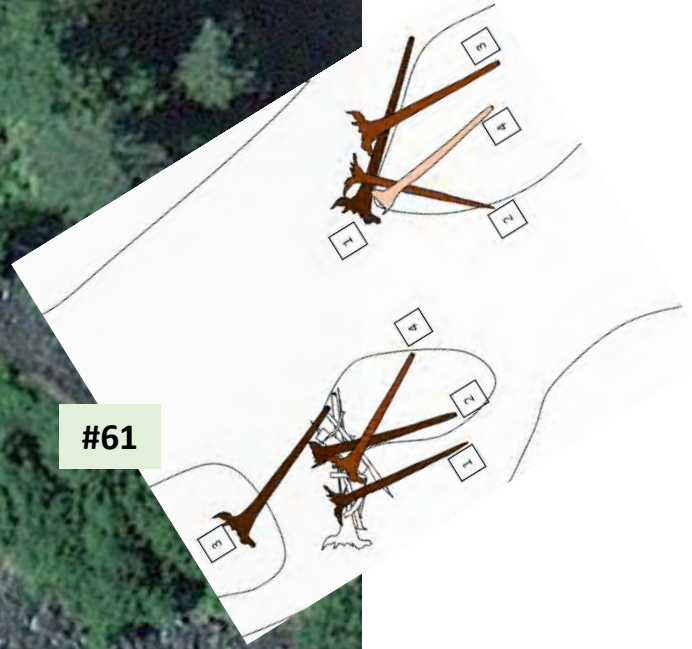
# PA3\_Woodloading

Structure 59-61

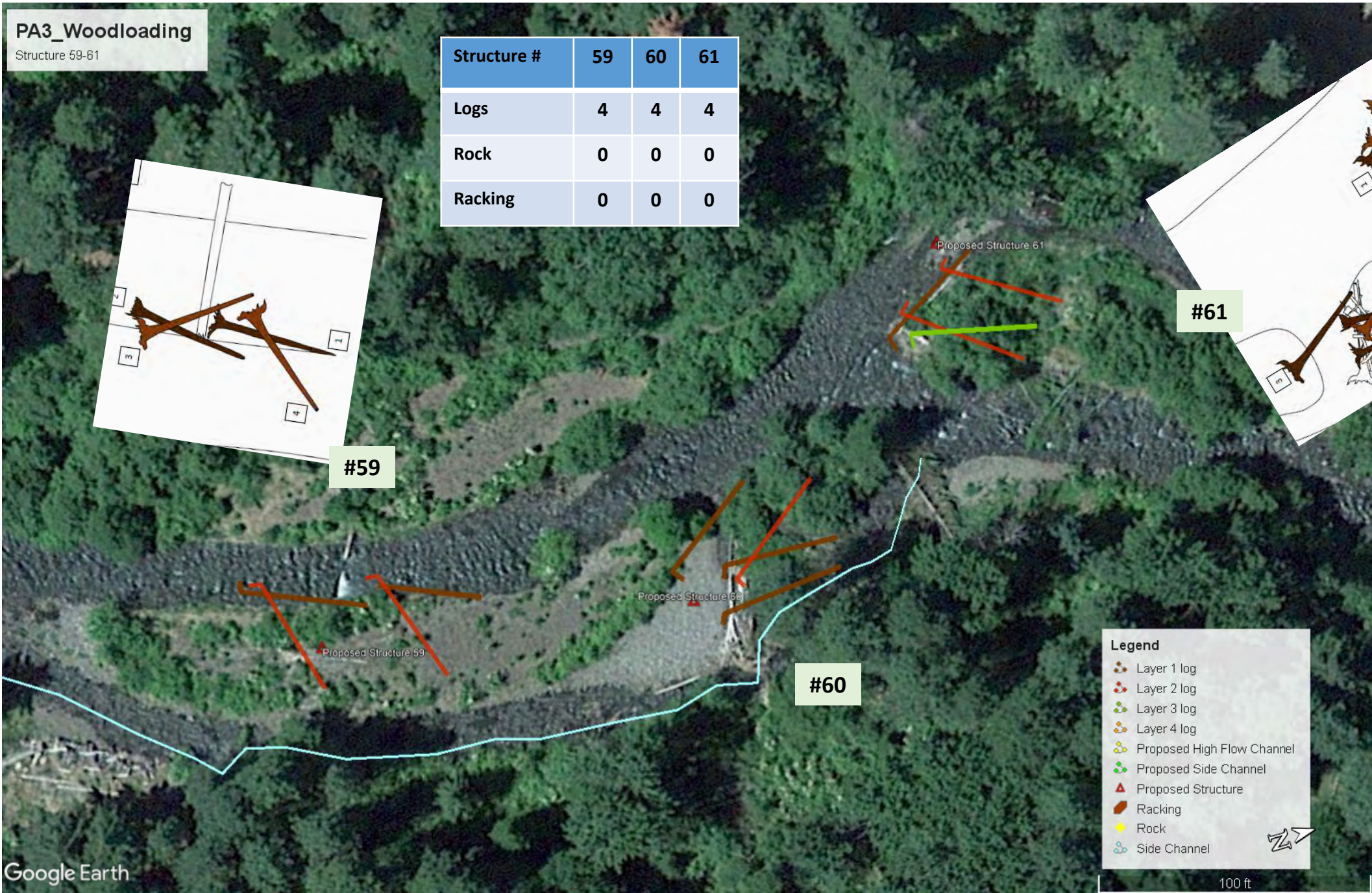
| Structure # | 59 | 60 | 61 |
|-------------|----|----|----|
| Logs        | 4  | 4  | 4  |
| Rock        | 0  | 0  | 0  |
| Racking     | 0  | 0  | 0  |



#59



#61

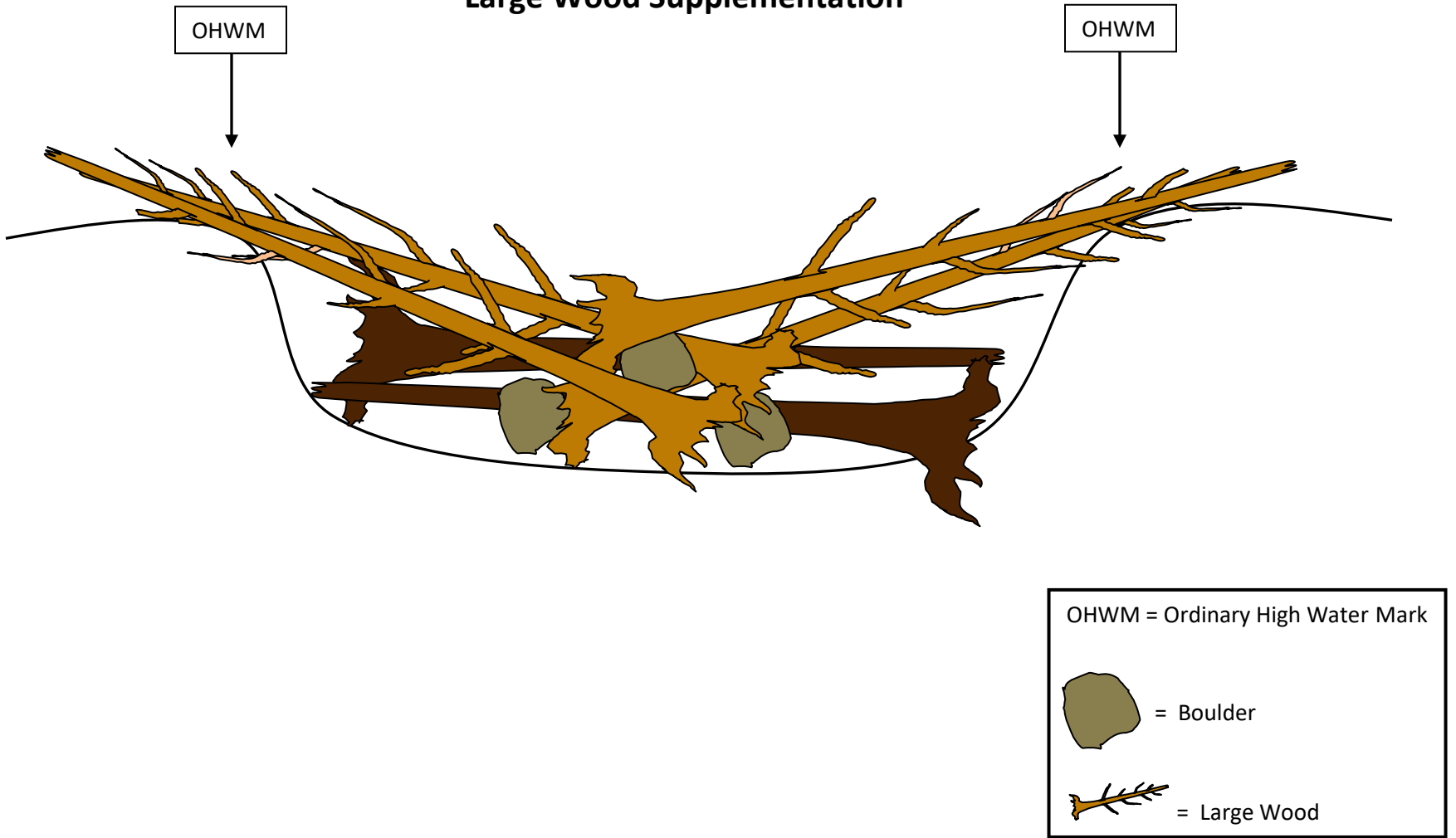


**Legend**

- Layer 1 log
- Layer 2 log
- Layer 3 log
- Layer 4 log
- Proposed High Flow Channel
- Proposed Side Channel
- Proposed Structure
- Racking
- Rock
- Side Channel

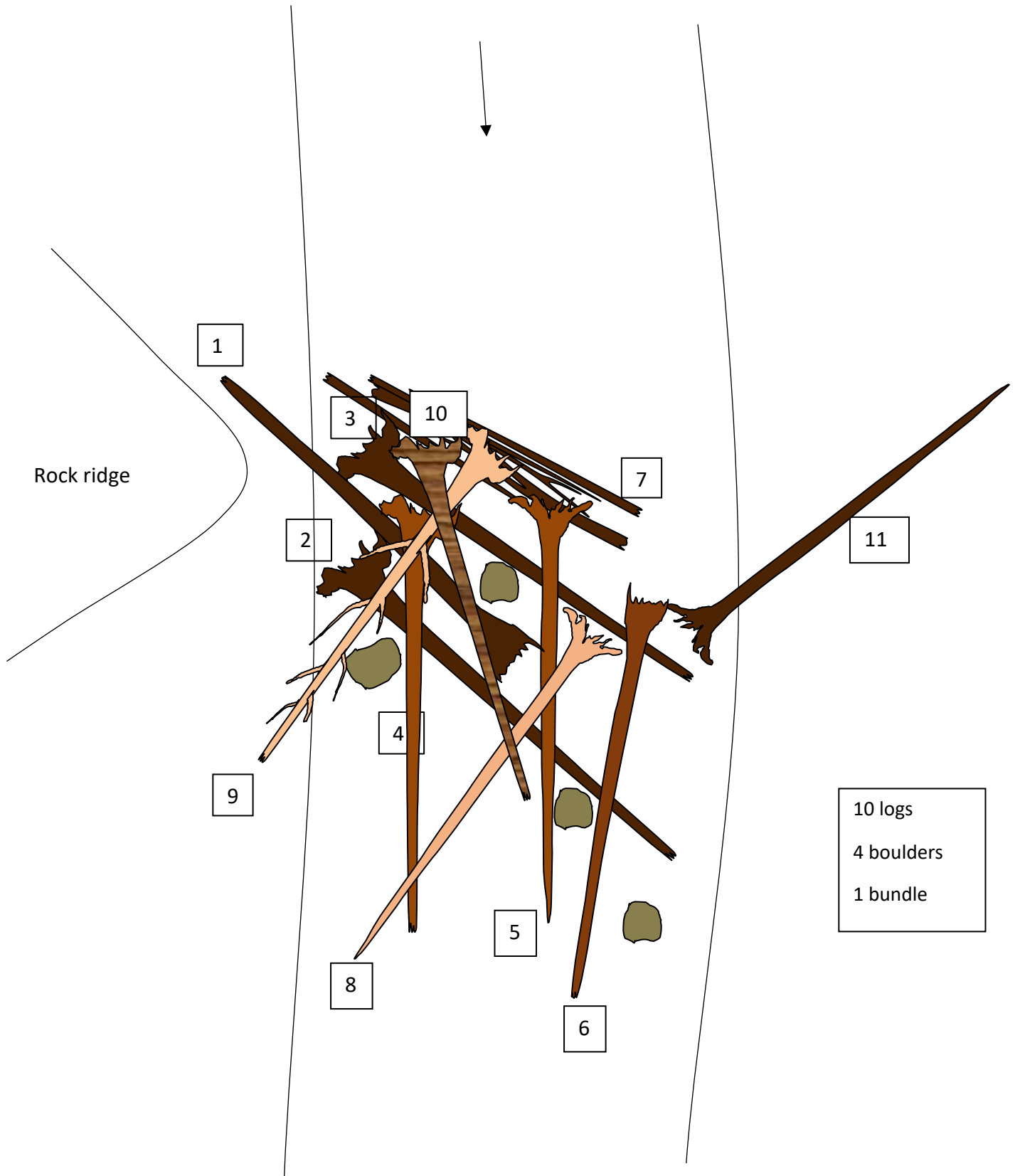
# Tucannon River – Project Area 3

## Example Cross-section Schematic of Proposed Large Wood Supplementation

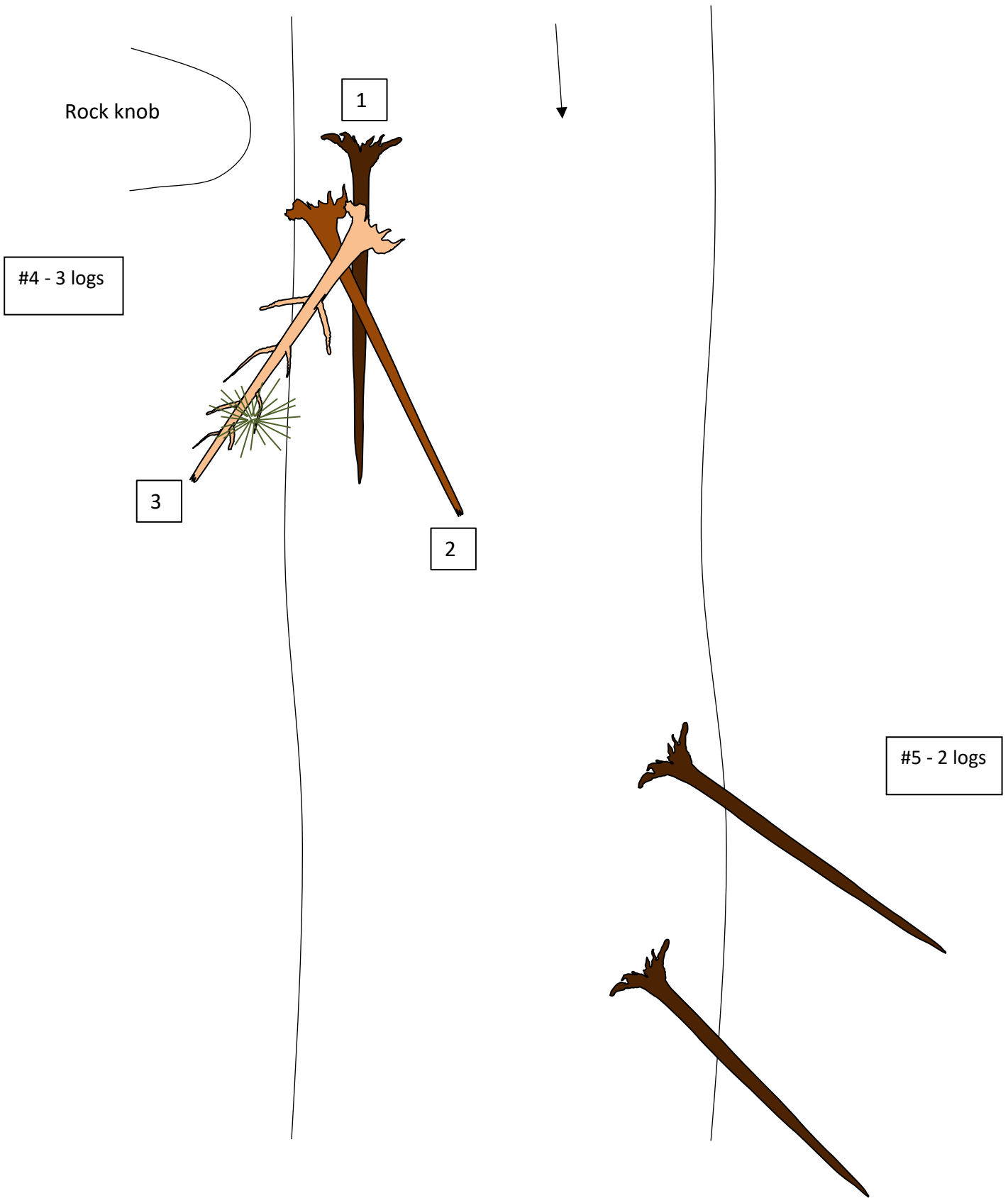


# Tucannon PA 3 Structure 3

# = Order of placement

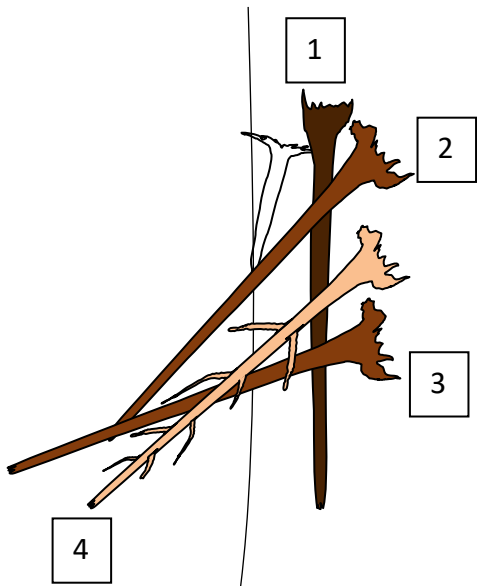


# Structures 4, 5

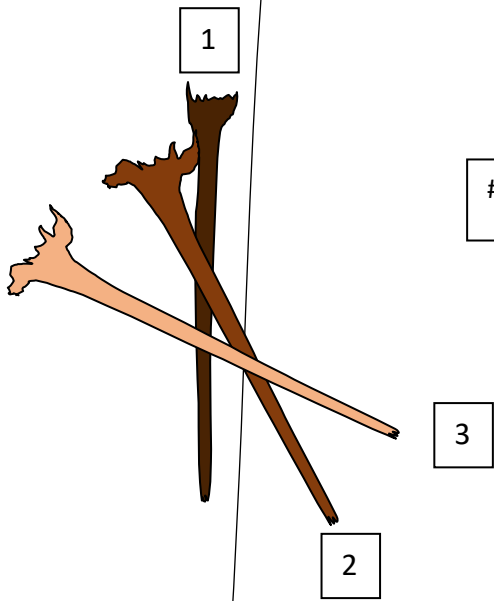


# Structures 6, 7

#6 - 4 logs



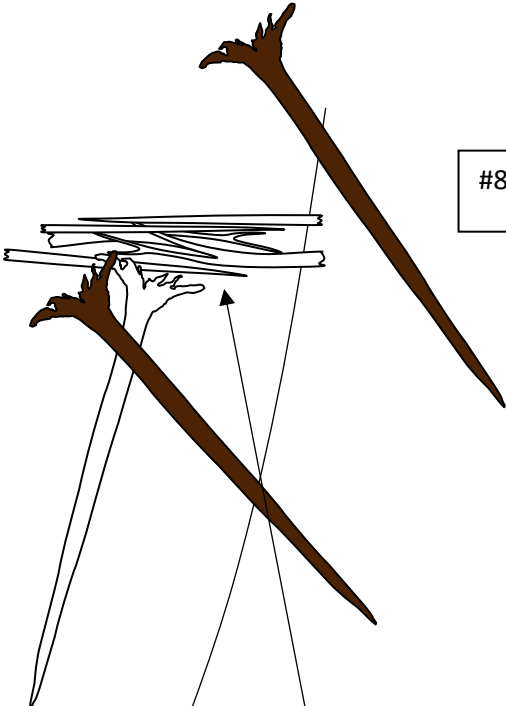
#7 - 3 logs



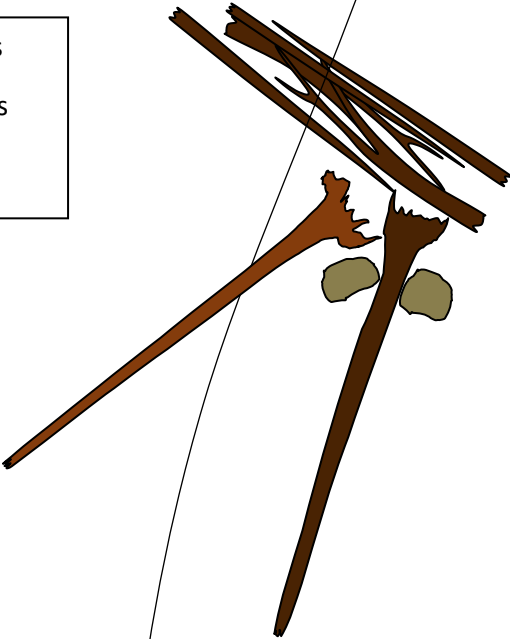


Structures 8, 9

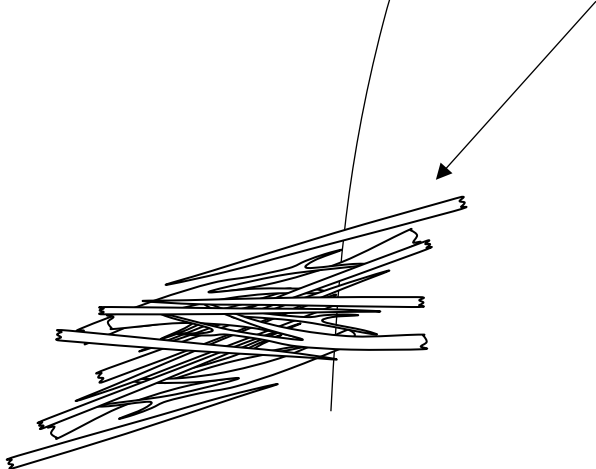
#8 - 2 logs



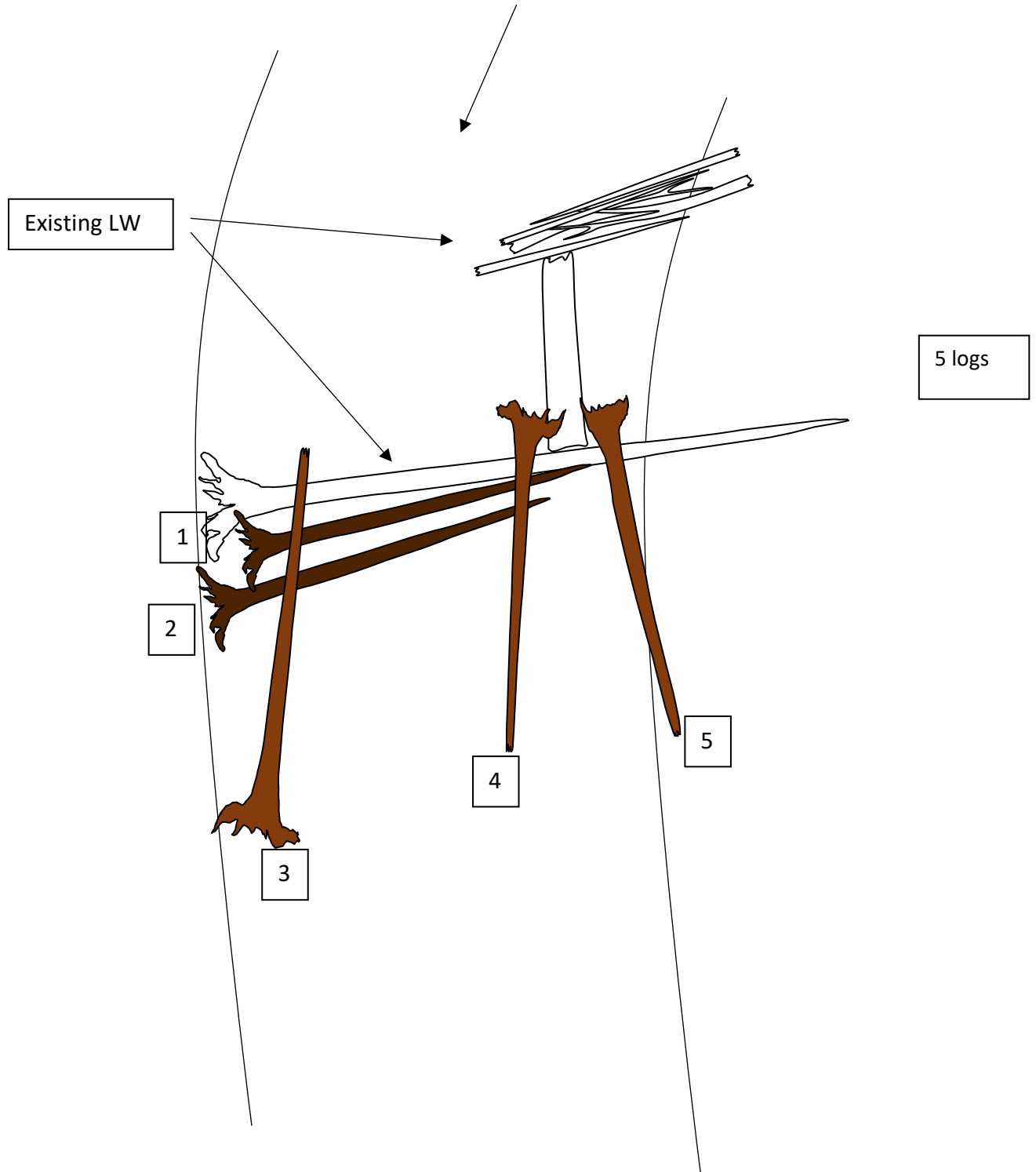
#9 - 2 logs  
2 boulders  
1 bundle



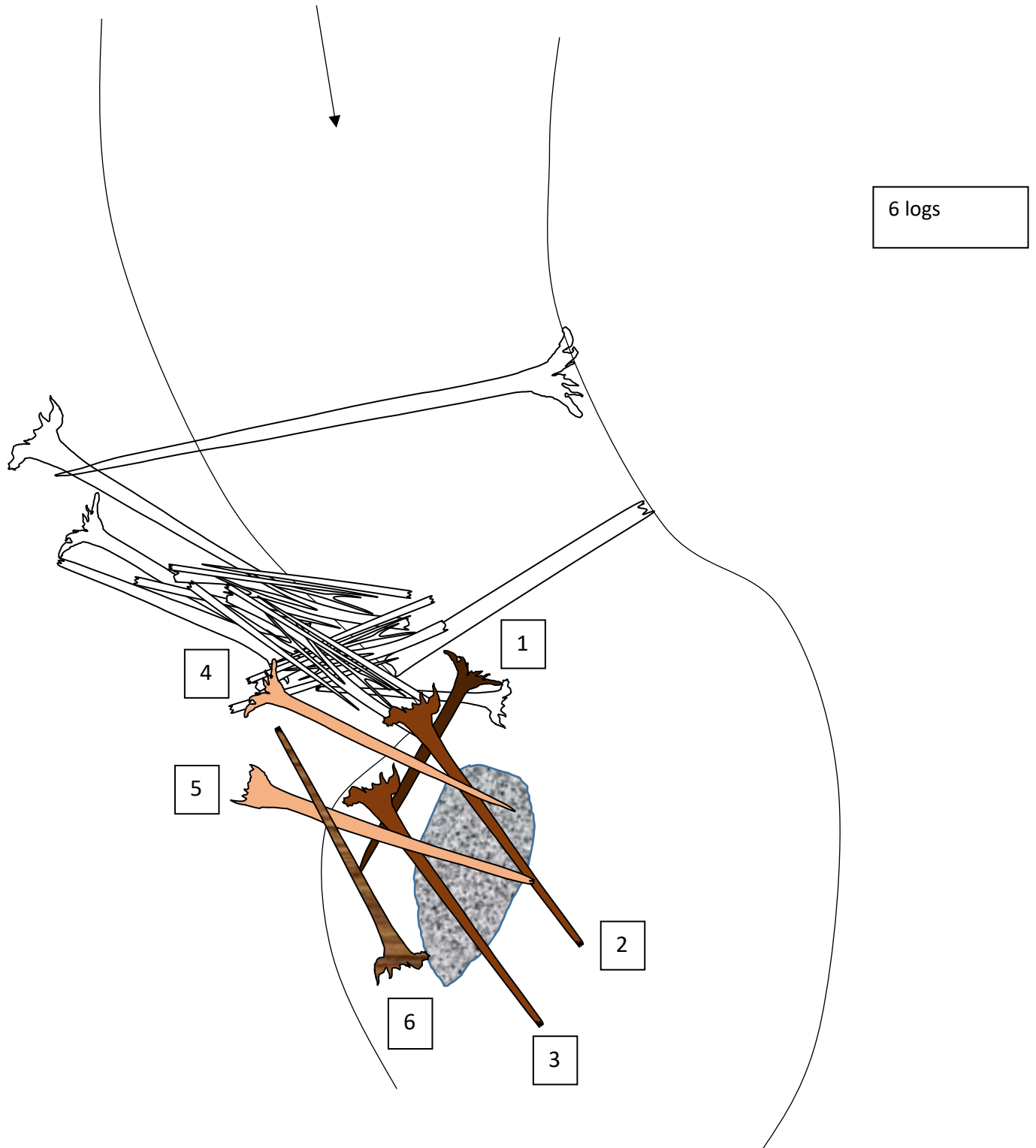
Existing logjams



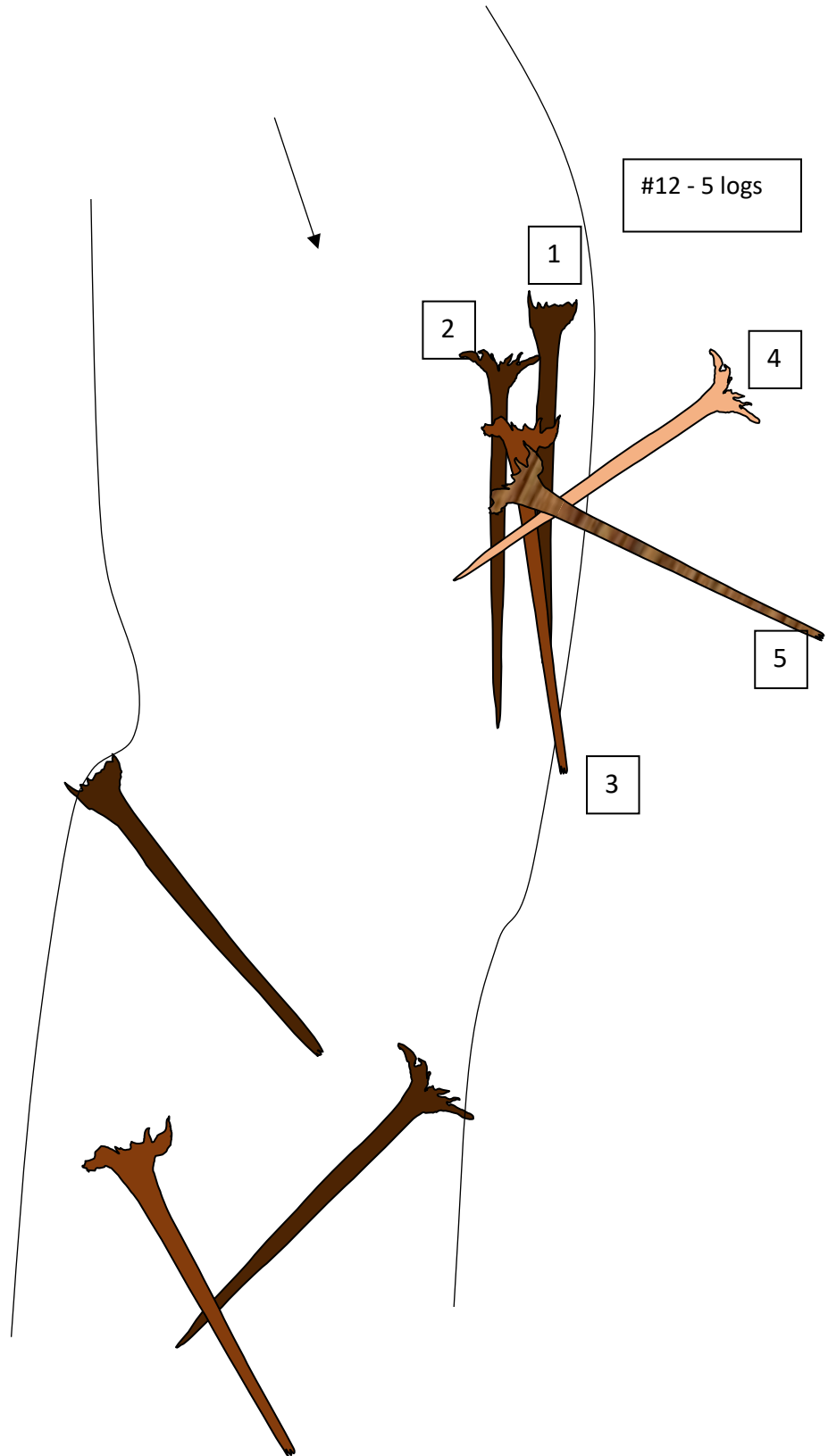
# Structure 10



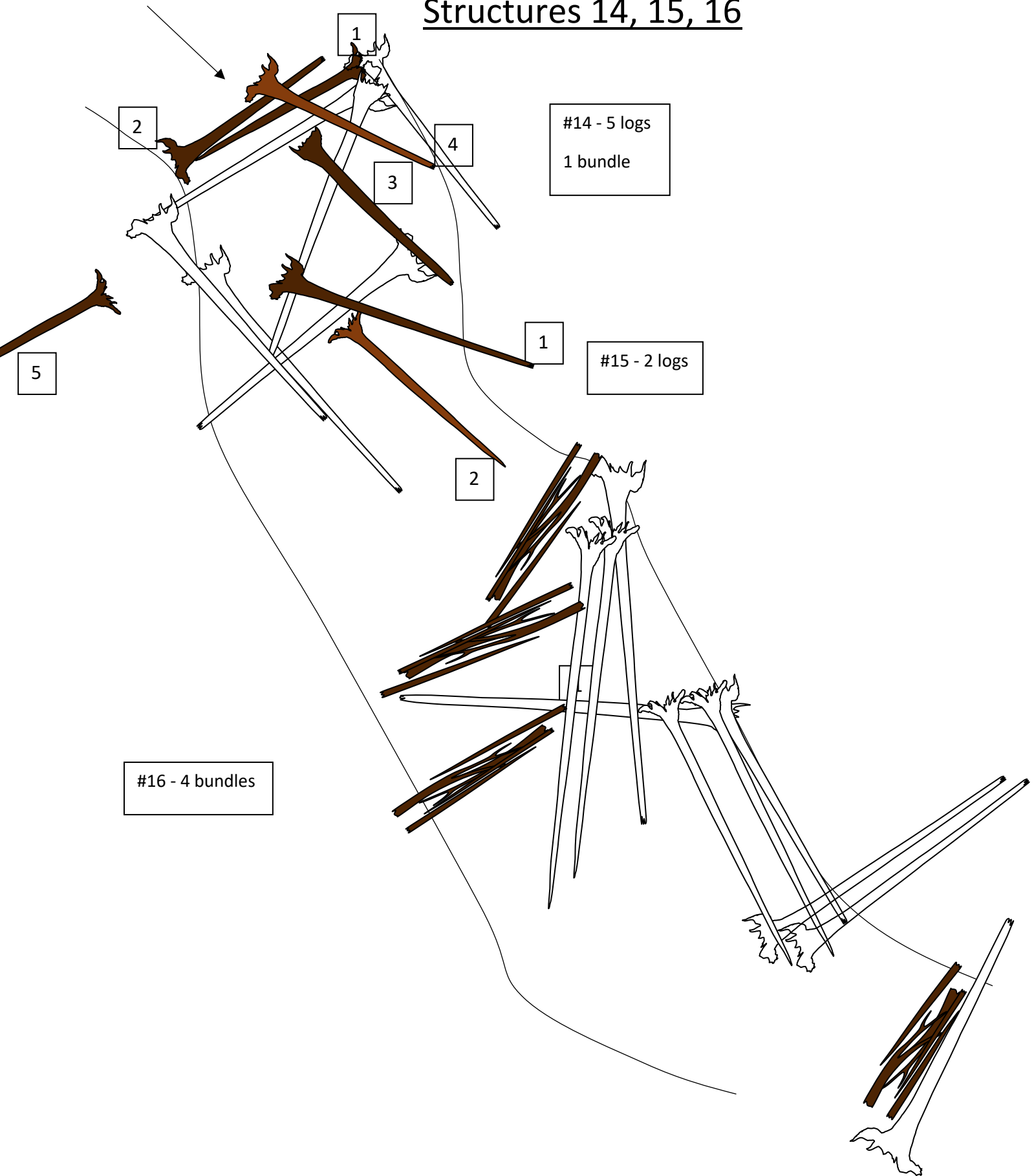
# Structure 11



# Structures 12, 13

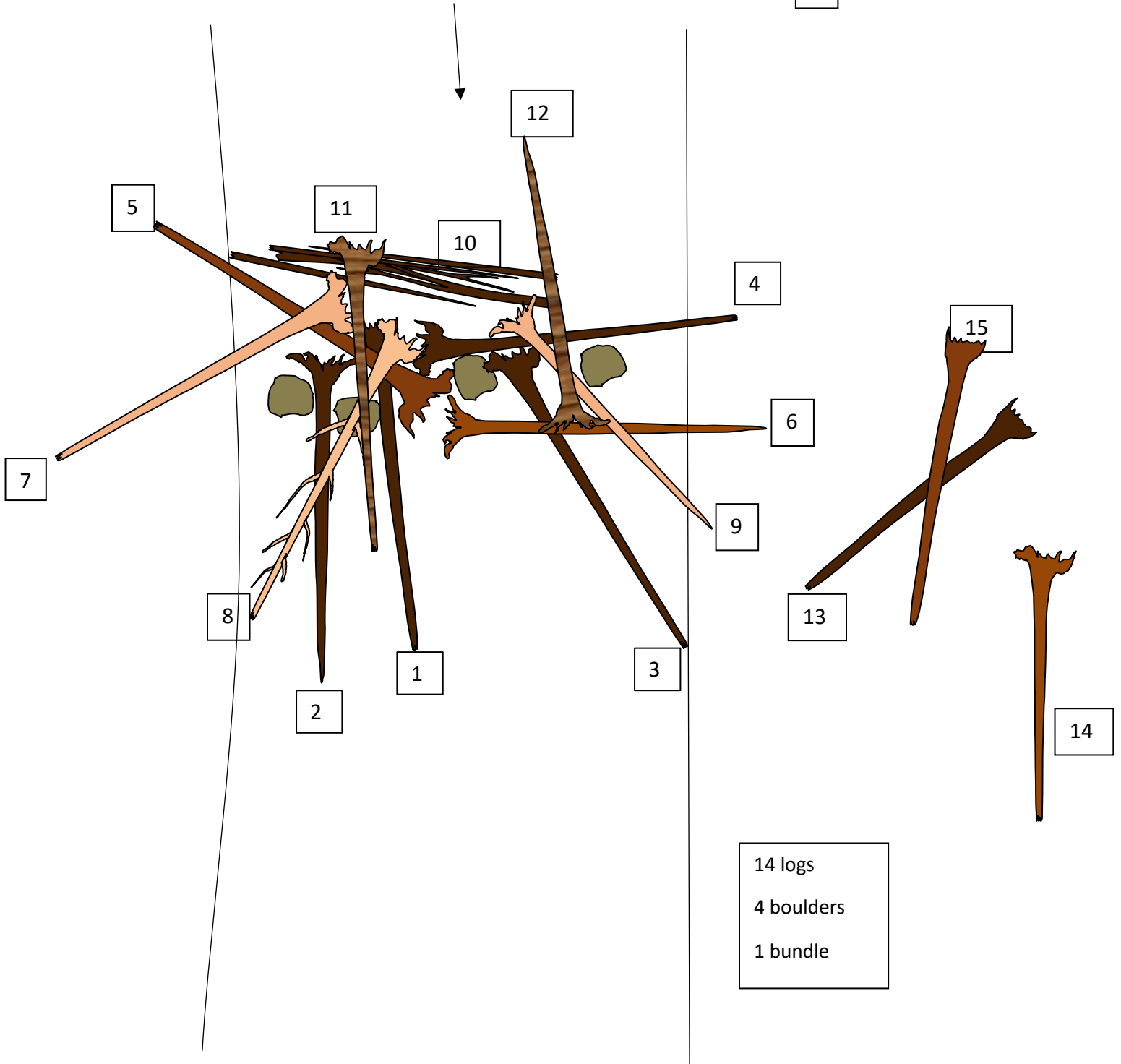


# Structures 14, 15, 16

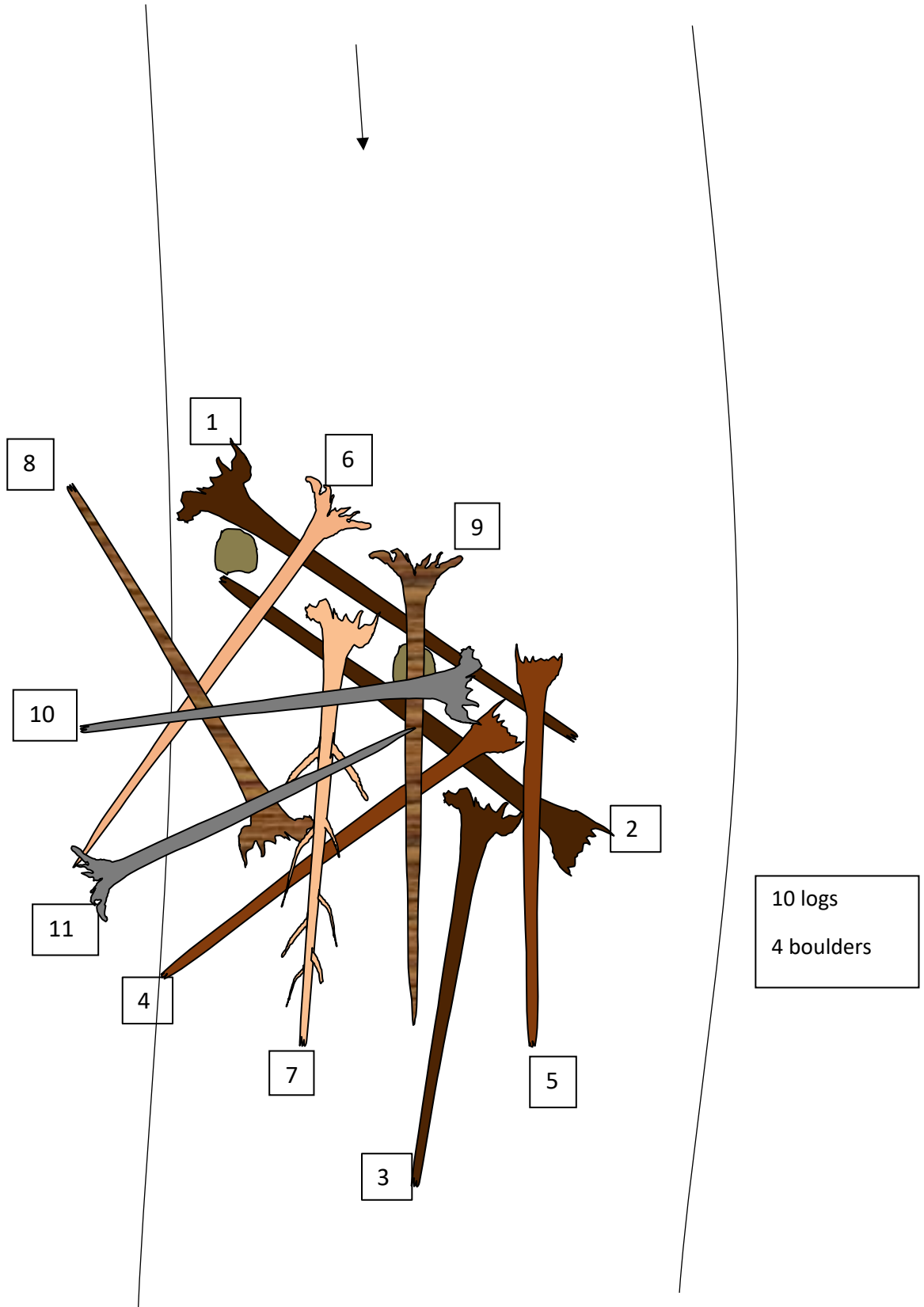


# Tucannon PA 3 Structure 17

# = Order of placement

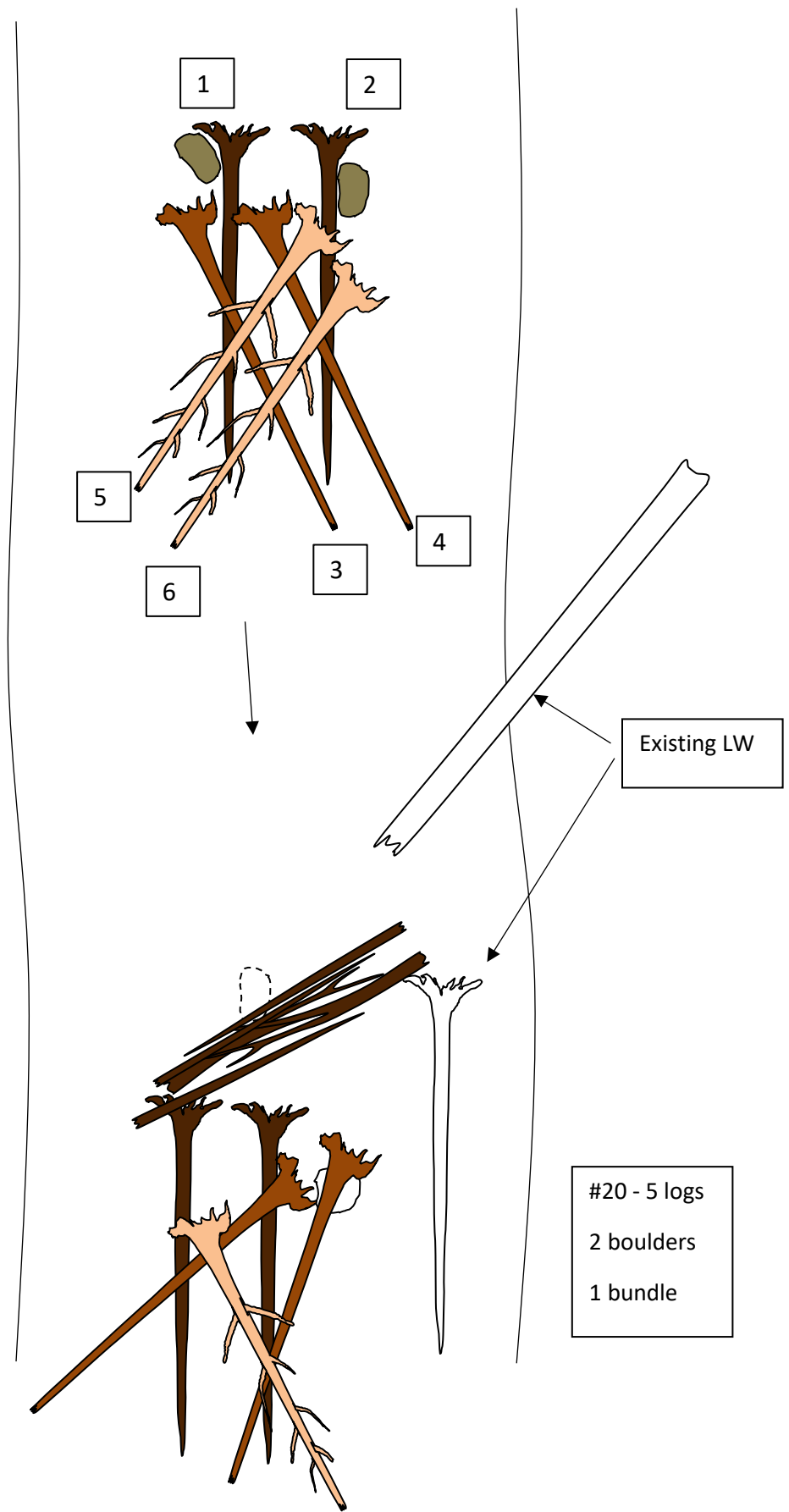


# Structure 18



# Structures 19, 20

#19 - 6 logs  
3 boulders

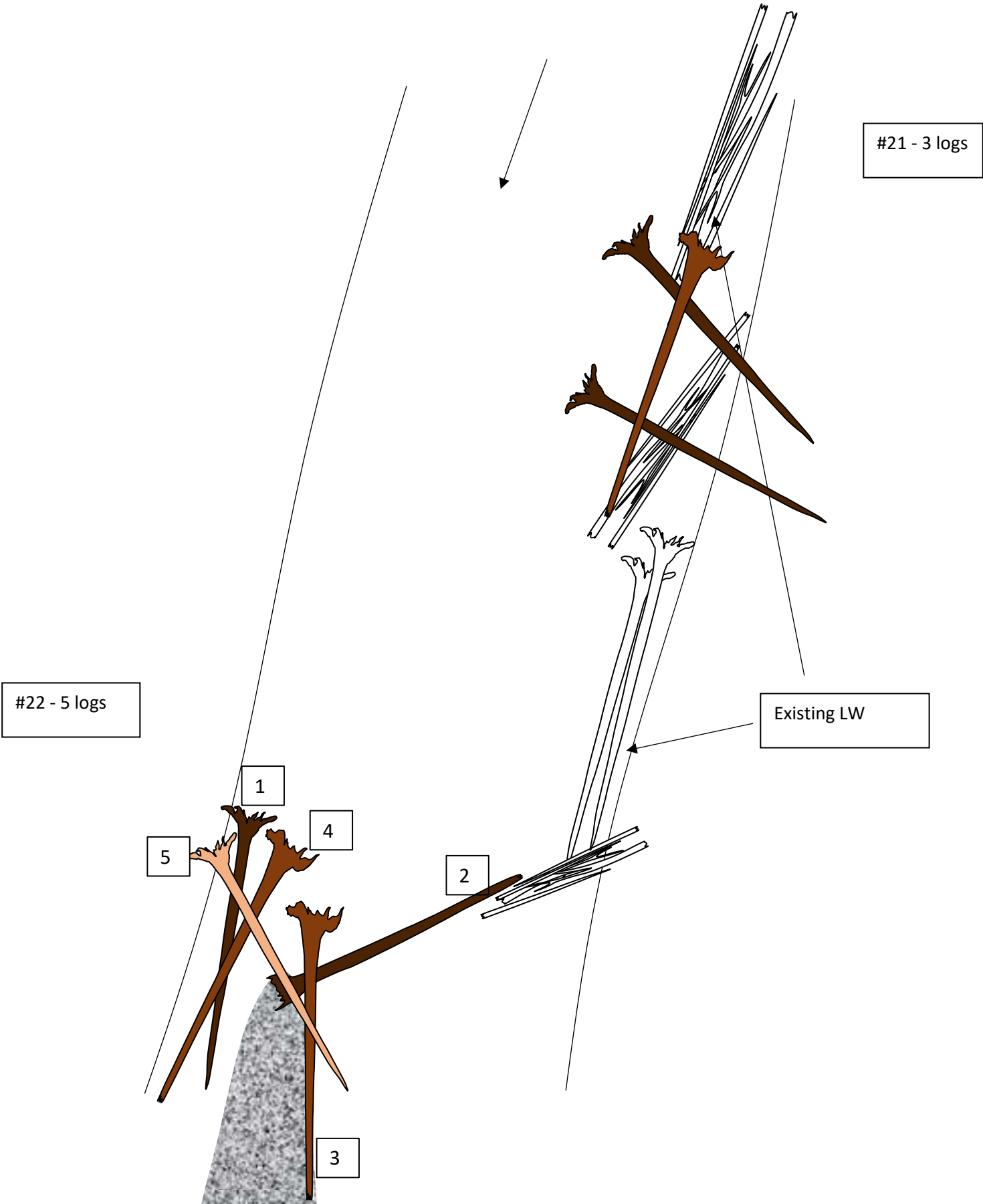


Existing LW

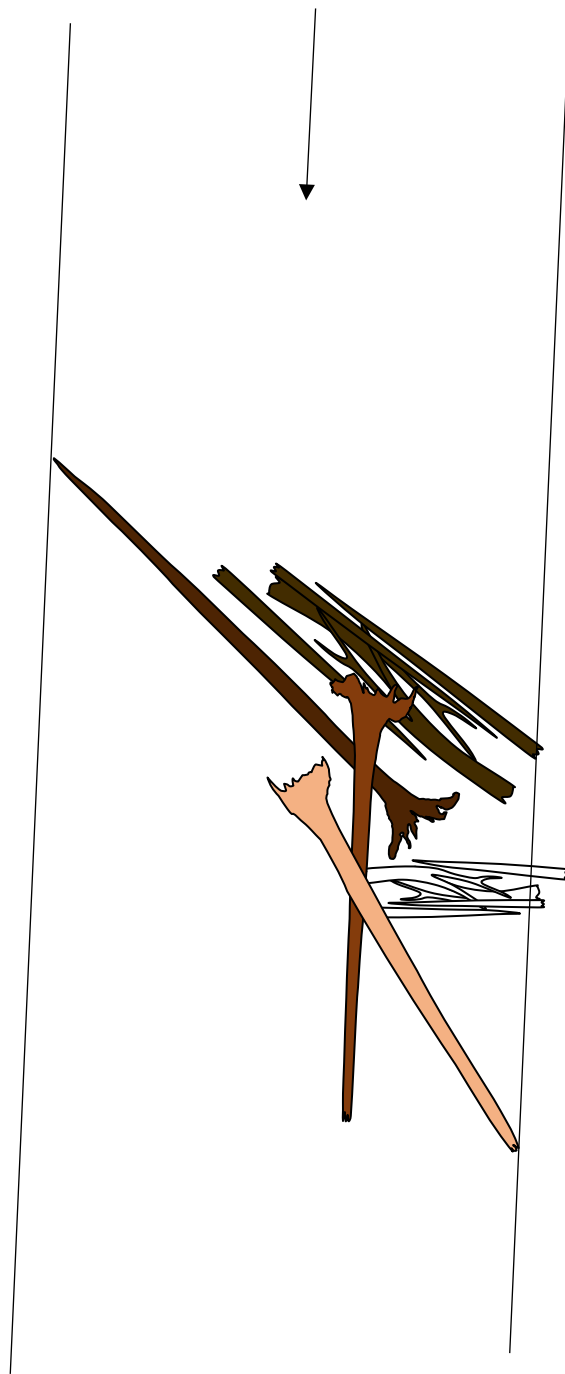
#20 - 5 logs  
2 boulders  
1 bundle



Structures 21, 22



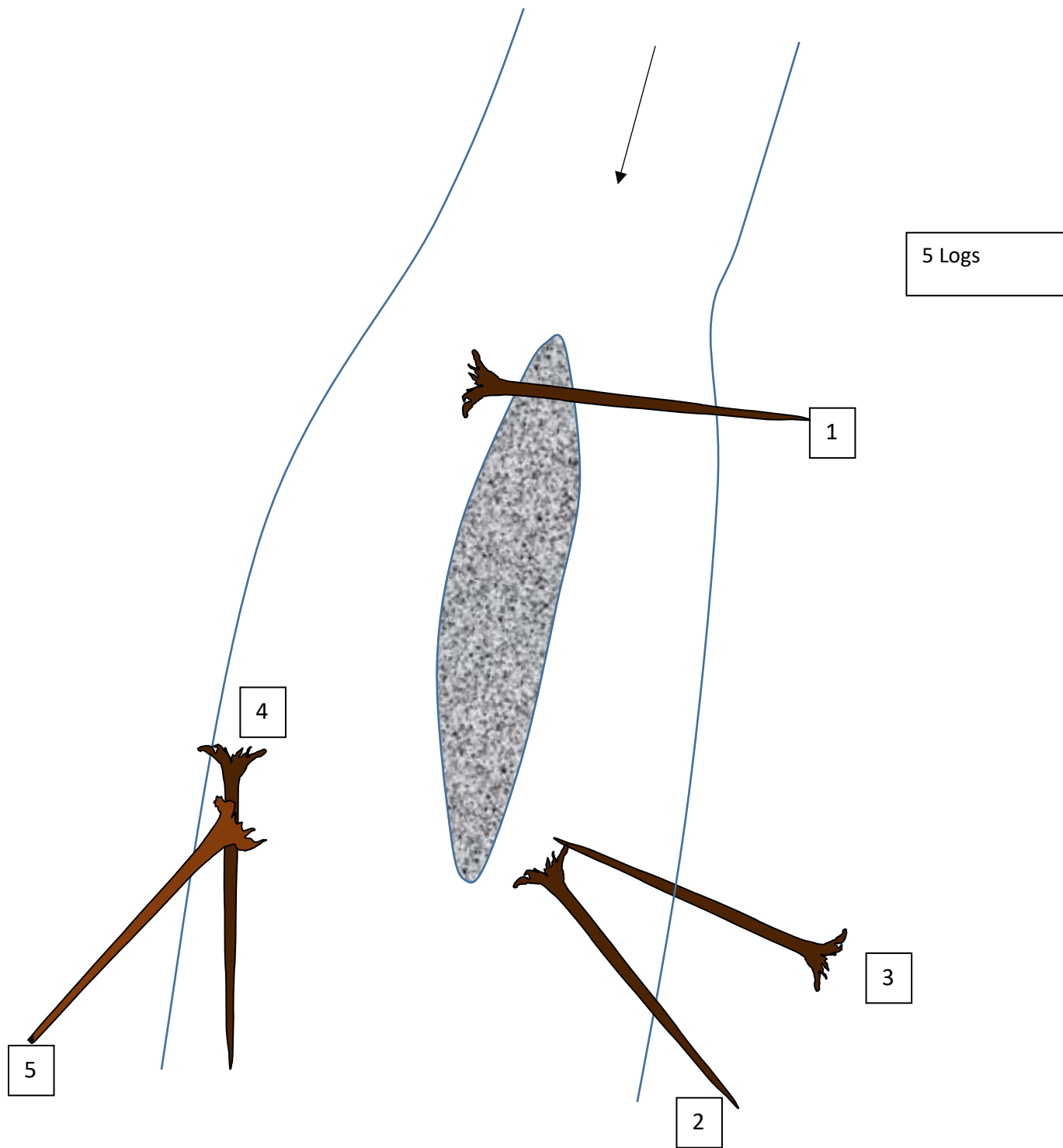
# Structure 23



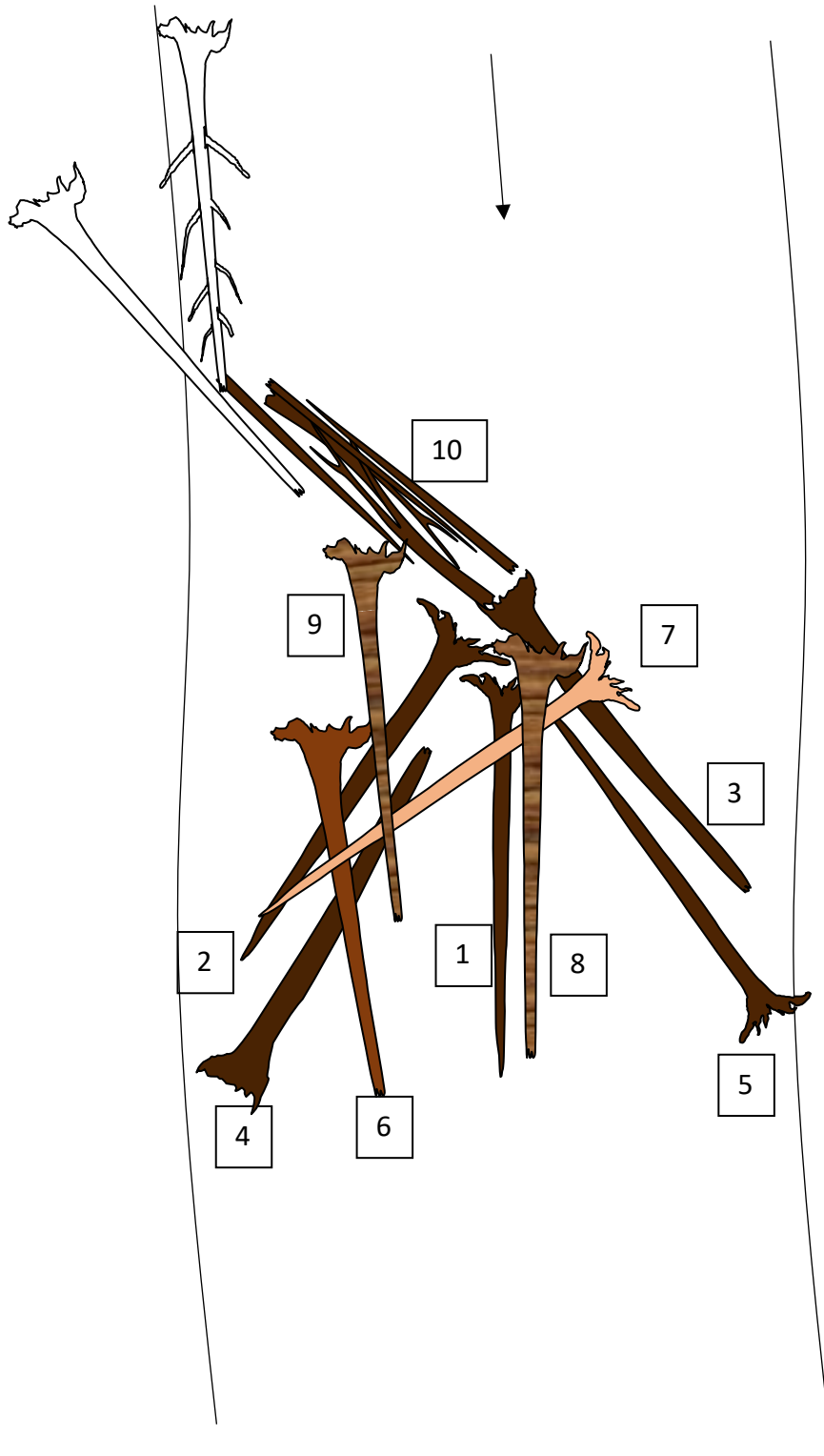
3 logs

1 bundle

# Structure 24

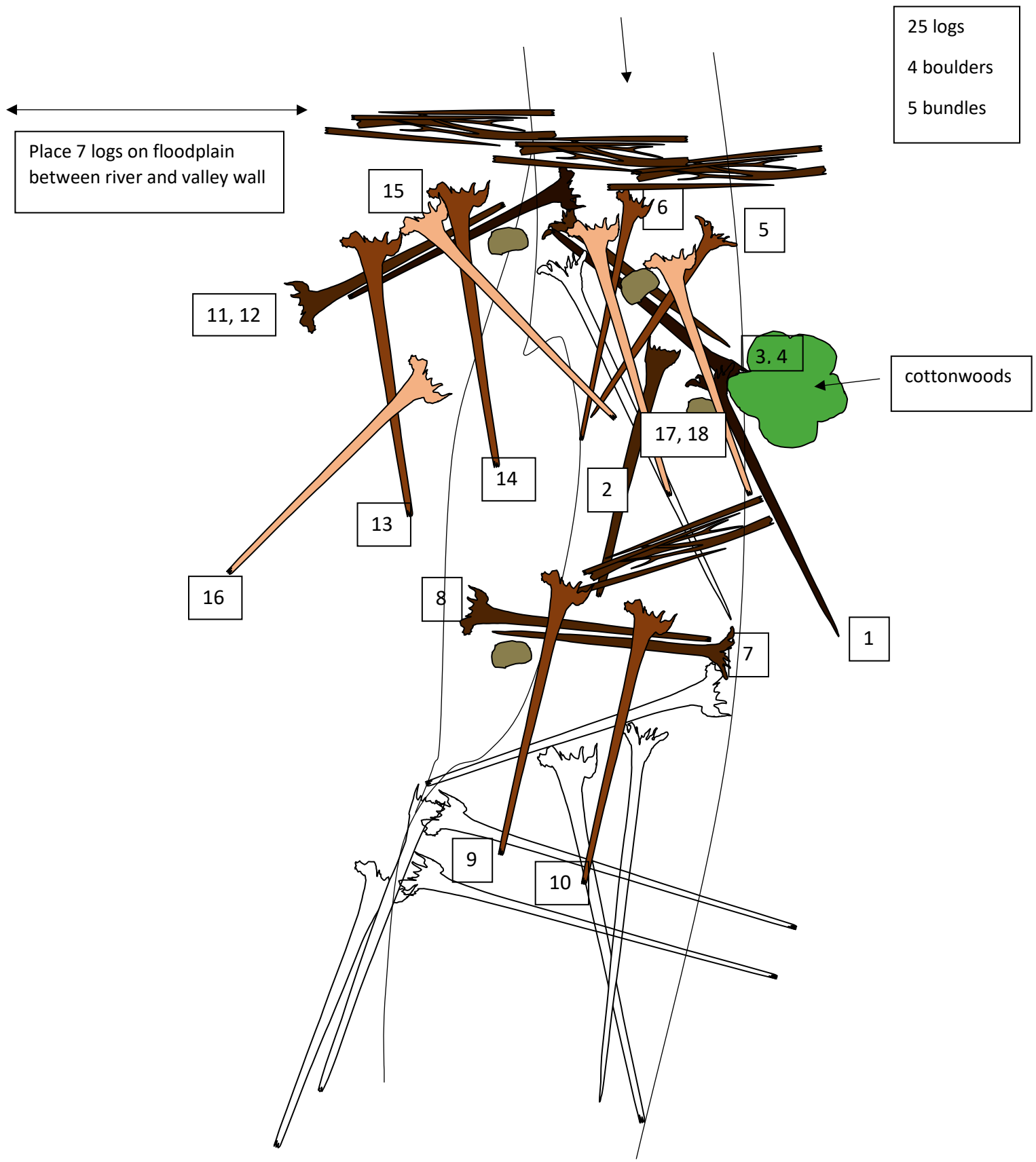


## Structure 25

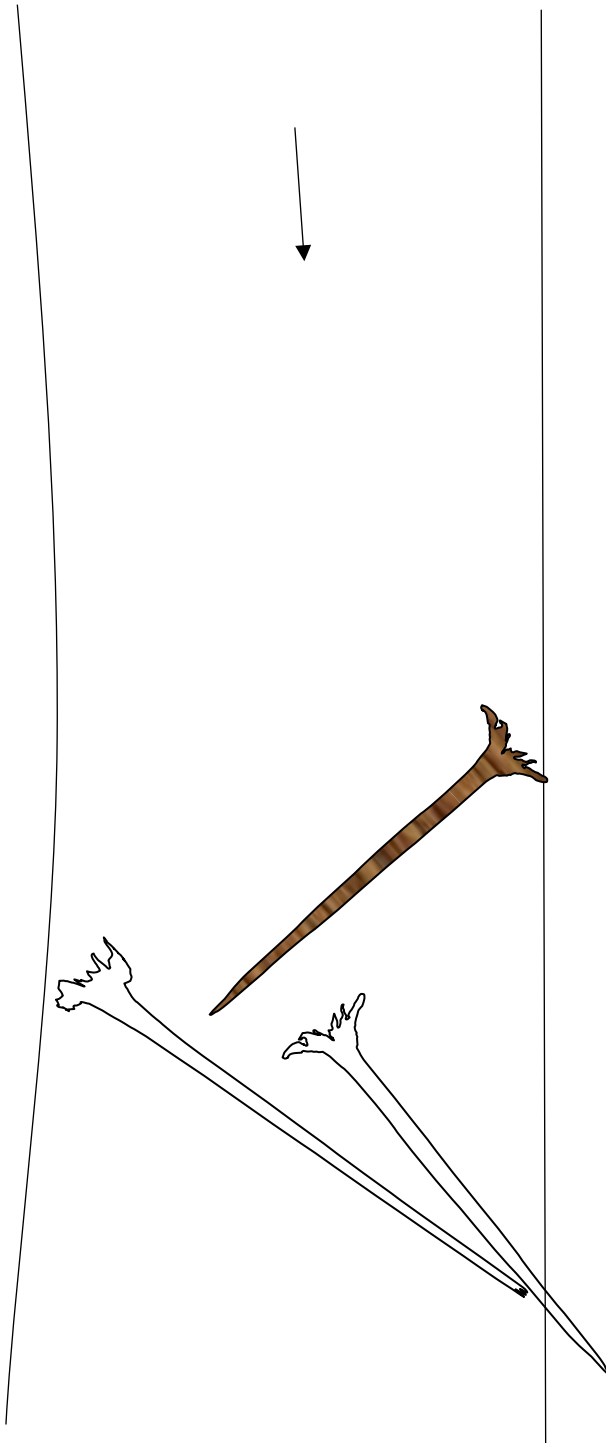


9 logs and 1 bundle in structure; 3 additional logs placed randomly in upstream channel

# Structure 26

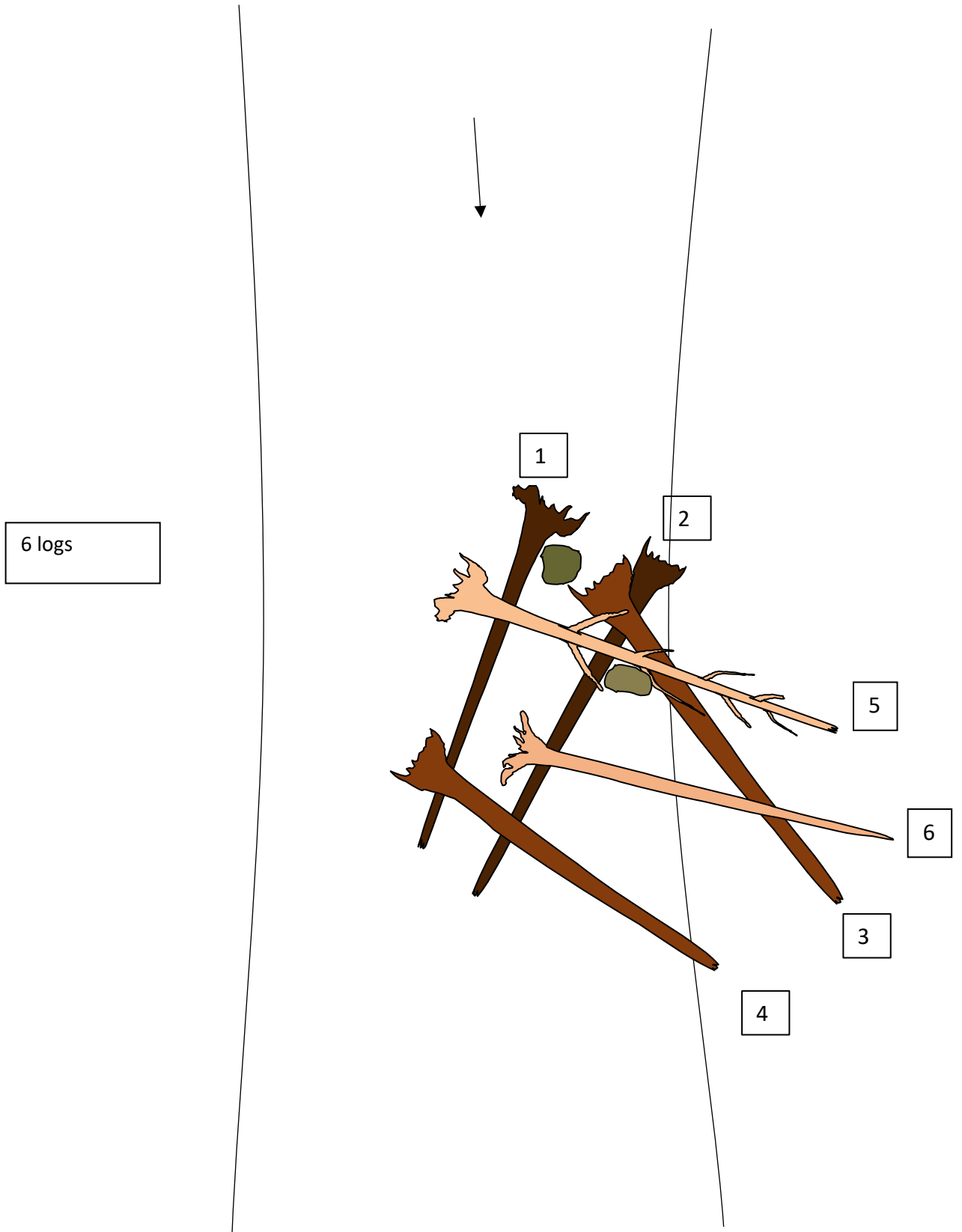


Tucannon PA 3  
Structure 27



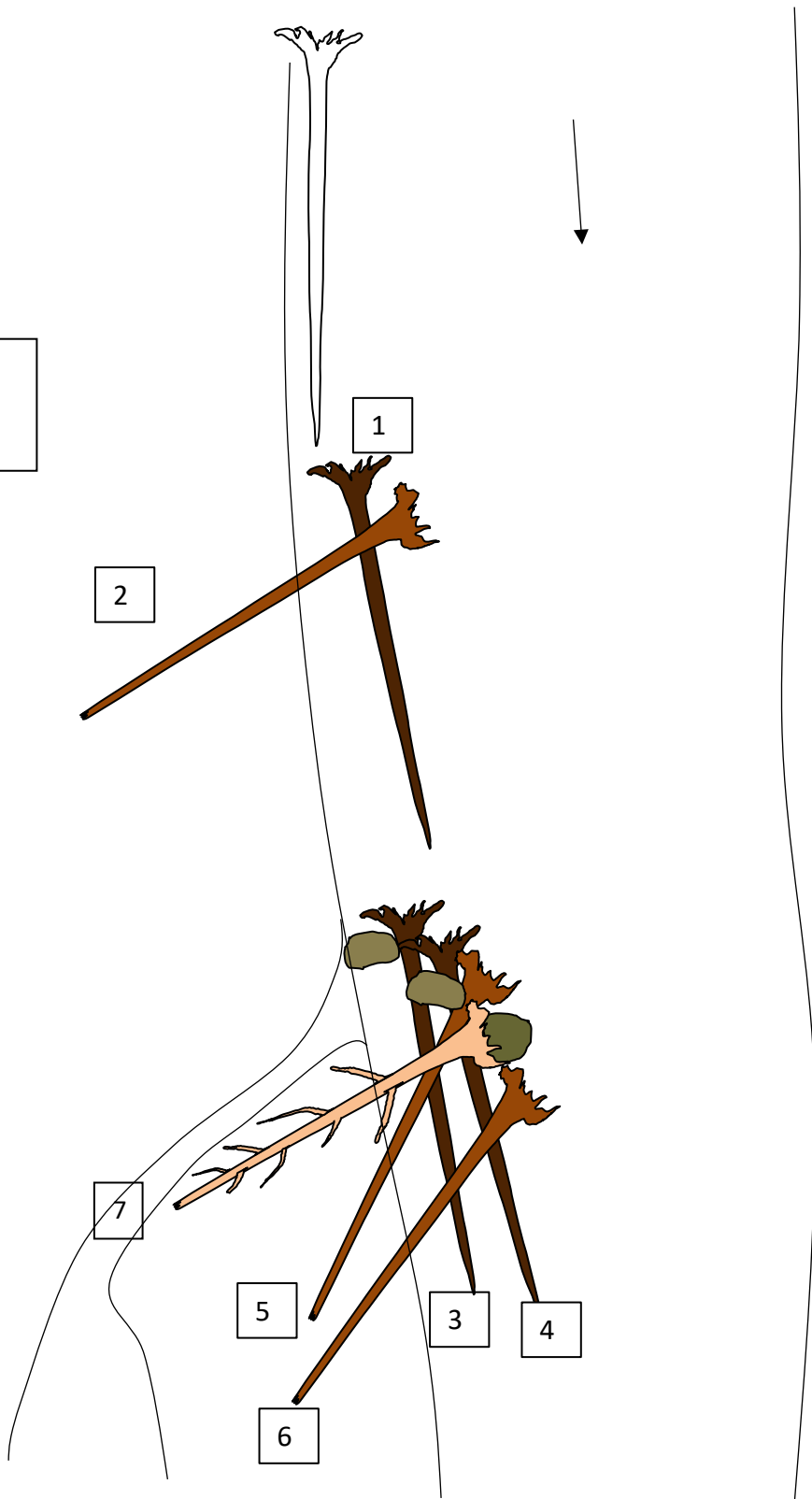
1 log

# Structure 28



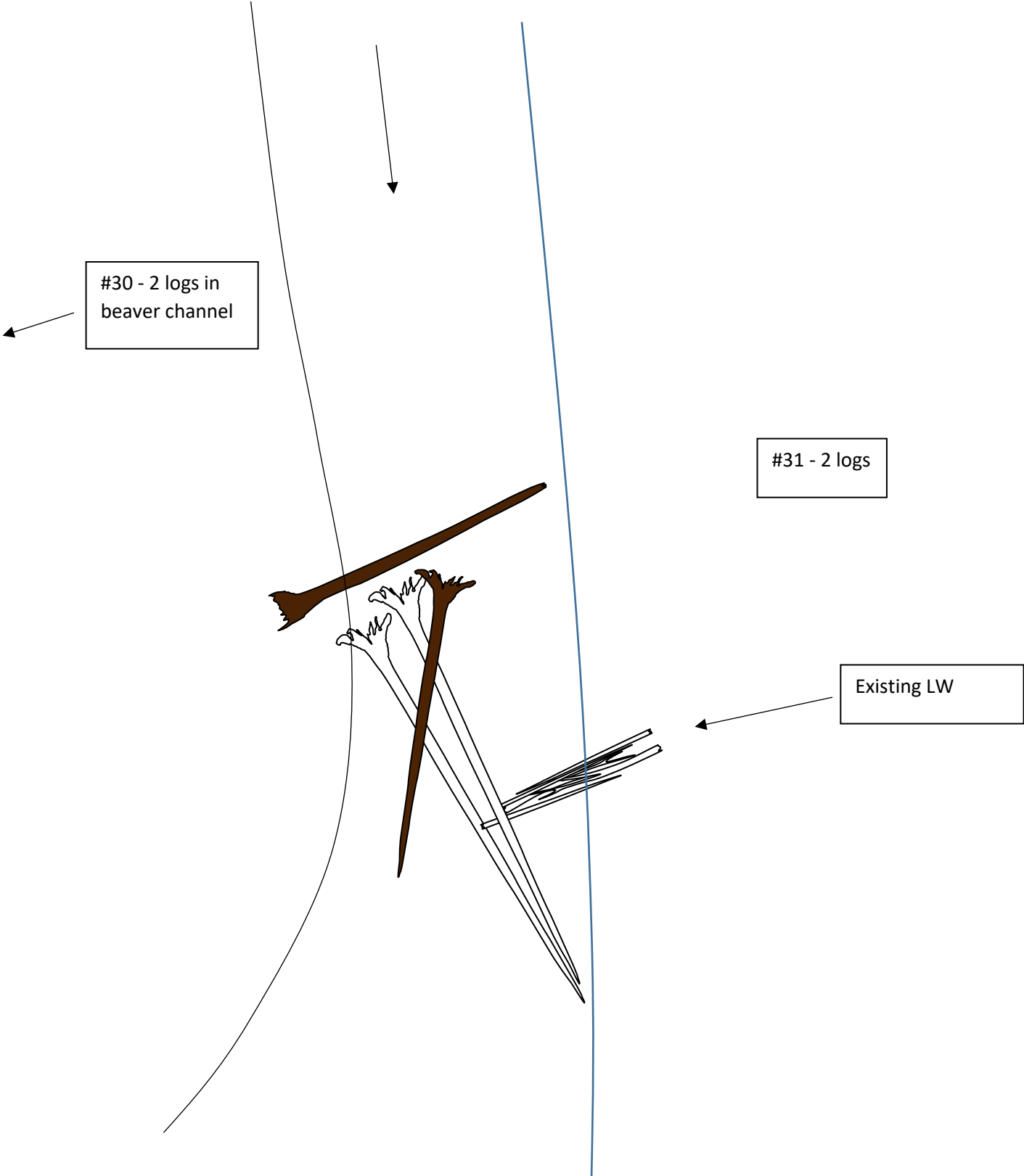
# Structure 29

6 logs  
3 boulders

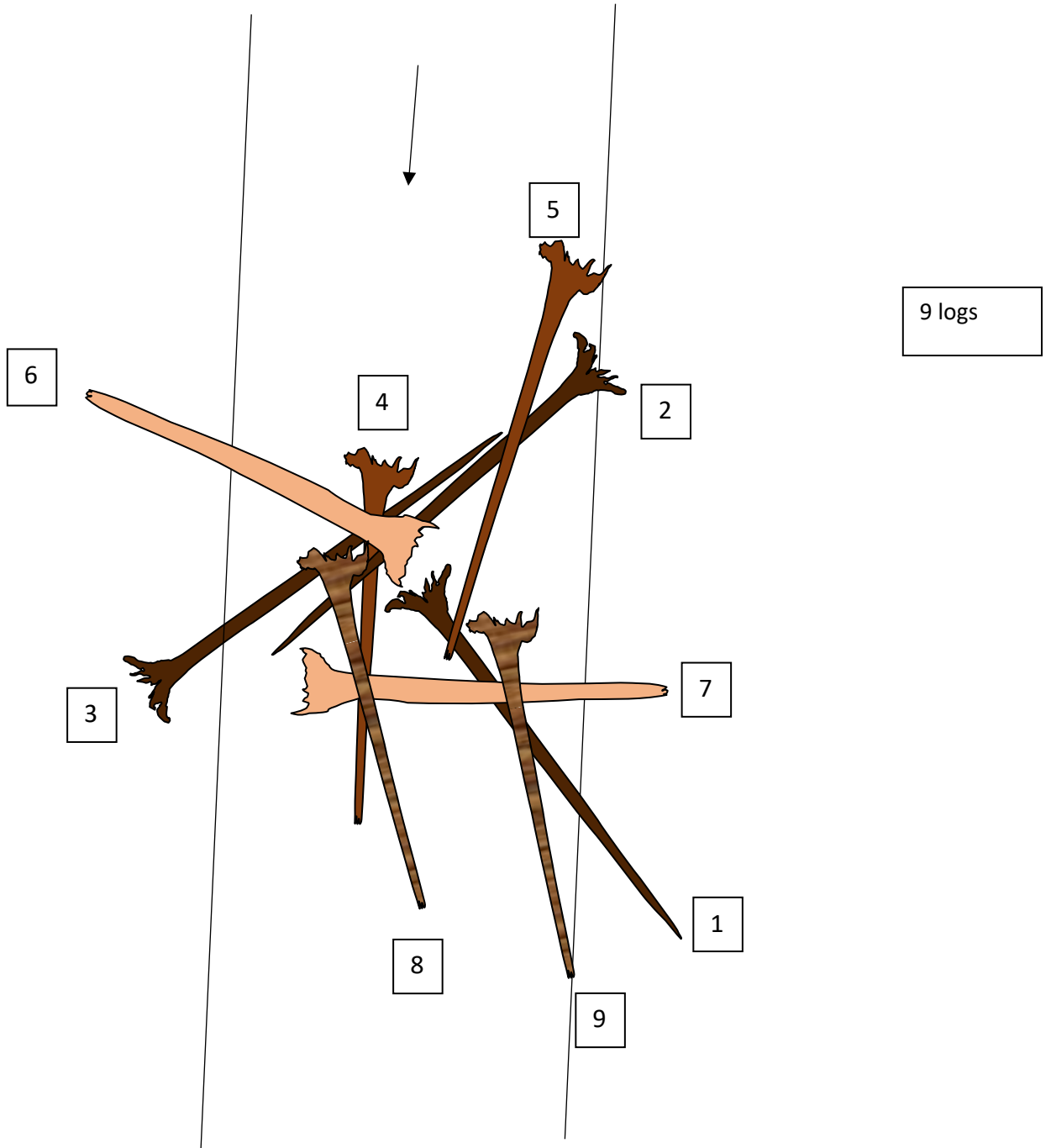




Structures 30, 31



# Structure 32



# Structures 33, 34, 35

#33 - 6 Logs

2 4

1

3

5

6

1

3

2

#35 - 3 Logs  
1 bundle

4

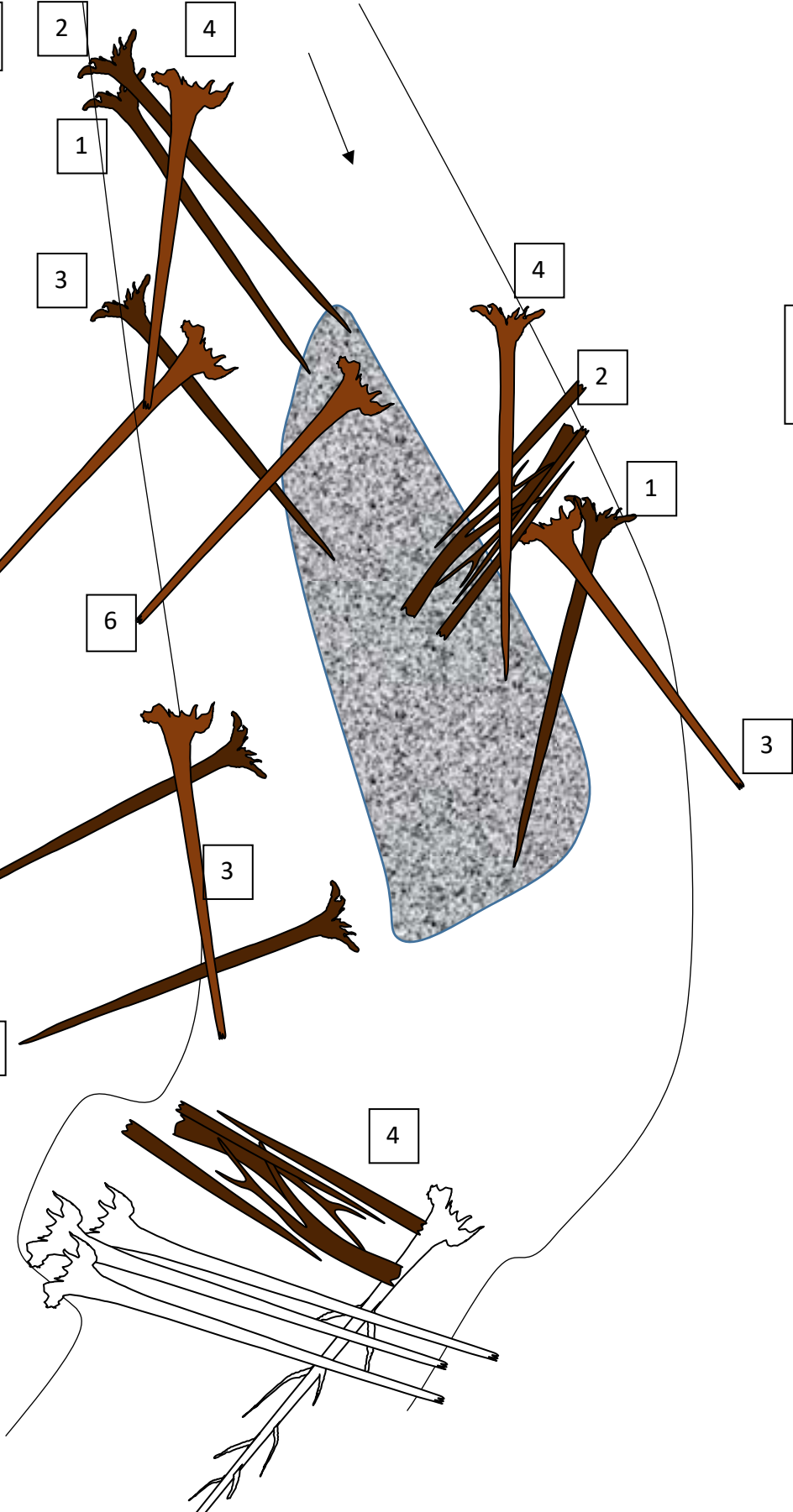
#34 - 3 Logs  
1 bundle

4

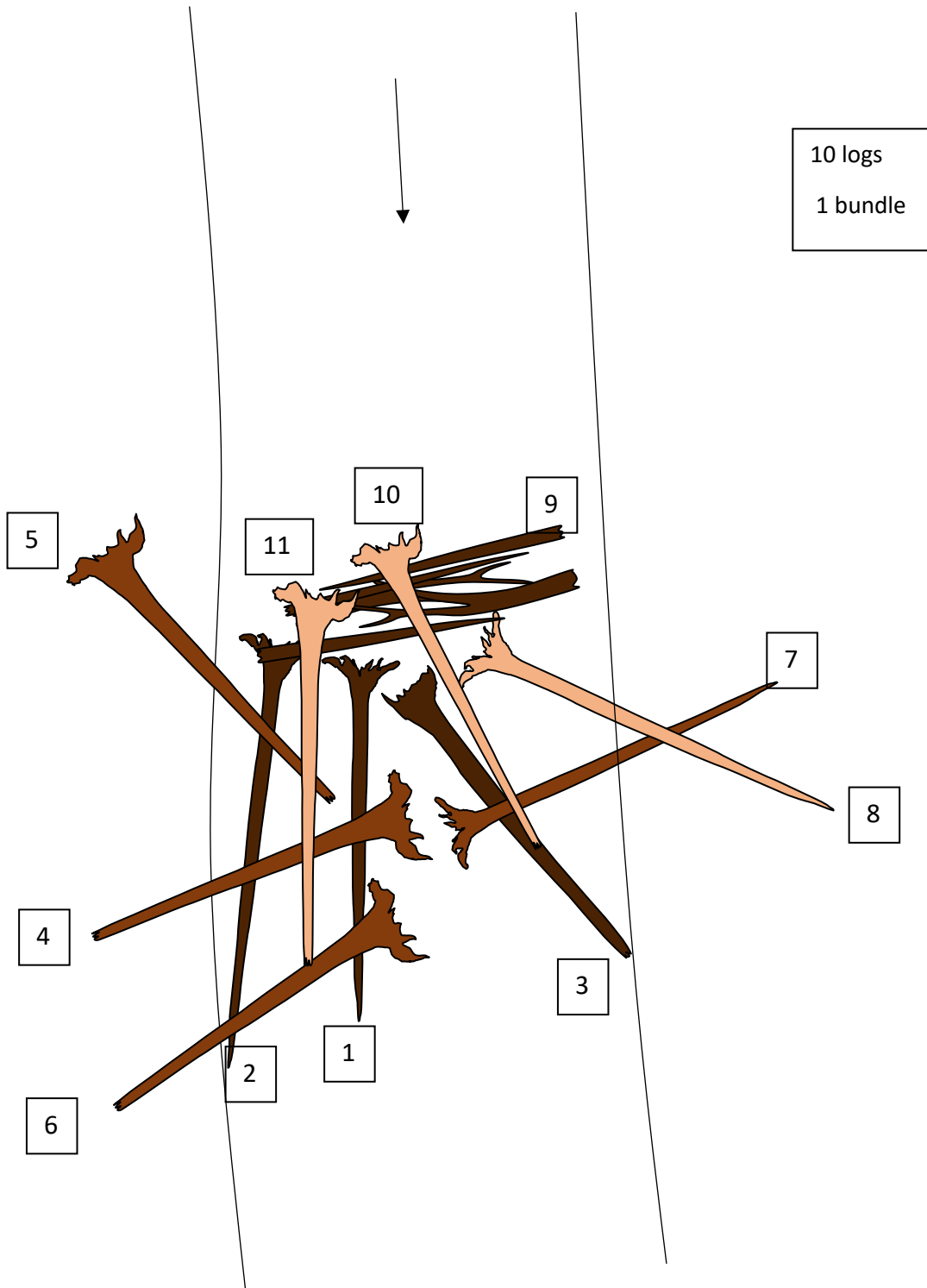
2

1

3



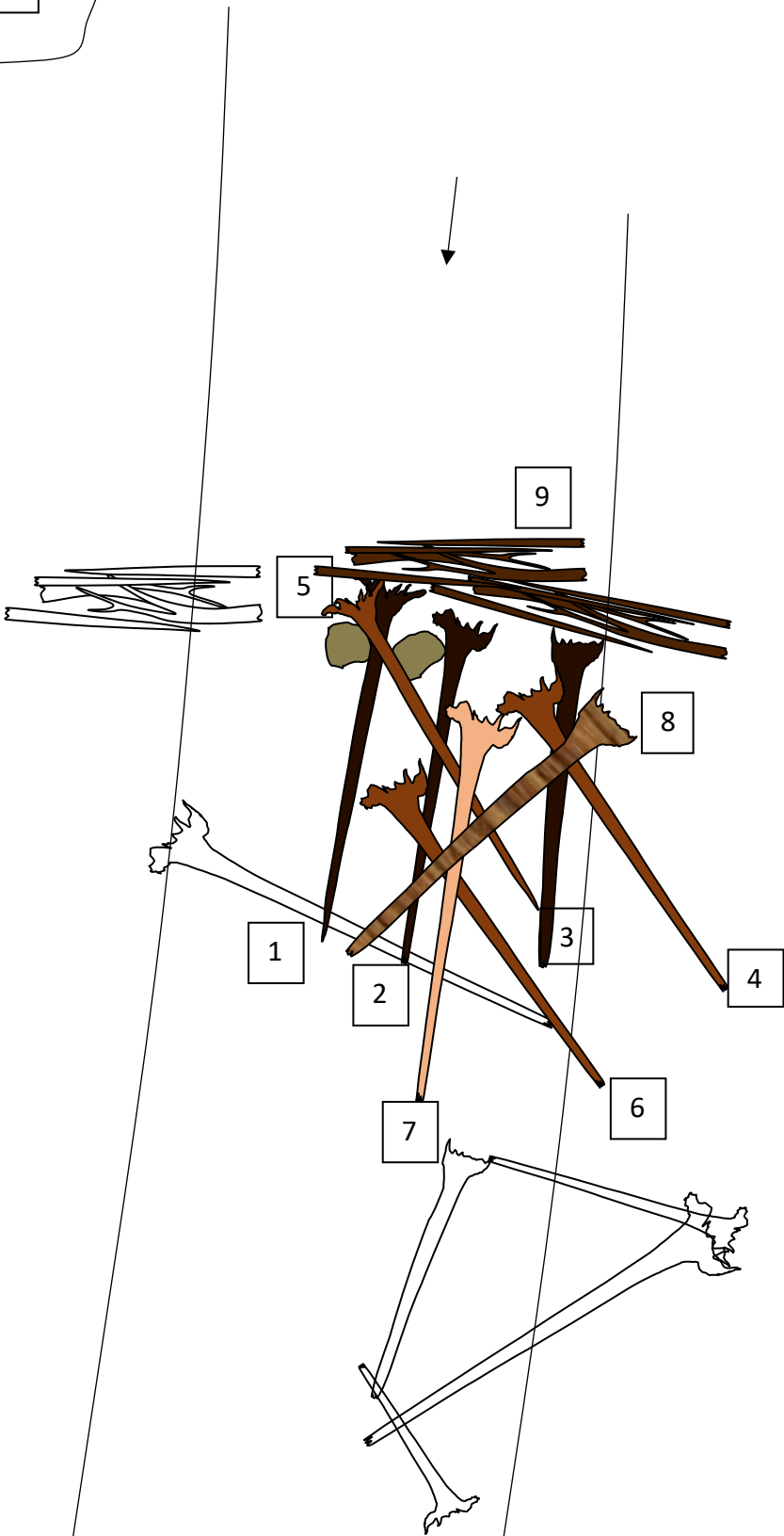
# Structure 36



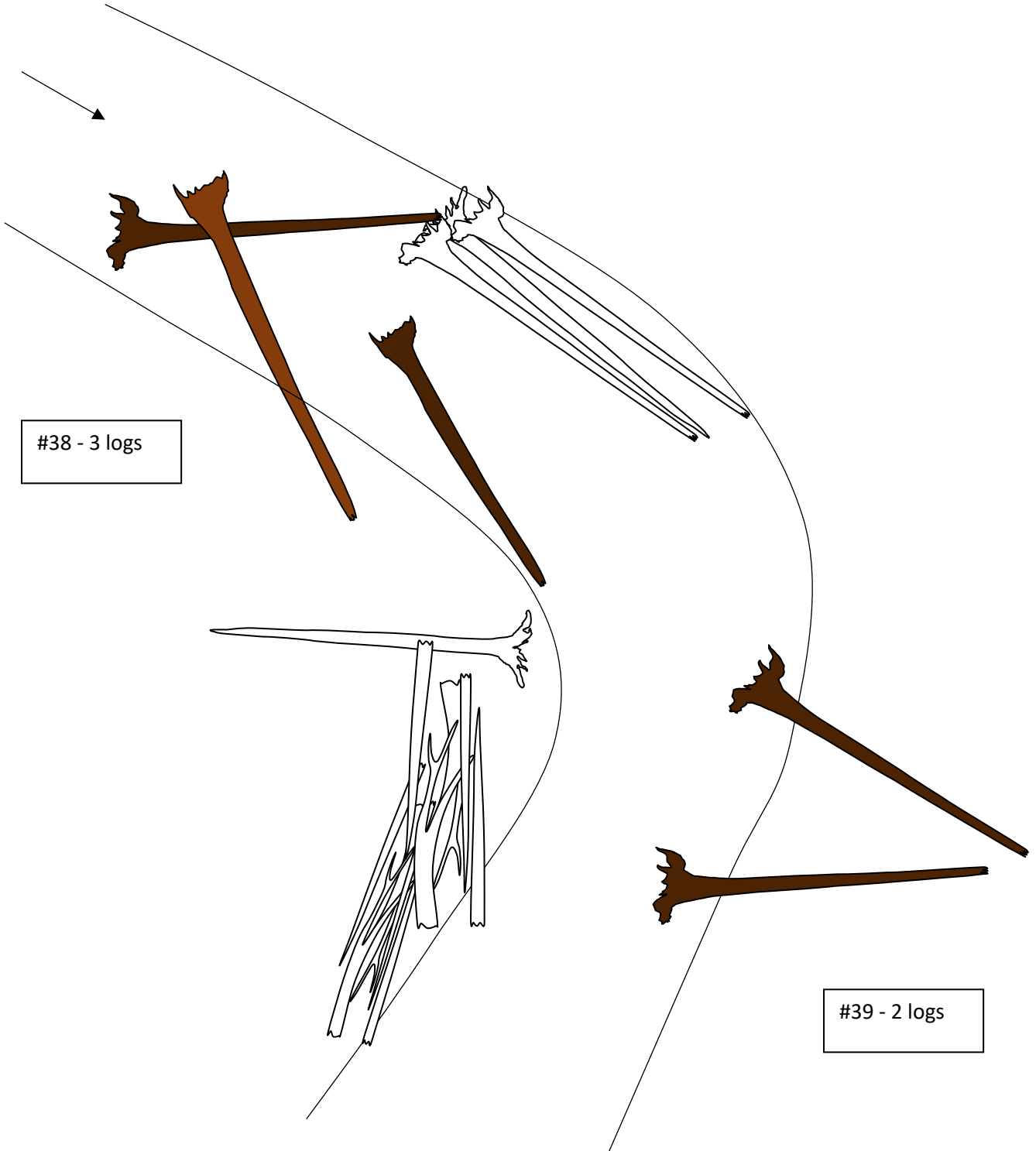
# Structure 37

bluff

- 8 logs
- 2 boulders
- 2 bundles



Tucannon PA 3  
Structures 38, 39

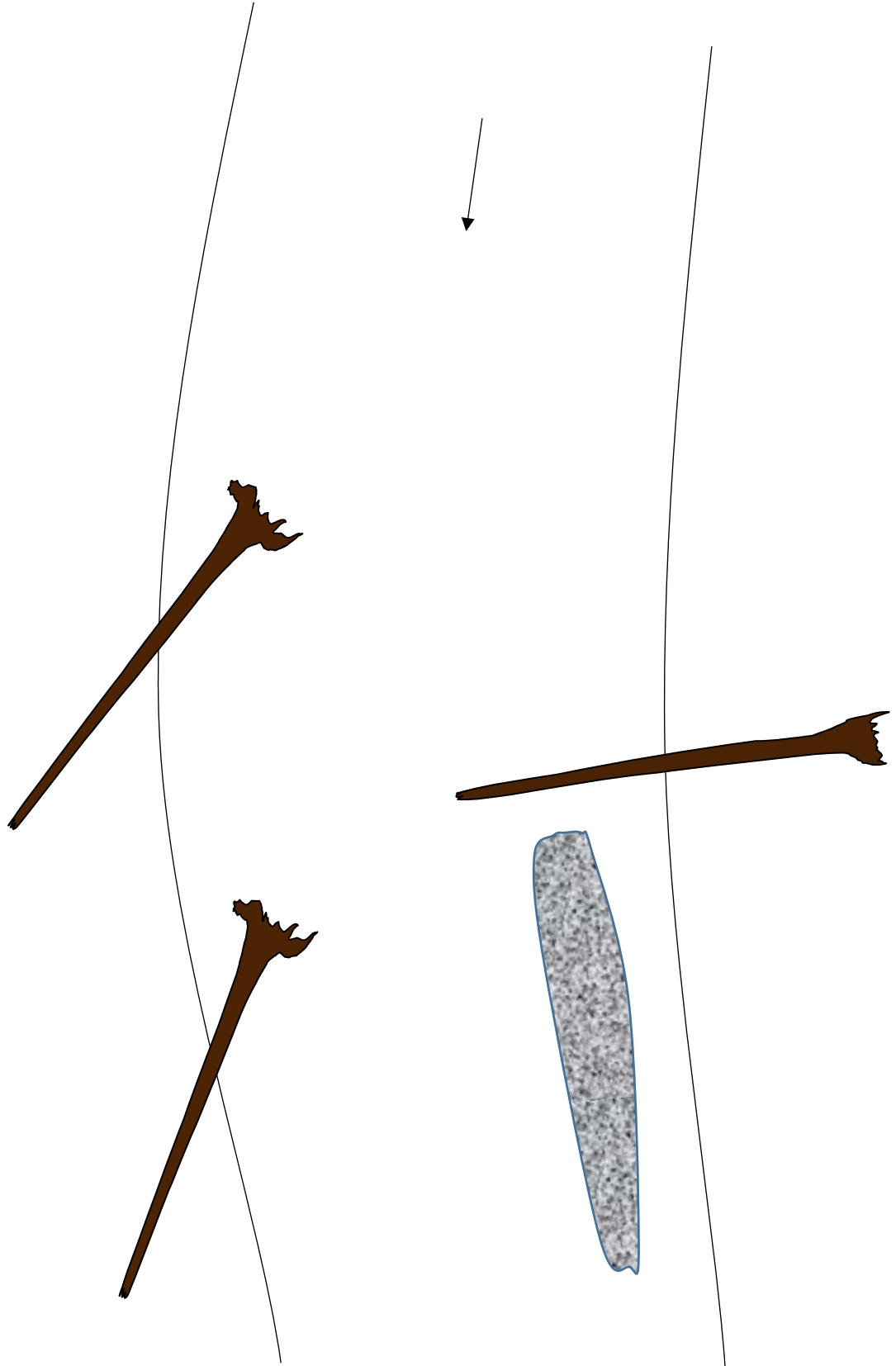


#38 - 3 logs

#39 - 2 logs

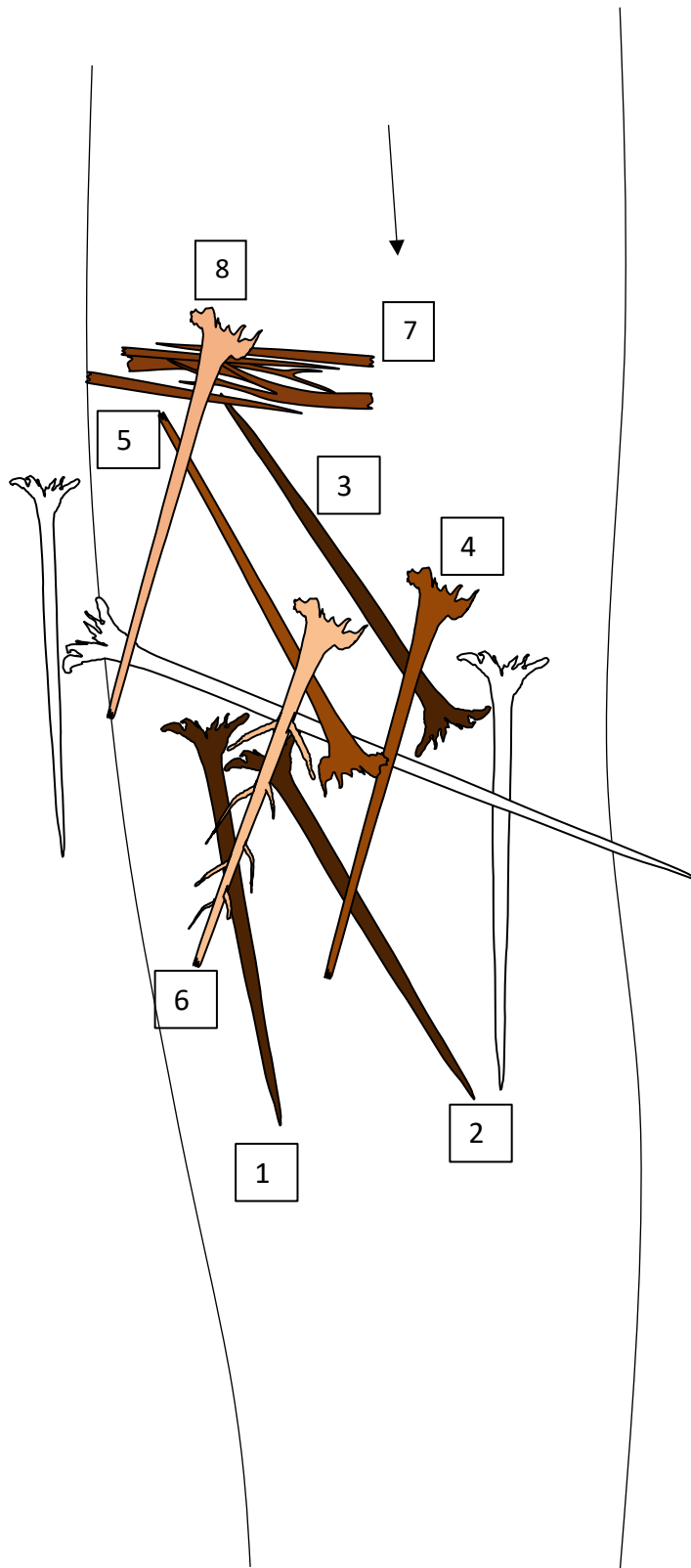
# Structure 40

3 logs



# Structure 41

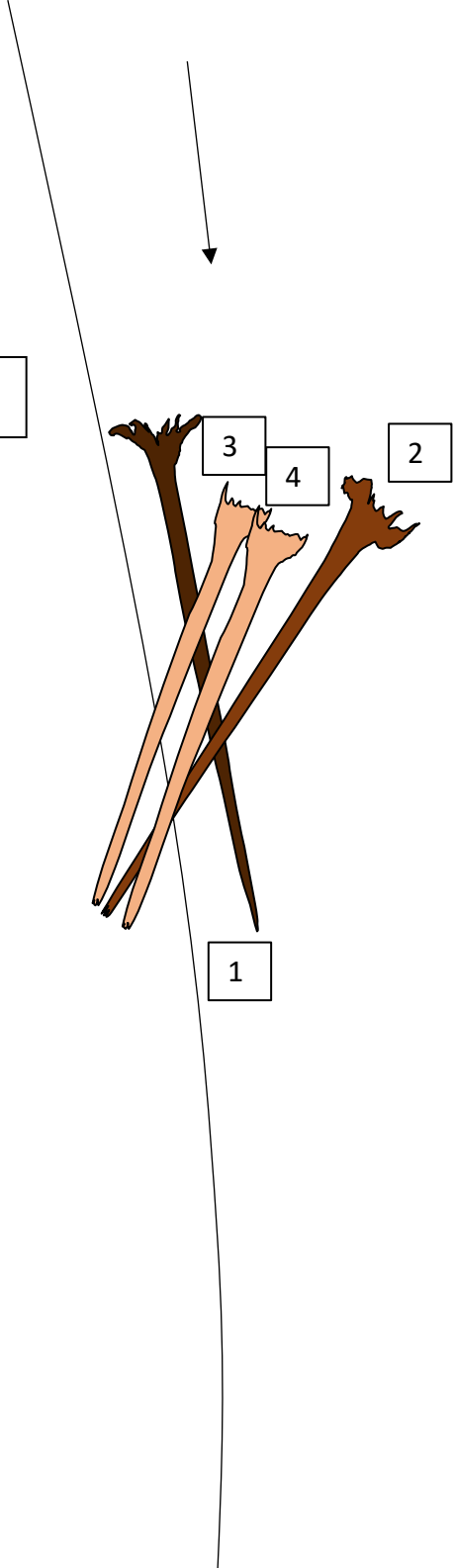
7 logs  
1 bundle



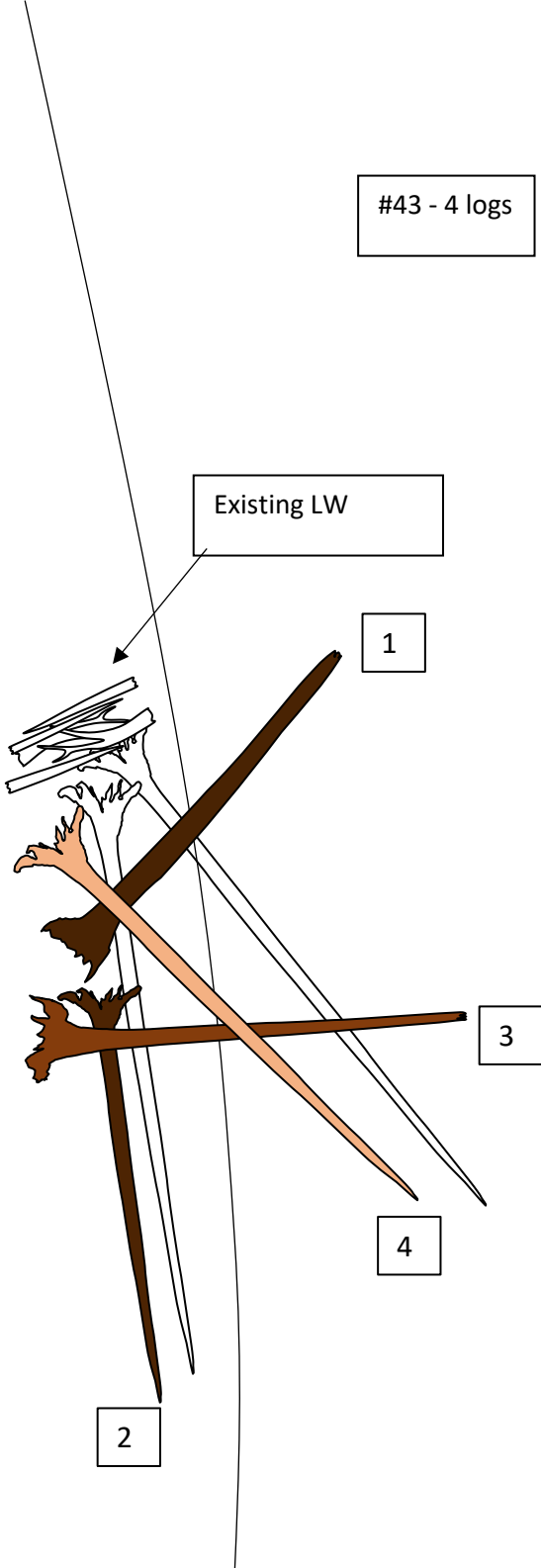


Structures 42, 43

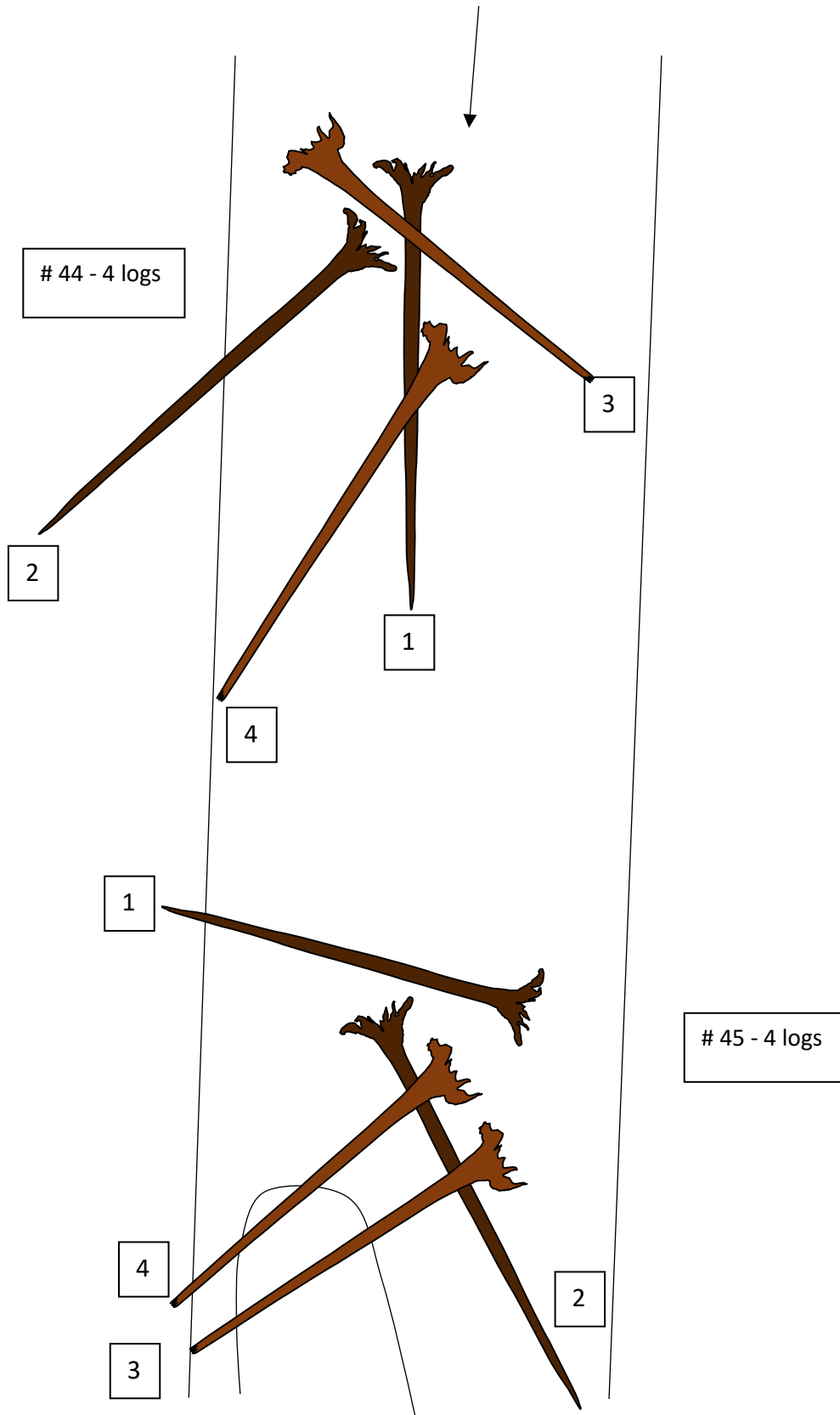
#42 - 4 logs



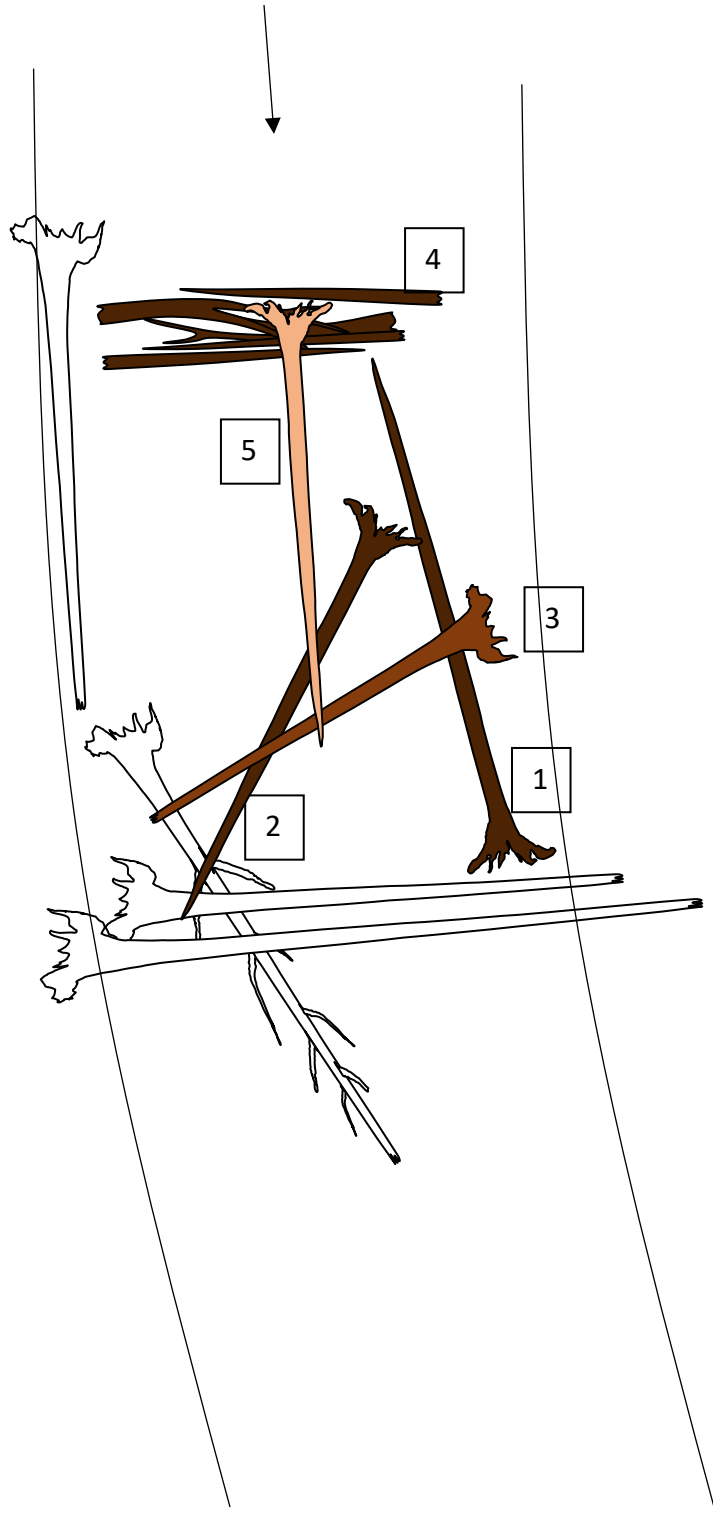
#43 - 4 logs



# Structures 44, 45

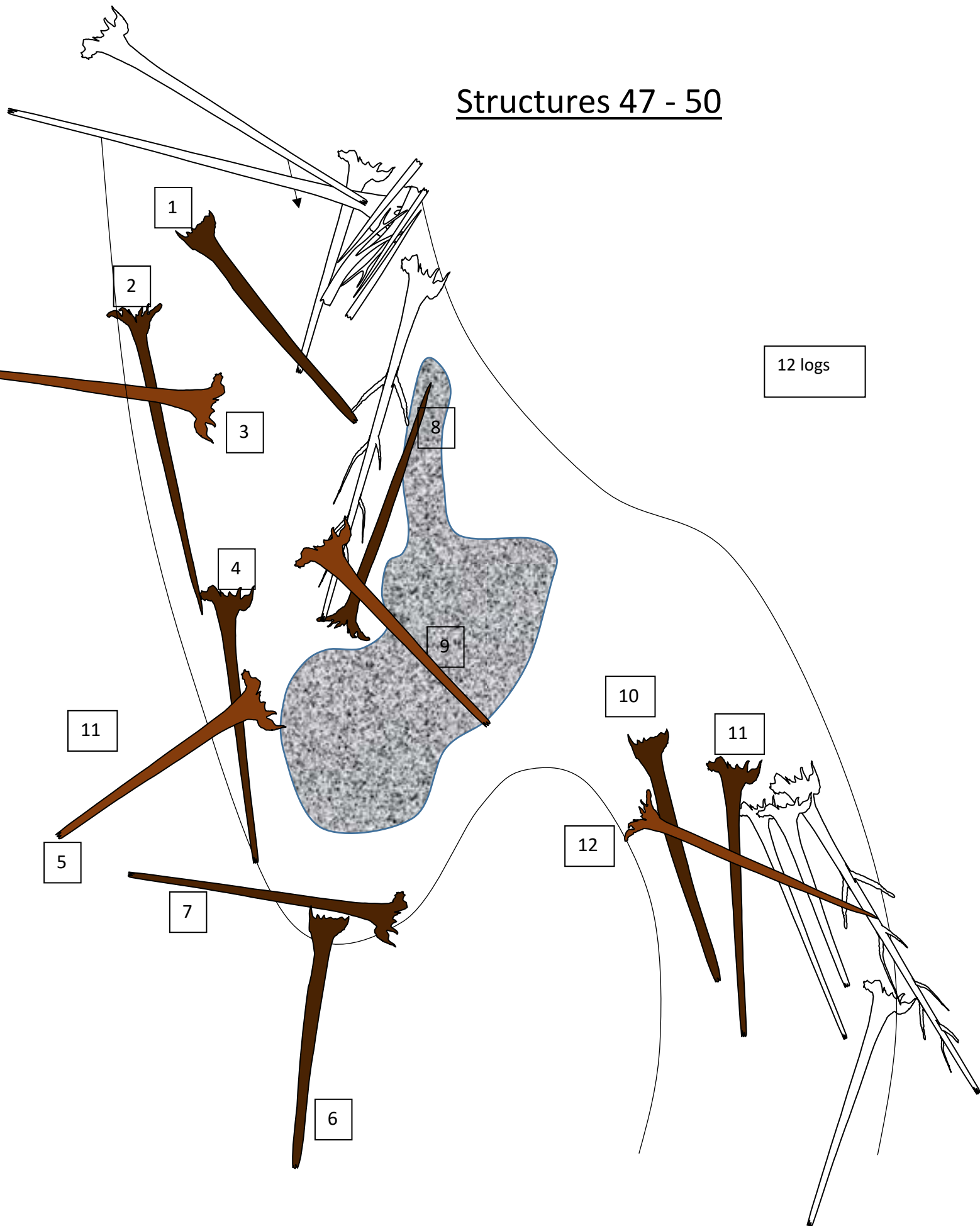


# Structure 46



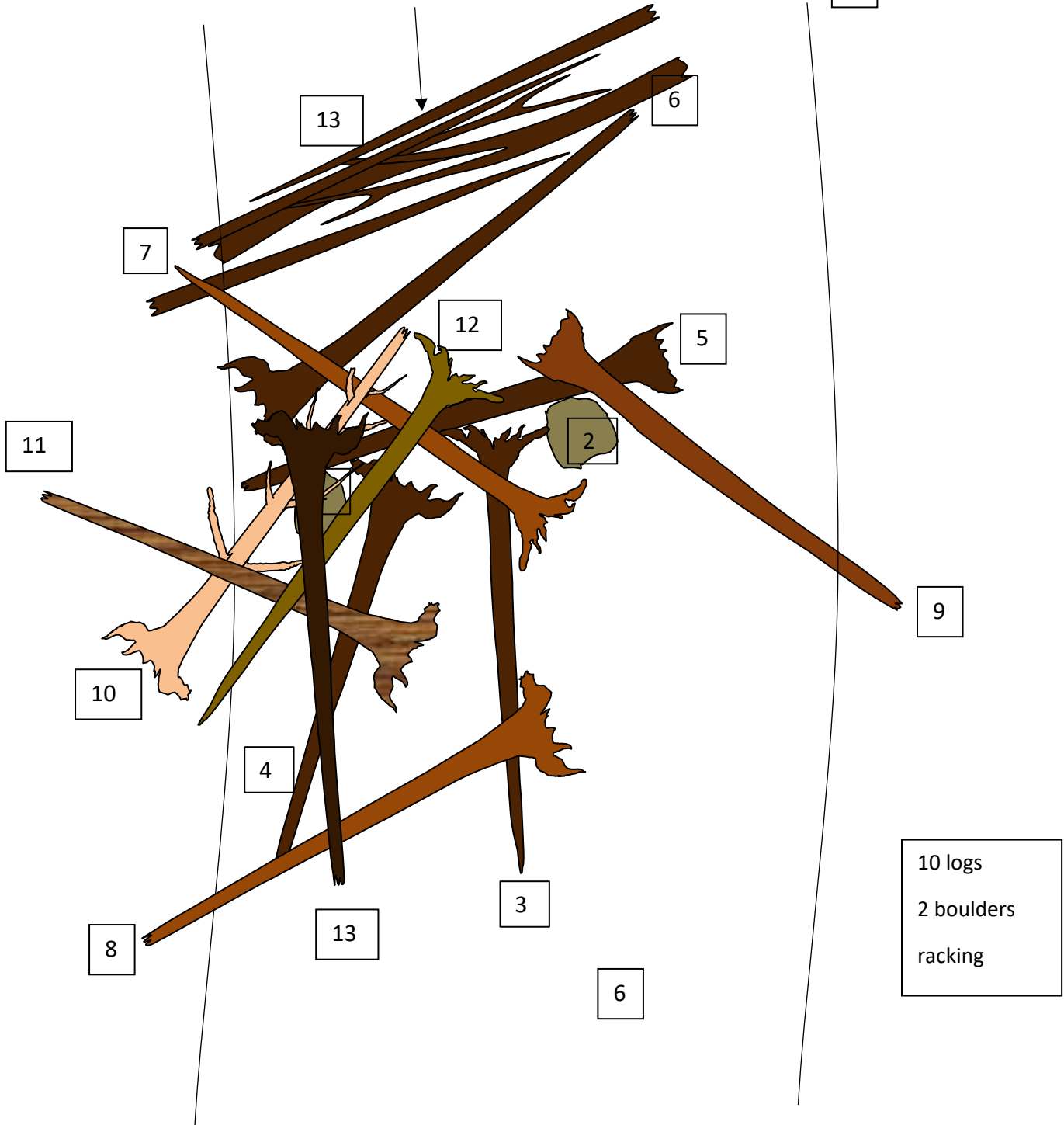
4 Logs  
1 bundle

Structures 47 - 50

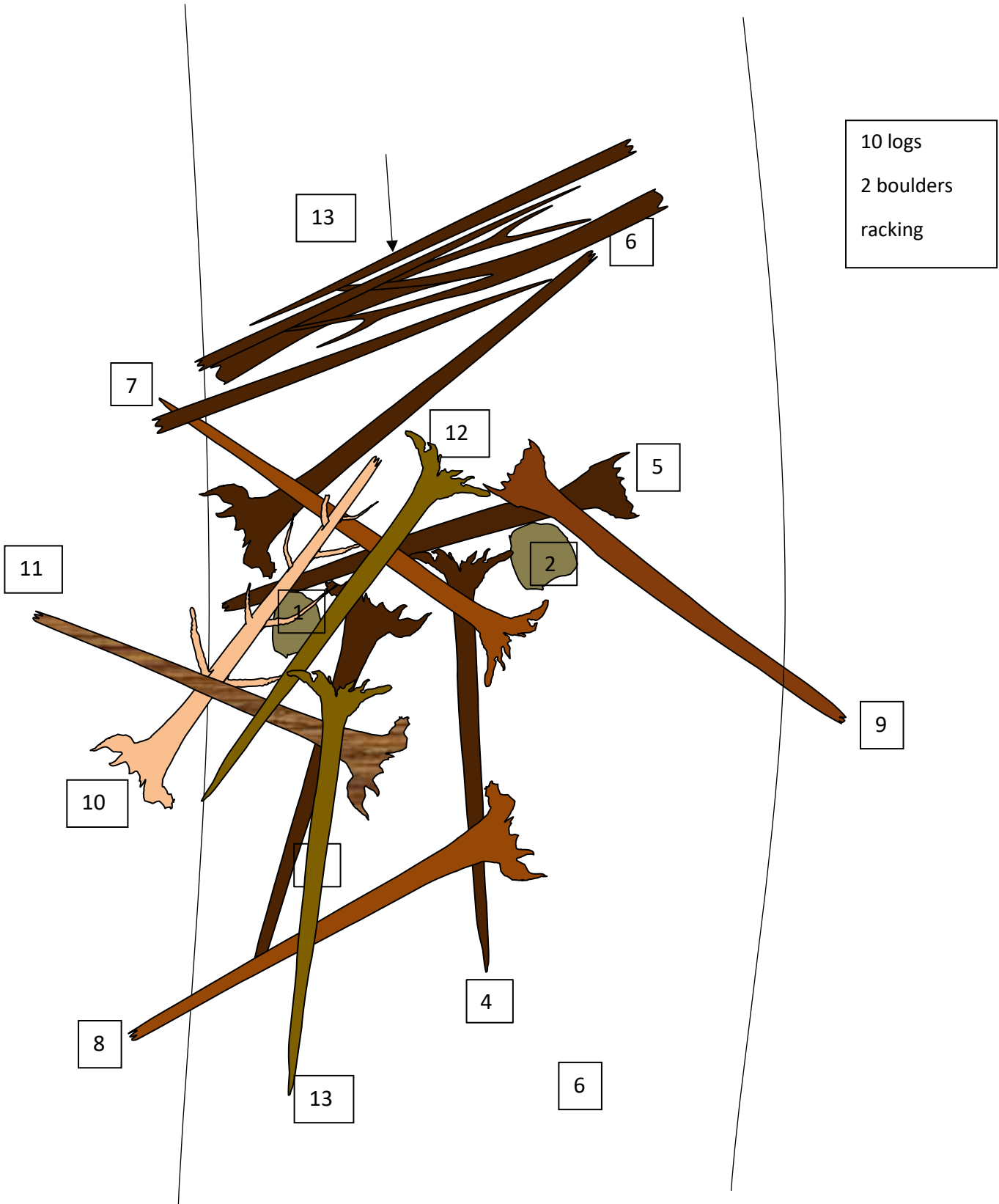


# Tucannon PA 3 Structure 51

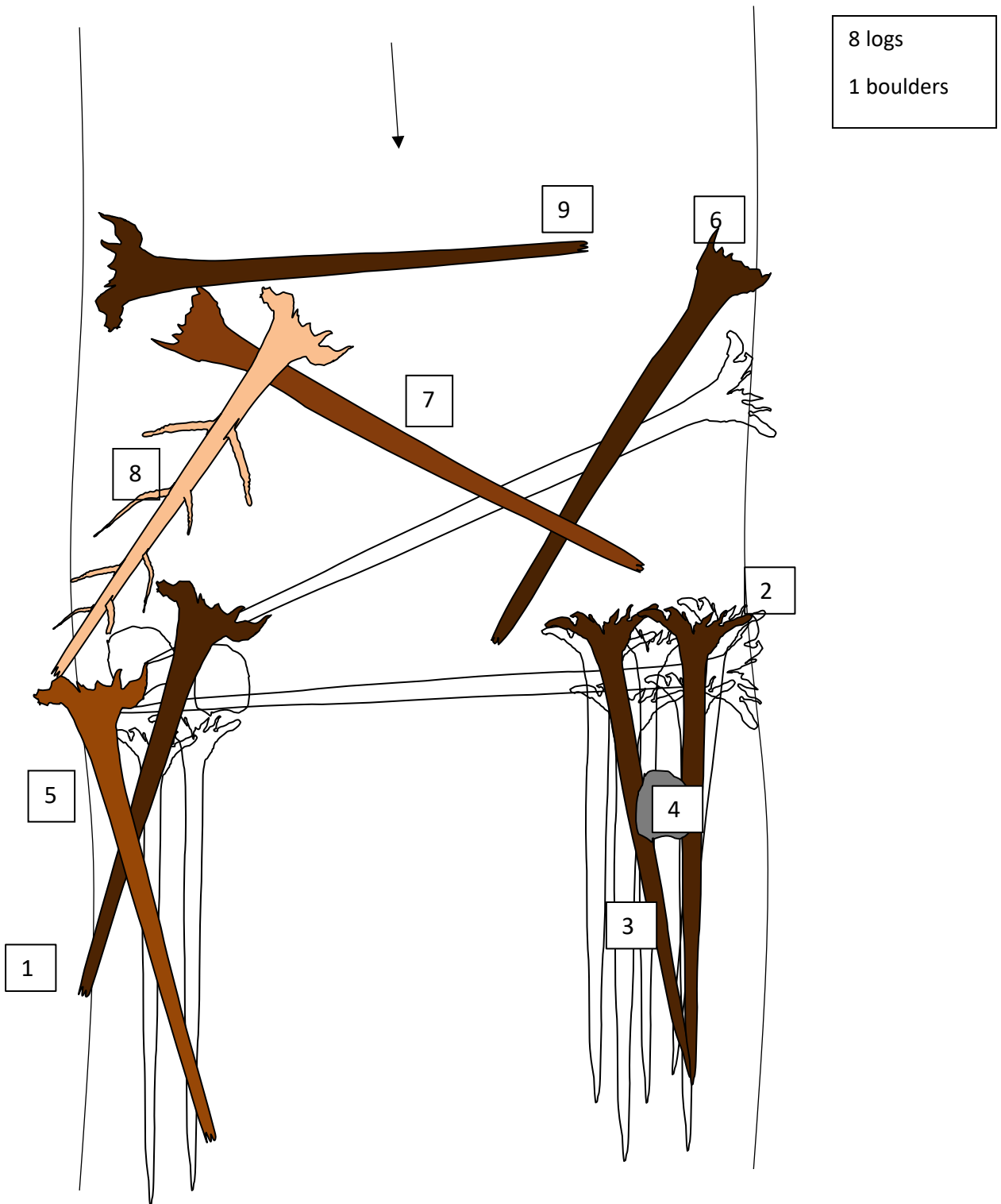
# = Order of placement



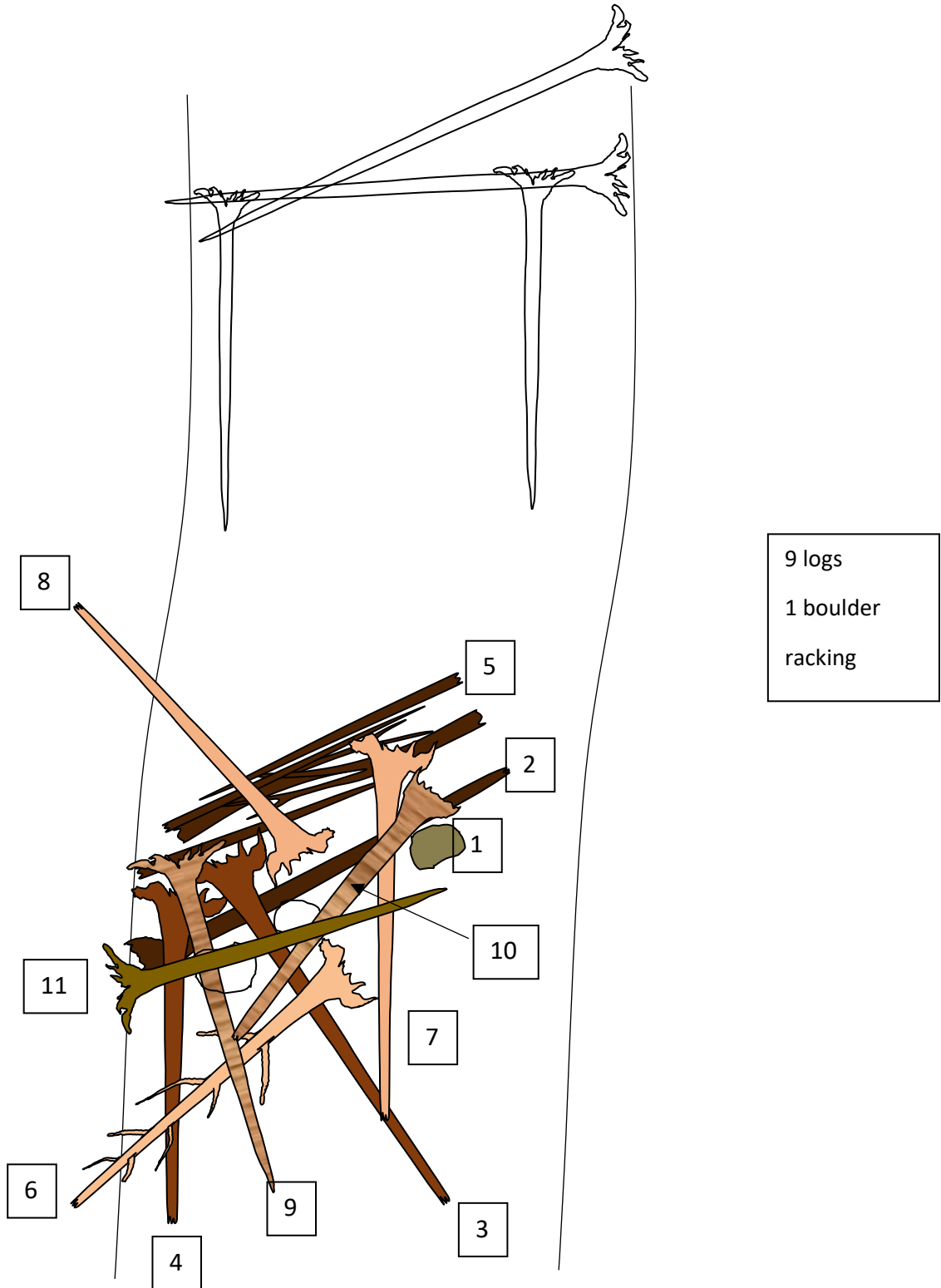
# Structure 52



# Structure 53



# Structure 54

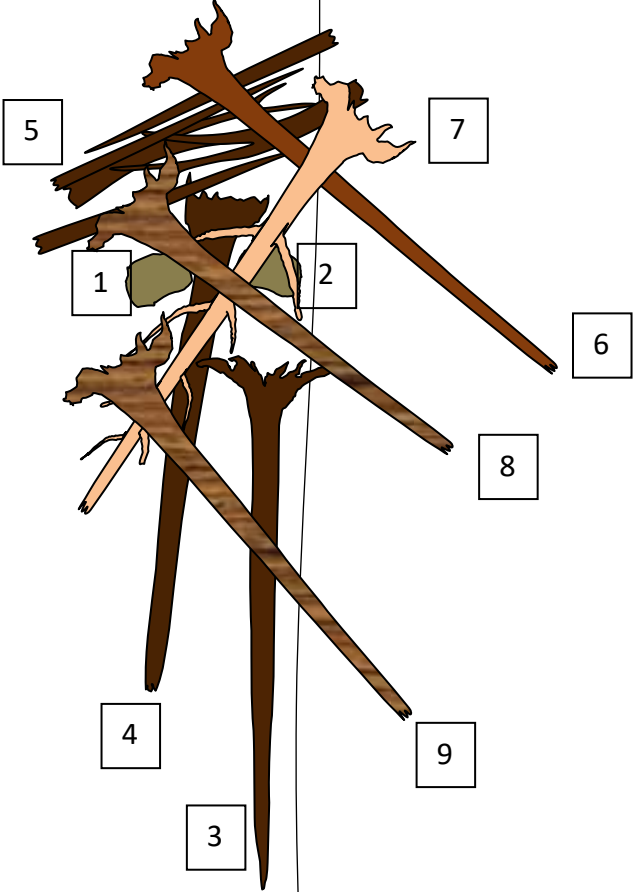




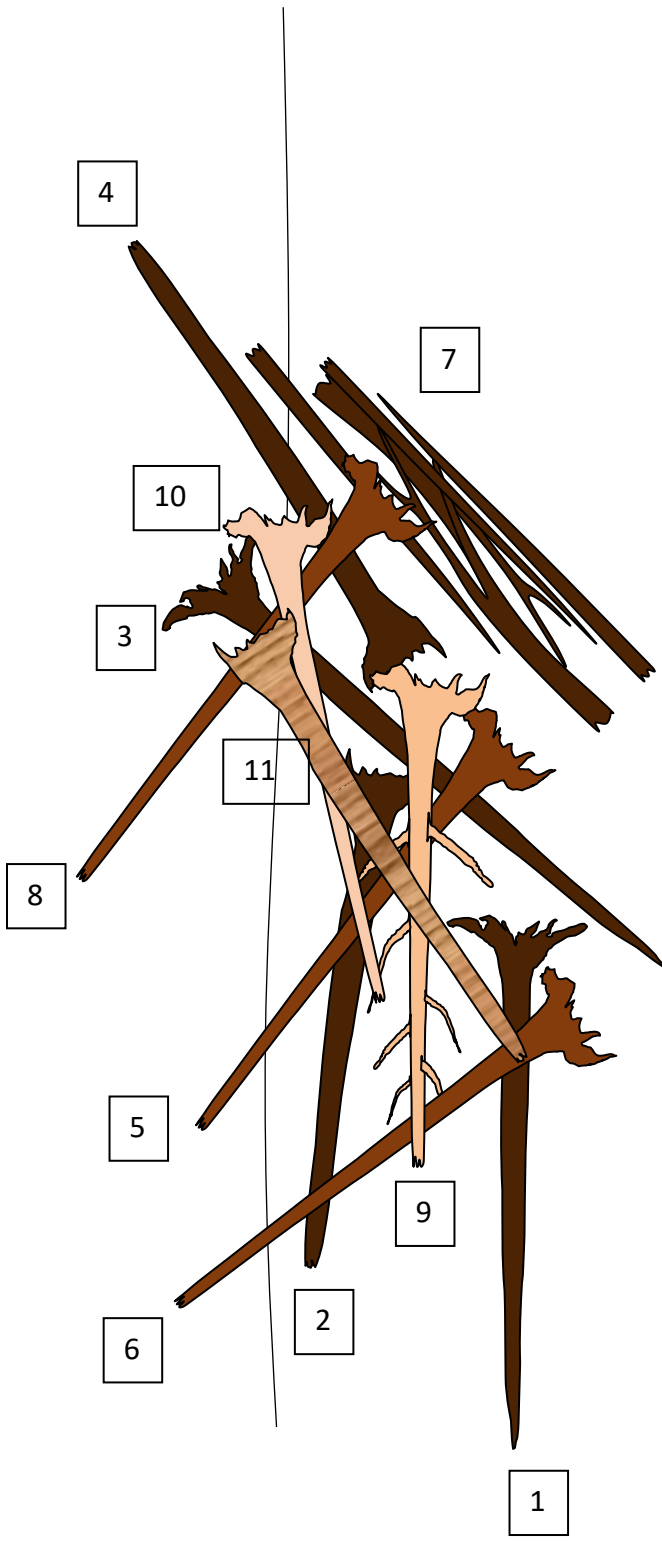
Structure 55



6 logs  
2 boulders  
racking

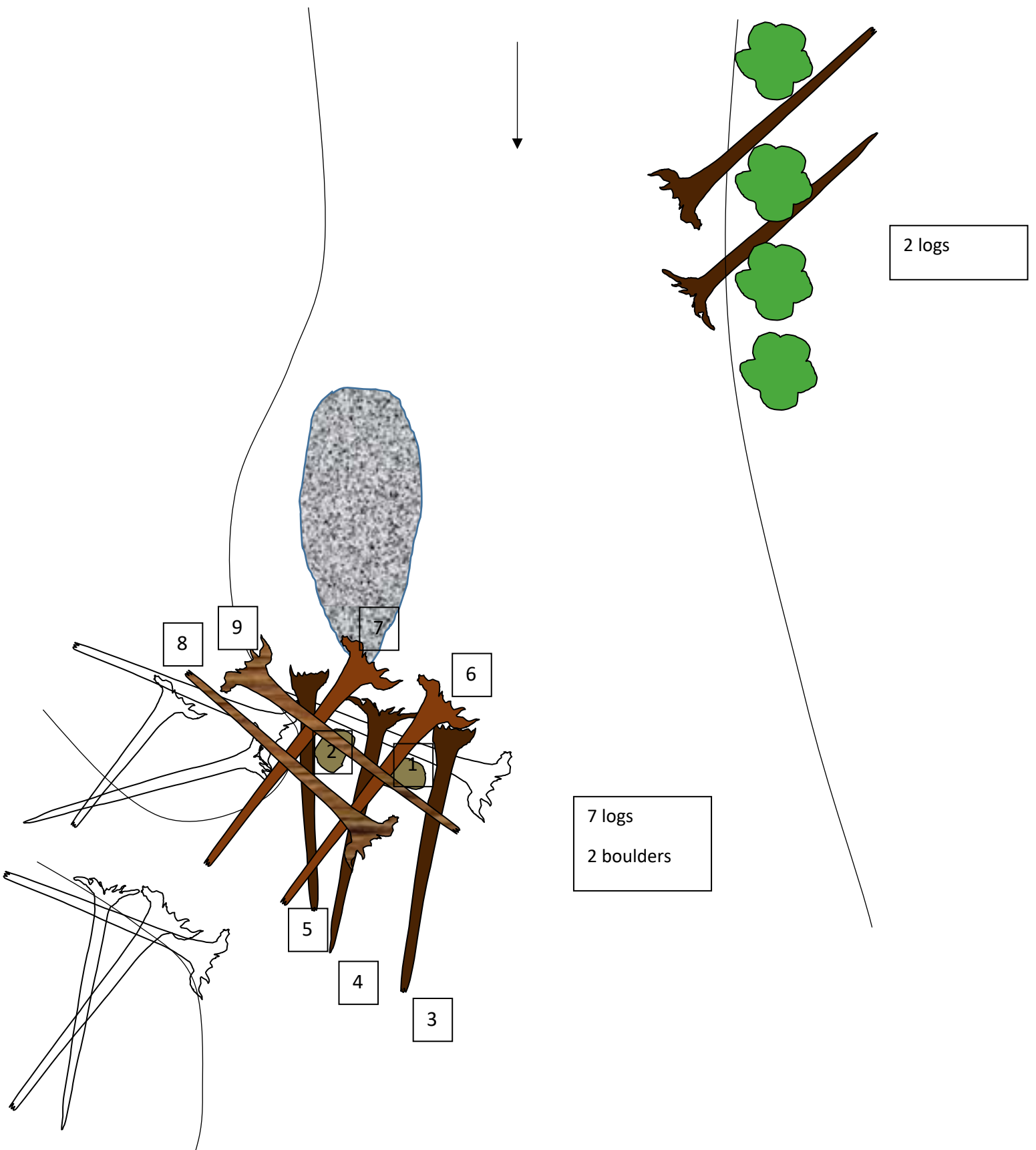


# Structure 56

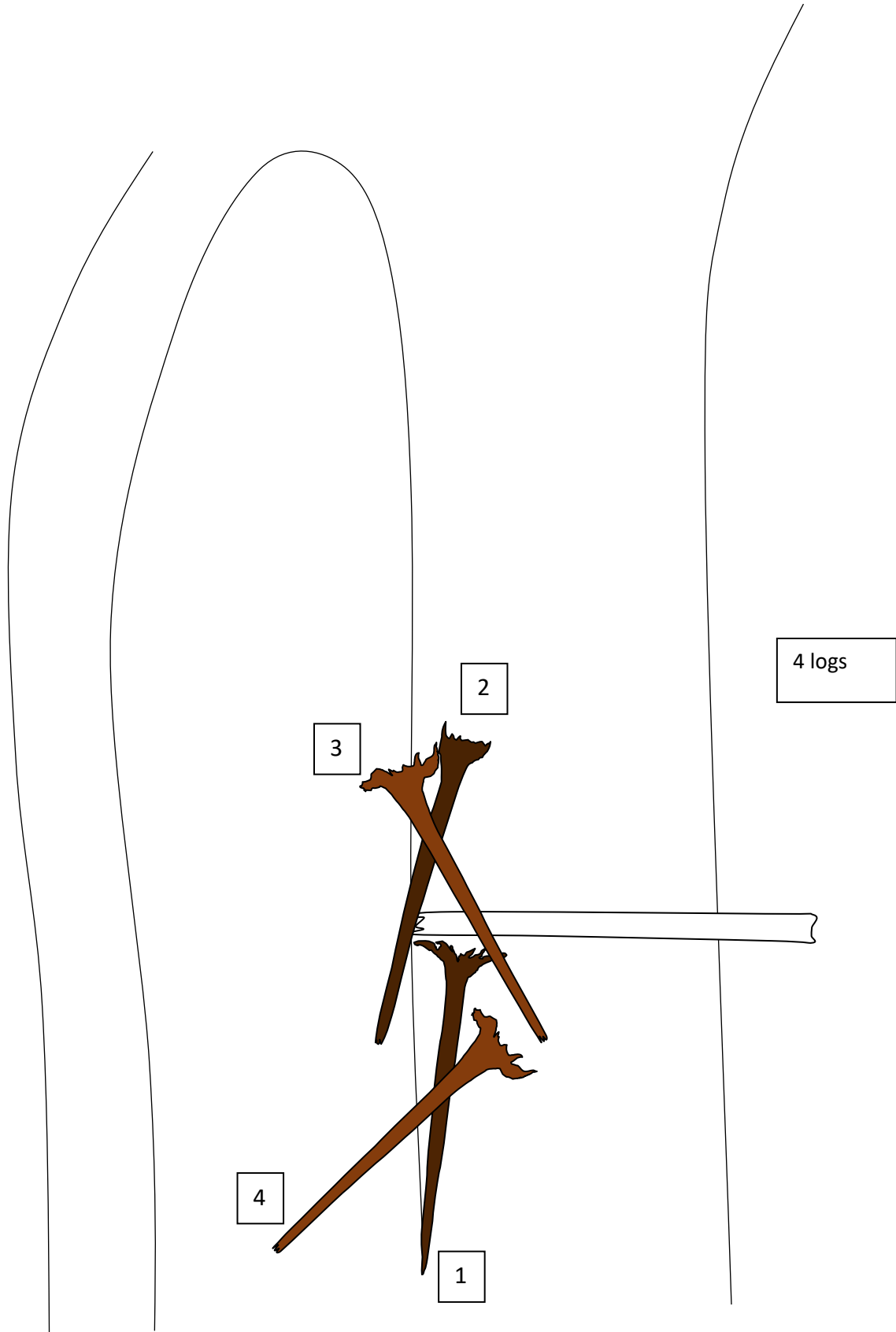


10 logs  
racking

# Structure 57, 58



# Structure 59



# Structure 60, 61

