



# **Environmental and Natural Resources**

## Purpose

Environmental and natural resource education has a responsibility to educate the public and prepare students to enter careers in the environmental and natural resource industry. The purpose of the environmental and natural resource career development event is to foster student interest, promote environmental and natural resource instruction in the agricultural education curriculum, and provide recognition for those who have demonstrated skills and competencies as a result of environmental and natural resource instruction.

## Event Rules

- Each team will be comprised of four members. All four scores will be used to determine the total team score.
- Participants must come to the event prepared to work in adverse weather conditions. The event will be conducted regardless of the weather. Participants should have rainwear, warm clothes and appropriate footwear.
- Under no circumstance will any participant be allowed to handle any of the items in the identification portion of the practicums. Any infraction of this rule will be sufficient to eliminate a team from the event.
- Participants will be assigned to group leaders who will escort them to various event-staging sites. Each participant is to stay with his or her assigned group leader throughout the event or until told to change leaders by the event superintendent.
- All participants will be given an identification number by which they will be designated throughout the event.
- All written material will be furnished for the event. No written materials such as tests, problems and worksheets shall be removed from the site.
- No team, team member or team coach shall visit the event facilities to observe plant materials and facilities after Sept. 1. Any team, team member or coach reported and proven to do so will cause the elimination of the team from the National FFA Environmental and Natural Resource Career Development Event.

## Event Format

### Equipment

Teams will be notified in the team orientation packet if students must provide these materials for the current year:

## Individual Activities

### *Objective Written Exam — 60 minutes (100 points)*

The written exam will consist of fifty questions and will come from the past five years previous National FFA ENR written exam questions found on ffa.org. A test bank of the previous five years tests will be maintained and updated annually on tnffa.org under the downloads tab. Each question will count two points.

### *Identification — 60 minutes (100 points)*

Students will identify fifty items. These may be pelts, bone, actual specimens, photos, footprint casts or scat from the following combined areas:

- Equipment list.
- Native species list.
- Invasive/non-native species list.

## Annual Practicums

### *Soil Profile —30 minutes (100 points)*

- Students will be furnished with a scorecard, an interpretation guide and a pre-dug soil pit or core/monolith to judge. The participants will identify soil horizons, textures, percentage coarse fragments, pH, horizon colors, slope, geologic origin, soil permeability, irrigation suitability and soil structure types of the soil present in the given example.
- Using the information from the scorecard and interpretation guide, the student will then identify the most appropriate use for the given area and the erosion control practice that best fits the designated use for the land.

### *Waste Management —30 minutes (100 points)*

- Participants will be presented with a scenario (agricultural producer, neighborhood, office building, manufacturing plant, etc.,) that generates waste material creating environmental threats.
- Participants will evaluate the nature of waste output to identify plausible options for reducing the rate of waste generation, recycling or providing potential alternative uses for the waste, treating the waste or disposing of the waste.
- Participants should be able to identify at least one benefit and one deterrent for each possible option that is offered.

# Scoring

Event participants are evaluated as follows:

ACTIVITY	Individual Points	Total Team Points
Written exam	50	200
Identification	100	400
Annual Practicums 100 pts ea. a. Soil profile b. GPS locations c. Waste management	200	800
<b>TOTAL POSSIBLE POINTS</b>	350	1,400

## Tiebreakers

### Team

- Highest practicum score
- Highest combined identification score

### Individual

- Highest exam score
- Highest practicum score
- Highest identification score

## References

*This list of references is not intended to be all-inclusive.*

Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

- For past materials and preparation documents log onto [FFA.org](https://www.ffa.org).
- Managing Our Natural Resources. Camp and Daughtery. Delmar Publishers, Inc. 2009. Albany N.Y.
- Land Judging in Oklahoma. J.H. Stiegler, 4-H Member's Guide, Oklahoma Cooperative Extension Service, Division of Agricultural Sciences and Natural Resources, Oklahoma State University. 4H.HPS.101., [http://www.landjudging.com/2009/land\\_judging\\_manual\\_2009.pdf](http://www.landjudging.com/2009/land_judging_manual_2009.pdf)
- Environmental Science: Fundamentals and Applications. Cengage learning. 2007.
- Applied Environmental Science, [FFA.org/thecouncil/resources](https://www.ffa.org/thecouncil/resources)
- GPS
  - <https://www.gps.gov/>
  - [https://en.wikipedia.org/wiki/Spatial\\_reference\\_system](https://en.wikipedia.org/wiki/Spatial_reference_system)

# Identification List

## 100 POINTS

### Equipment

#### *Water Quality*

- 101. refractometer
- 102. secchi disk
- 103. water meter for physical/chemical parameters (pH, conductivity and/or DO)

#### *Aquatic*

- 104. bottom dredges
- 105. fish measuring board
- 106. plankton net
- 107. seines
- 108. sieves

#### *Wildlife*

- 109. animal tags/bands
- 110. mammal traps
- 111. snake/reptile stick
- 112. radio telemetry unit

#### *Weather*

- 113. wind speed meters
- 114. barometer

#### *Soils*

- 115. abny level
- 116. push probe
- 117. soil auger
- 118. soil color book

### Native Species

#### *Wildlife*

- 201. armadillo
- 202. badger
- 203. beaver
- 204. bighorn sheep
- 205. bison
- 206. black bear
- 207. blacktail deer
- 208. bobcat
- 209. chipmunk
- 210. cottontail
- 211. coyote
- 212. elk
- 213. fox squirrel
- 214. gray squirrel
- 215. gray wolf
- 216. grizzly bear
- 217. jack rabbit
- 218. mole
- 219. moose
- 220. mountain goat
- 221. mountain lion
- 222. mule deer
- 223. muskrat
- 224. opossum
- 225. pocket gopher
- 226. porcupine
- 227. prairie dog
- 228. pronghorn
- 229. raccoon
- 230. red fox
- 231. skunk
- 232. weasel
- 233. whitetail deer
- 234. woodchuck

#### *Birds*

- 301. bald eagle
- 302. blue jay
- 303. bluebird
- 304. brown thrasher
- 305. Canada goose
- 306. canvasback duck
- 307. cardinal
- 308. Cooper's hawk
- 309. Crissal thrasher
- 310. mourning dove
- 311. great blue heron
- 312. great horned owl
- 313. golden eagle
- 314. hummingbird
- 315. kestrel
- 316. least tern
- 317. mallard duck
- 318. osprey
- 319. pelican
- 320. purple martin
- 321. quail
- 322. red-tailed hawk
- 323. sand hill crane
- 324. blue-winged teal
- 325. turkey
- 326. whooping crane
- 327. wood duck

## Native Species

### *Reptiles/Amphibians*

- 401. alligator
- 402. alligator snapping turtle
- 403. black rat snake
- 404. bullfrog
- 405. collared lizard
- 406. common snapping turtle
- 407. copperhead snake
- 408. coral snake
- 409. corn snake
- 410. cottonmouth
- 411. crocodile
- 412. fence lizard
- 413. garter snake
- 414. green anole lizard
- 415. gray tree frog
- 416. rattlesnake
- 417. red eared slider
- 418. ring neck snake
- 419. rubber boa snake
- 420. scarlet king snake
- 421. Woodhouse's toad

### *Fish and Other Aquatic Animals*

- 501. blue catfish
- 502. bream/bluegill
- 503. brown trout
- 504. carp
- 505. channel catfish
- 506. clam
- 507. crab
- 508. crappie
- 509. crayfish
- 510. flathead catfish
- 511. largemouth bass
- 512. lobster
- 513. salmon
- 514. shrimp
- 515. smallmouth bass
- 516. sturgeon
- 517. trout
- 518. walleye
- 519. yellow bullhead catfish

## Invasive/Non-native species

### *Plants*

- 601. broom snake weed
- 602. cheatgrass
- 603. Chinese tallow
- 604. cogon grass
- 605. English ivy
- 606. Himalaya blackberry
- 607. hydrilla
- 608. juniper
- 609. kudzu
- 610. leafy spurge
- 611. melaleuca
- 612. mimosa tree
- 613. purple loosestrife
- 614. Russian olive
- 615. saltcedar

### *Animals*

- 701. Asiatic clam
- 702. Asian long-horned beetle
- 705. Chinese mitten crab
- 706. chukkar
- 707. English sparrow
- 708. European starling
- 709. feral hog
- 710. feral horse
- 711. fire ant
- 712. Gopher
- 713. Norway rat
- 714. Nutria
- 715. ring neck pheasant
- 716. sea lamprey
- 717. Tilapia
- 718. zebra mussel

# Soil Profile Scorecard

100 POINTS

Name _____	Member Number _____
Chapter _____	State _____

PART 1 (60 POINTS)			
Soil Factors – Part 1 (Check Appropriate Box)		Soil Factors – Part 1 (Check Appropriate Box)	
Points		Points	
	<p><b>Texture</b> Sur. Sub.</p> <p><input type="checkbox"/> <input type="checkbox"/> 1. Coarse</p> <p><input type="checkbox"/> <input type="checkbox"/> 2. Moderately Coarse</p> <p><input type="checkbox"/> <input type="checkbox"/> 3. Medium</p> <p><input type="checkbox"/> <input type="checkbox"/> 4. Moderately Fine</p> <p><input type="checkbox"/> <input type="checkbox"/> 5. Fine</p> <p><b>Depth of Soil</b></p> <p><input type="checkbox"/> 1. Deep</p> <p><input type="checkbox"/> 2. Moderately Deep</p> <p><input type="checkbox"/> 3. Shallow</p> <p><input type="checkbox"/> 4. Very Shallow</p> <p><b>Slope</b></p> <p><input type="checkbox"/> 1. Nearly Level .....0-1%</p> <p><input type="checkbox"/> 2. Gently Sloping ....1-3%</p> <p><input type="checkbox"/> 3. Moderate Sloping3-5%</p> <p><input type="checkbox"/> 4. Strongly Sloping5-8%</p> <p><input type="checkbox"/> 5. Steep..... 8-15%</p> <p><input type="checkbox"/> 6. Very Steep..... &gt; 15%</p> <p><b>Erosion – Wind and Water</b></p> <p><input type="checkbox"/> 1. None to Slight</p> <p><input type="checkbox"/> 2. Moderate</p> <p><input type="checkbox"/> 3. Severe</p> <p><input type="checkbox"/> 4. Very Severe</p>		<p><b>Permeability</b></p> <p><input type="checkbox"/> 1. Rapid</p> <p><input type="checkbox"/> 2. Moderate</p> <p><input type="checkbox"/> 3. Slow</p> <p><input type="checkbox"/> 4. Very Slow</p> <p><b>Surface Runoff</b></p> <p><input type="checkbox"/> 1. Rapid</p> <p><input type="checkbox"/> 2. Moderate</p> <p><input type="checkbox"/> 3. Slow</p> <p><input type="checkbox"/> 4. Very Slow</p> <p><b>Major Factors That Keep Area Out of Class 1</b></p> <p><input type="checkbox"/> 1. Texture</p> <p><input type="checkbox"/> 2. Depth</p> <p><input type="checkbox"/> 3. Slope</p> <p><input type="checkbox"/> 4. Erosion</p> <p><input type="checkbox"/> 5. Permeability</p> <p><input type="checkbox"/> 6. Runoff</p> <p><input type="checkbox"/> 7. Wetness</p> <p><input type="checkbox"/> 8. Flooding</p> <p><input type="checkbox"/> 9. None</p> <p><b>Land Capability Class</b></p> <p><input type="checkbox"/> 1. Class I</p> <p><input type="checkbox"/> 2. Class II</p> <p><input type="checkbox"/> 3. Class III</p> <p><input type="checkbox"/> 4. Class IV</p>
	<i>Points</i>		<i>Points</i>
		<b>TOTAL POINTS PART 1</b>	



**Soil Profile Scorecard**

PART 2 (40 POINTS)	
Recommended Treatment – Part 1 (Check Appropriate Box)	
Points	
	<p><b>Vegetative</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1. Row crop/occasional soil conserving crop</li> <li><input type="checkbox"/> 2. Row crop/frequent soil conserving crop</li> <li><input type="checkbox"/> 3. Row crops not more than 2 out of 4 years</li> <li><input type="checkbox"/> 4. Row crops not more than 1 out of 5 years</li> <li><input type="checkbox"/> 5. Return crop residue to the soil</li> <li><input type="checkbox"/> 6. Practice conservation tillage</li> <li><input type="checkbox"/> 7. Establish recommended grass or grasses and legumes</li> <li><input type="checkbox"/> 8. Proper pasture and range management</li> <li><input type="checkbox"/> 9. Protect from burning</li> <li><input type="checkbox"/> 10. Control grazing</li> <li><input type="checkbox"/> 11. Plant recommended trees</li> <li><input type="checkbox"/> 12. Harvest trees selectively</li> <li><input type="checkbox"/> 13. Use only for wildlife or recreation area</li> </ul> <p><b>Mechanical</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 14. Control brush or trees</li> <li><input type="checkbox"/> 15. Terrace and farm on contour</li> <li><input type="checkbox"/> 16. Maintain terraces</li> <li><input type="checkbox"/> 17. Construction diversion terraces</li> <li><input type="checkbox"/> 18. Install drainage system</li> <li><input type="checkbox"/> 19. Control gullies</li> <li><input type="checkbox"/> 20. No mechanical treatment needed</li> </ul> <p><b>Fertilizer and Soil Amendments</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 21. Soil amendments</li> <li><input type="checkbox"/> 22. Phosphorous [P]</li> <li><input type="checkbox"/> 23. Potassium [K]</li> <li><input type="checkbox"/> 24. Nitrogen [N]</li> <li><input type="checkbox"/> 25. Fertilizer or soil amendments not needed</li> </ul>
	<i>Total Points Part 2 (40 points possible)</i>
	<i>Total Points Part 1(60 points possible)</i>
	<b>GRAND TOTAL POINTS – 100 (points possible)</b>

Judge's Name

Judge's Signature

Date

# GPS Locations Scorecard

100 POINTS

Name \_\_\_\_\_ Member Number \_\_\_\_\_

Chapter \_\_\_\_\_ State \_\_\_\_\_ Team Number \_\_\_\_\_

List your numbers for each location point following the latitude and longitude given. Additionally, participants will demonstrate a working knowledge of global positioning systems and their GPS receiver via written exam.

**Note:** Variance for differential corrections are noted on condition sheet.

GPS																																																																																																																																																																																																																																																										
<b>GPS Test #</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">1</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">4</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">7</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">8</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">9</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">11</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">12</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">13</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">14</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> <tr><td style="text-align: center;">15</td><td style="text-align: center;">A</td><td style="text-align: center;">B</td><td style="text-align: center;">C</td><td style="text-align: center;">D</td><td style="text-align: center;">E</td></tr> </table>	1	A	B	C	D	E	2	A	B	C	D	E	3	A	B	C	D	E	4	A	B	C	D	E	5	A	B	C	D	E	6	A	B	C	D	E	7	A	B	C	D	E	8	A	B	C	D	E	9	A	B	C	D	E	10	A	B	C	D	E	11	A	B	C	D	E	12	A	B	C	D	E	13	A	B	C	D	E	14	A	B	C	D	E	15	A	B	C	D	E																																																																																																																																																															
1	A	B	C	D	E																																																																																																																																																																																																																																																					
2	A	B	C	D	E																																																																																																																																																																																																																																																					
3	A	B	C	D	E																																																																																																																																																																																																																																																					
4	A	B	C	D	E																																																																																																																																																																																																																																																					
5	A	B	C	D	E																																																																																																																																																																																																																																																					
6	A	B	C	D	E																																																																																																																																																																																																																																																					
7	A	B	C	D	E																																																																																																																																																																																																																																																					
8	A	B	C	D	E																																																																																																																																																																																																																																																					
9	A	B	C	D	E																																																																																																																																																																																																																																																					
10	A	B	C	D	E																																																																																																																																																																																																																																																					
11	A	B	C	D	E																																																																																																																																																																																																																																																					
12	A	B	C	D	E																																																																																																																																																																																																																																																					
13	A	B	C	D	E																																																																																																																																																																																																																																																					
14	A	B	C	D	E																																																																																																																																																																																																																																																					
15	A	B	C	D	E																																																																																																																																																																																																																																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">1</td></tr> <tr><td style="text-align: center;">2</td></tr> <tr><td style="text-align: center;">3</td></tr> <tr><td style="text-align: center;">4</td></tr> <tr><td style="text-align: center;">5</td></tr> <tr><td style="text-align: center;">6</td></tr> <tr><td style="text-align: center;">7</td></tr> <tr><td style="text-align: center;">8</td></tr> <tr><td style="text-align: center;">9</td></tr> </table>	1	2	3	4	5	6	7	8	9	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="10" style="text-align: center;">2 - LATITUDE</th> <th colspan="10" style="text-align: center;">2 - LONGITUDE</th> </tr> <tr> <td colspan="10" style="text-align: center;">N</td> <td colspan="10" style="text-align: center;">W</td> </tr> <tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr> <tr><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td></tr> <tr><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td></tr> <tr><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td></tr> <tr><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td></tr> </table>	2 - LATITUDE										2 - LONGITUDE										N										W										0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
1																																																																																																																																																																																																																																																										
2																																																																																																																																																																																																																																																										
3																																																																																																																																																																																																																																																										
4																																																																																																																																																																																																																																																										
5																																																																																																																																																																																																																																																										
6																																																																																																																																																																																																																																																										
7																																																																																																																																																																																																																																																										
8																																																																																																																																																																																																																																																										
9																																																																																																																																																																																																																																																										
2 - LATITUDE										2 - LONGITUDE																																																																																																																																																																																																																																																
N										W																																																																																																																																																																																																																																																
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																							
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																							
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2																																																																																																																																																																																																																																							
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3																																																																																																																																																																																																																																							
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4																																																																																																																																																																																																																																							
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5																																																																																																																																																																																																																																							
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6																																																																																																																																																																																																																																							
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7																																																																																																																																																																																																																																							
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8																																																																																																																																																																																																																																							
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9																																																																																																																																																																																																																																							
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="10" style="text-align: center;">3 - UTM</th> <th colspan="10" style="text-align: center;">3 - UTM</th> </tr> <tr> <td colspan="10" style="text-align: center;">E</td> <td colspan="10" style="text-align: center;">N</td> </tr> <tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr> <tr><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td><td>6</td></tr> <tr><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td></tr> <tr><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td></tr> <tr><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td><td>9</td></tr> </table>	3 - UTM										3 - UTM										E										N										0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9									
3 - UTM										3 - UTM																																																																																																																																																																																																																																																
E										N																																																																																																																																																																																																																																																
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																							
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																							
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2																																																																																																																																																																																																																																							
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3																																																																																																																																																																																																																																							
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4																																																																																																																																																																																																																																							
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5																																																																																																																																																																																																																																							
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6																																																																																																																																																																																																																																							
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7																																																																																																																																																																																																																																							
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8																																																																																																																																																																																																																																							
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9																																																																																																																																																																																																																																							
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="3" style="text-align: center;">4</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td><td>2</td></tr> <tr><td>3</td><td>3</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td><td>6</td></tr> <tr><td>7</td><td>7</td><td>7</td></tr> <tr><td>8</td><td>8</td><td>8</td></tr> <tr><td>9</td><td>9</td><td>9</td></tr> </table>	4			0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9	9	9	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="3" style="text-align: center;">5</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td><td>2</td></tr> <tr><td>3</td><td>3</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td><td>6</td></tr> <tr><td>7</td><td>7</td><td>7</td></tr> <tr><td>8</td><td>8</td><td>8</td></tr> <tr><td>9</td><td>9</td><td>9</td></tr> </table>	5			0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9	9	9	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="3" style="text-align: center;">6</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td><td>2</td></tr> <tr><td>3</td><td>3</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td><td>6</td></tr> <tr><td>7</td><td>7</td><td>7</td></tr> <tr><td>8</td><td>8</td><td>8</td></tr> <tr><td>9</td><td>9</td><td>9</td></tr> </table>	6			0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9	9	9	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="3" style="text-align: center;">7</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td><td>2</td></tr> <tr><td>3</td><td>3</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td><td>6</td></tr> <tr><td>7</td><td>7</td><td>7</td></tr> <tr><td>8</td><td>8</td><td>8</td></tr> <tr><td>9</td><td>9</td><td>9</td></tr> </table>	7			0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9	9	9	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="3" style="text-align: center;">8</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td><td>2</td></tr> <tr><td>3</td><td>3</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td><td>6</td></tr> <tr><td>7</td><td>7</td><td>7</td></tr> <tr><td>8</td><td>8</td><td>8</td></tr> <tr><td>9</td><td>9</td><td>9</td></tr> </table>	8			0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9	9	9	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="3" style="text-align: center;">9</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td><td>2</td></tr> <tr><td>3</td><td>3</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td><td>6</td></tr> <tr><td>7</td><td>7</td><td>7</td></tr> <tr><td>8</td><td>8</td><td>8</td></tr> <tr><td>9</td><td>9</td><td>9</td></tr> </table>	9			0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9	9	9	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="3" style="text-align: center;">10</th></tr> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> <tr><td>2</td><td>2</td><td>2</td></tr> <tr><td>3</td><td>3</td><td>3</td></tr> <tr><td>4</td><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td><td>6</td></tr> <tr><td>7</td><td>7</td><td>7</td></tr> <tr><td>8</td><td>8</td><td>8</td></tr> <tr><td>9</td><td>9</td><td>9</td></tr> </table>	10			0	0	0	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8	9	9	9												
4																																																																																																																																																																																																																																																										
0	0	0																																																																																																																																																																																																																																																								
1	1	1																																																																																																																																																																																																																																																								
2	2	2																																																																																																																																																																																																																																																								
3	3	3																																																																																																																																																																																																																																																								
4	4	4																																																																																																																																																																																																																																																								
5	5	5																																																																																																																																																																																																																																																								
6	6	6																																																																																																																																																																																																																																																								
7	7	7																																																																																																																																																																																																																																																								
8	8	8																																																																																																																																																																																																																																																								
9	9	9																																																																																																																																																																																																																																																								
5																																																																																																																																																																																																																																																										
0	0	0																																																																																																																																																																																																																																																								
1	1	1																																																																																																																																																																																																																																																								
2	2	2																																																																																																																																																																																																																																																								
3	3	3																																																																																																																																																																																																																																																								
4	4	4																																																																																																																																																																																																																																																								
5	5	5																																																																																																																																																																																																																																																								
6	6	6																																																																																																																																																																																																																																																								
7	7	7																																																																																																																																																																																																																																																								
8	8	8																																																																																																																																																																																																																																																								
9	9	9																																																																																																																																																																																																																																																								
6																																																																																																																																																																																																																																																										
0	0	0																																																																																																																																																																																																																																																								
1	1	1																																																																																																																																																																																																																																																								
2	2	2																																																																																																																																																																																																																																																								
3	3	3																																																																																																																																																																																																																																																								
4	4	4																																																																																																																																																																																																																																																								
5	5	5																																																																																																																																																																																																																																																								
6	6	6																																																																																																																																																																																																																																																								
7	7	7																																																																																																																																																																																																																																																								
8	8	8																																																																																																																																																																																																																																																								
9	9	9																																																																																																																																																																																																																																																								
7																																																																																																																																																																																																																																																										
0	0	0																																																																																																																																																																																																																																																								
1	1	1																																																																																																																																																																																																																																																								
2	2	2																																																																																																																																																																																																																																																								
3	3	3																																																																																																																																																																																																																																																								
4	4	4																																																																																																																																																																																																																																																								
5	5	5																																																																																																																																																																																																																																																								
6	6	6																																																																																																																																																																																																																																																								
7	7	7																																																																																																																																																																																																																																																								
8	8	8																																																																																																																																																																																																																																																								
9	9	9																																																																																																																																																																																																																																																								
8																																																																																																																																																																																																																																																										
0	0	0																																																																																																																																																																																																																																																								
1	1	1																																																																																																																																																																																																																																																								
2	2	2																																																																																																																																																																																																																																																								
3	3	3																																																																																																																																																																																																																																																								
4	4	4																																																																																																																																																																																																																																																								
5	5	5																																																																																																																																																																																																																																																								
6	6	6																																																																																																																																																																																																																																																								
7	7	7																																																																																																																																																																																																																																																								
8	8	8																																																																																																																																																																																																																																																								
9	9	9																																																																																																																																																																																																																																																								
9																																																																																																																																																																																																																																																										
0	0	0																																																																																																																																																																																																																																																								
1	1	1																																																																																																																																																																																																																																																								
2	2	2																																																																																																																																																																																																																																																								
3	3	3																																																																																																																																																																																																																																																								
4	4	4																																																																																																																																																																																																																																																								
5	5	5																																																																																																																																																																																																																																																								
6	6	6																																																																																																																																																																																																																																																								
7	7	7																																																																																																																																																																																																																																																								
8	8	8																																																																																																																																																																																																																																																								
9	9	9																																																																																																																																																																																																																																																								
10																																																																																																																																																																																																																																																										
0	0	0																																																																																																																																																																																																																																																								
1	1	1																																																																																																																																																																																																																																																								
2	2	2																																																																																																																																																																																																																																																								
3	3	3																																																																																																																																																																																																																																																								
4	4	4																																																																																																																																																																																																																																																								
5	5	5																																																																																																																																																																																																																																																								
6	6	6																																																																																																																																																																																																																																																								
7	7	7																																																																																																																																																																																																																																																								
8	8	8																																																																																																																																																																																																																																																								
9	9	9																																																																																																																																																																																																																																																								

Judge's Name \_\_\_\_\_ Judge's Signature \_\_\_\_\_ Date \_\_\_\_\_

