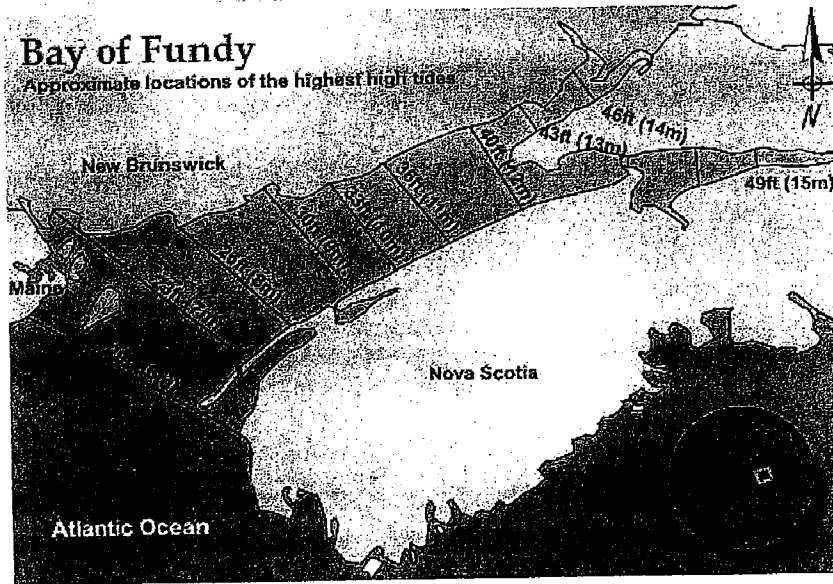


Name _____

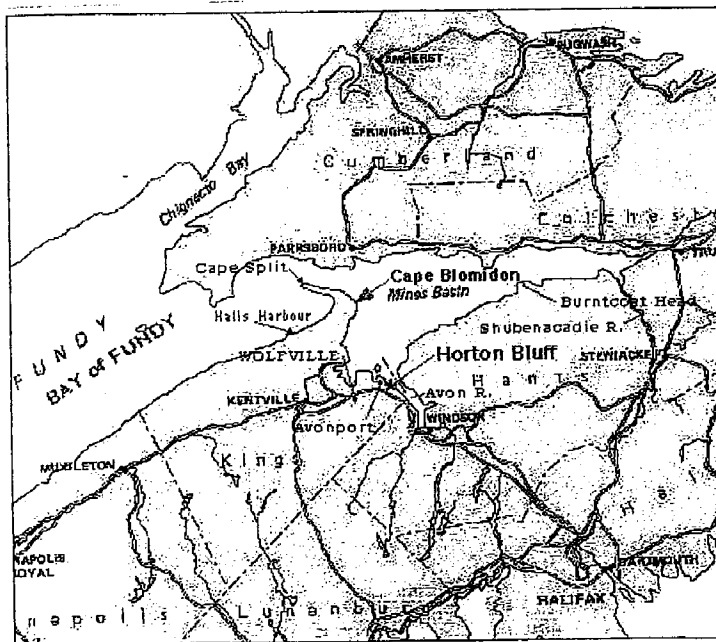
Score _____

Lab # _____
Tidal Range and Lunar Phases

Introduction: Horton Bluff is located in the northeastern part of the Bay of Fundy. The Bay of Fundy is known for the largest tidal ranges on Earth. This is primarily due to the geography of the Bay, which has been likened to a funnel shape with water flowing in during high tide and out during low tide. The tidal range is greater as one travels northwards as shown by the diagram below. In this activity you will investigate the roll the Moon plays in this cycle.

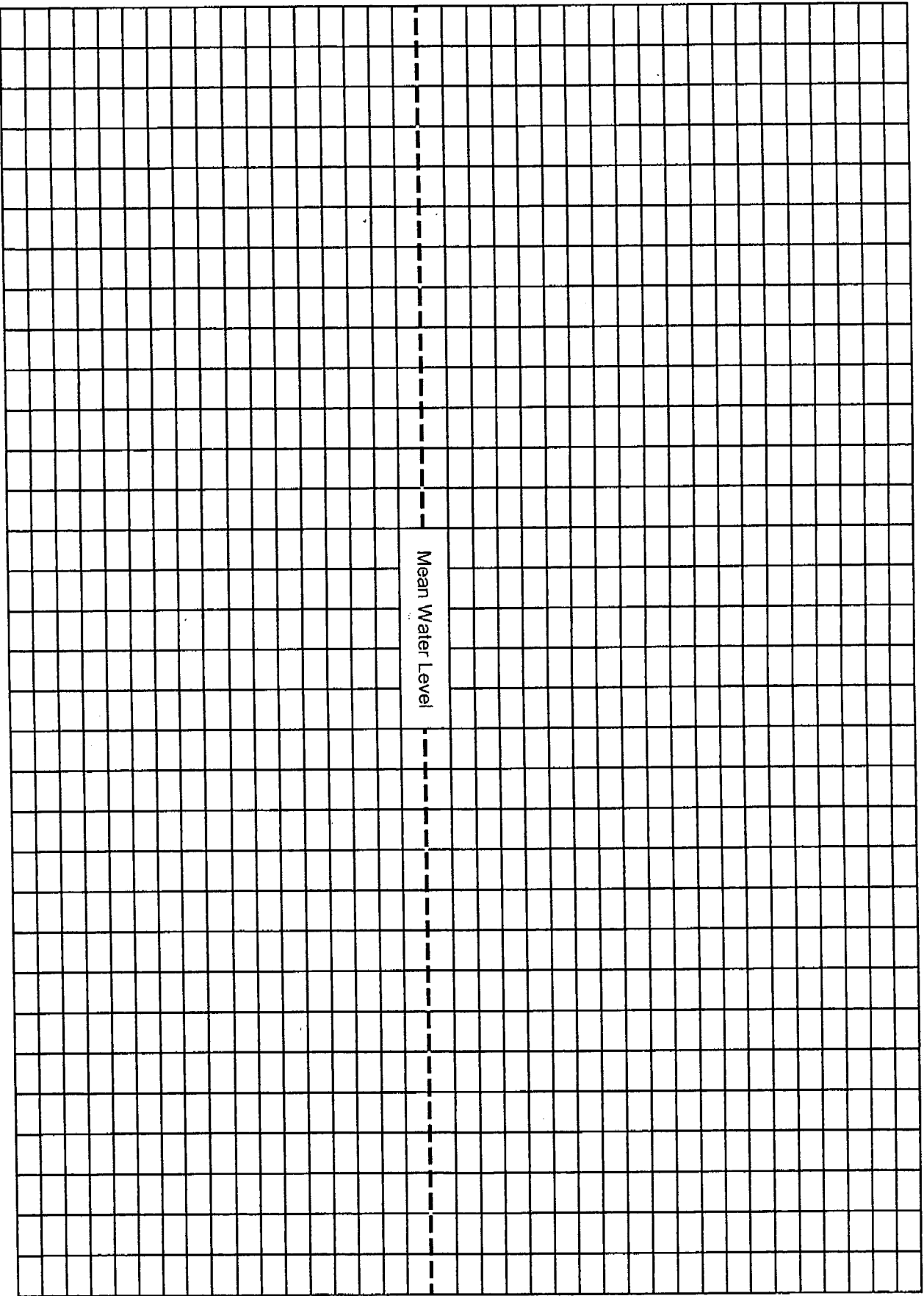


Map of Horton Bluff, Nova Scotia, Canada



Data Table for Horton Bluff (April 2003)

Day	Depth of Water at Horton Bluff Note: Avg. depth is 7.5 meters		Lunar Phase	Special Notes
	High Tide	Low Tide	Percentage Seen	
1	12.5	2.0	0	New Moon
2	12.8	1.8	7	
3	13.0	1.9	13	
4	12.8	2.0	20	Apogee
5	12.5	2.3	27	
6	12.3	2.5	34	
7	12.0	3.0	41	
8	11.8	3.2	47	
9	11.5	3.4	54	
10	11.8	3.5	61	
11	12.0	3.5	68	
12	12.3	3.0	75	
13	12.5	2.5	81	
14	13.0	2.0	88	
15	13.5	1.0	95	
16	14.0	0.5	100	Full Moon
17	14.5	0.0	93	Perigee
18	15.0	-0.5	87	
19	14.5	-0.2	81	
20	14.0	0.0	75	
21	13.5	0.5	68	
22	13.0	1.3	62	
23	12.5	2.0	56	
24	12.0	2.5	50	
25	11.5	2.9	43	
26	11.8	3.0	37	
27	12.0	2.8	31	
28	12.3	2.5	25	
29	12.5	2.1	18	
30	12.8	2.0	12	



7.5

Mean Water Level

DATE

Graphical Analysis:

1. On the graph provided:

- a) Create a uniform scale for the date on the horizontal axis
- b) Create a uniform scale for the depth/range on the vertical axis
- c) Create a line graph for the "high tide" data and label "high Tide"
- d) Create a line graph for the "Low tide" data and label "Low Tide"
- e) Place a "N" on your graph to represent where the neap tide occurs
- f) Place a "S" on your graph to represent where the spring tide occurs

2. What is the rate of tidal change from high tide to low tide on April 18, 2003?

Show your work in the box below

3. What is the general tidal level associated with each of the following:

- New Moon _____
- First Quarter _____
- Full Moon _____
- Last Quarter _____

4. Using your answers to question 3 explain why this occurs. Make sure you discuss "gravitational attraction" in your answer

5. Tides show what type of relationship?
