

**ASSOCIATION OF CANADA LANDS SURVEYORS
BOARD OF EXAMINERS**

**PROFESSIONAL EXAMINATION 1
ACTS AND REGULATIONS RELATING TO SURVEYS OF CANADA LANDS**

March 2010

(March 18, 1999 Regulations)

Notice to Candidates:

This examination is based on the e-Edition of the Manual of Instructions for the Survey of Canada Lands.

Although programmable calculators may be used, candidates must show all formulae used, the substitution of values into them, and any intermediate values to 2 more significant figures than warranted for the answer. Otherwise, full marks may not be awarded even though the answer is numerically correct.

This examination consists of 8 questions on 3 pages.

<u>Q. No</u>	<u>Time: 3 hours</u>	<u>Marks</u>	
		<u>Value</u>	<u>Earned</u>
1.	Persons eligible to acquire legal interests in lands and resources in Canada's northern territories are subject to certain limitations set out in the enabling statutes and regulations. What limitation applies in each of the following situations?		
	a) the maximum dimensions, in feet, of a mineral claim, other than one for the mining of iron or mica, that can be located in Yukon.	2	
	b) the maximum area, in acres, of a claim for the mining of iron or mica, that can be located in Yukon.	2	
	c) the maximum area, in acres, in NWT that the holder or holders of adjacent mineral claims may apply to group for the purpose of applying representation work.	2	
	d) the number of Sections in Grid Area 69°40', 124°00' in NWT specified in the Canada Oil and Gas Land Regulations.	3	
	e) the minimum value of eligible work in dollars which must be performed annually on a placer mining property in the Dawson Mining District in Yukon, where the property comprises the maximum allowable number of adjoining claims which may be grouped for the performance of work by their owner or owners.	3	
	f) the maximum term in years of a lease of Yukon territorial lands.	2	
	g) the number of days a locator of a quartz mining claim in Yukon has available to record a claim that is situated 72.5 miles from the office of the mining recorder.	2	
	h) the number of lots which may selected by the Commissioner where a portion of a 15 acre parcel of Yukon land originally granted by the Crown is subdivided by the owner into 17 townsite lots.	3	
	i) the maximum area, in acres, of Yukon territorial lands that may be sold to any one person without the approval of the Commissioner in Executive Council.	2	
	j) the maximum allowable period of time after the recording date of a single mineral claim staked under the Canada Mining Regulations (now Northwest Territories and Nunavut Mining Regulations) in which the holder of the claim may apply for a lease of the claim.	2	

2.	As a Canada Lands Surveyor in private practice, you discover what you consider to be a major monumentation error in a recent official survey made by another Canada Lands Surveyor. The supposed error is critical to your client's interests. What actions should you take to deal with this matter?	6	
3.	A parcel of Crown land in Nunavut was surveyed in a polygon configuration to define a Wildlife Habitat Protection Area. What is the maximum perimeter length of the boundaries, in metres, to meet legal survey accuracy requirements if the linear accuracy of the survey using the 95% confidence region approach could not exceed 2.26 metres?	3	
4.	For the parcel described in Question 3, what is the minimum number of sides the polygon could have to meet legal survey angular closure standards if the resulting angular misclosure is found to be 0°01'35"?	2	
5.	Explain the jurisdiction of the Surveyor General in discipline actions involving Canada Lands Surveyors.	5	
6.	Describe three acceptable forms of field notes prepared for official recording purposes.	3	
7.	Administrative delegation notwithstanding, provide the full title of the single official or entity having <u>statutory</u> responsibility for each of the following matters: a) authorization of surveys of reserves pursuant to the <i>Indian Act</i> . b) administration, direction and control of surveys under the <i>Canada Lands Surveys Act</i> . c) making an order pursuant to the <i>Land Titles Act (Yukon)</i> cancelling in whole or in part or amending or altering a plan of survey. d) receiving notification of damage or destruction of a monument shown on a plan of legal survey as a result of operations of a permittee under the Canada Oil and Gas Land Regulations. e) direction of the preparation of a compiled plan.	2 2 2 2 2	
8.	<p>The sketch forming part of a long standing agreement of sale for a remote parcel of federal Crown land in the Northwest Territories shows the subject parcel as approximately square with its east, south and west boundaries in cardinal directions. The east and south boundaries are each dimensioned 800.0 feet and the northeast corner is shown to be 100 feet perpendicularly distant from the OHWM of the Mountain River. The west boundary is dimensioned "790.0' ±" and the sketch shows the northwest corner to be 100 feet perpendicularly distant from the same OHWM. A Canada Lands Surveyor is retained in 2008 by the agreement holder James Allen to make a legal survey of the parcel in order that letters patent can be issued and a certificate of title obtained.</p> <p>The CLS obtains authorization from the Lands administration for the survey and receives survey instructions for Lot 1001, Quad 106 A/11 from the Surveyor General. On commencement of the field survey, he finds a timber marker post at the northeast corner marked "NE Allen Appl'n" and determines it is 102 feet perpendicularly distant from the OHWM. He completes the survey in accordance with the sketch and establishes the northwest corner 104 feet from the OHWM. The resulting west boundary is 789.25 feet. He confirms that the resulting straight line north boundary paralleling the OHWM is no less than 102 feet perpendicularly distant from the OHWM at any point along its length. He performs all necessary work to complete his survey, compiles his combined plan and field notes and submits them to the Surveyor General for examination. He is notified that his returns are satisfactory and submits his mylar original for processing. The plan is processed by the Surveyor General and letters patent are eventually issued for Lot 1001. James Allen obtains a certificate of title for Lot 1001 several months after the letters</p>		

	<p>patent are issued.</p> <p>a) What options might the CLS have used for the determination of bearing to orientate his survey?</p> <p>b) What methods could the CLS have used to determine the configuration of the OHWM fronting the parcel?</p> <p>c) What area for Lot 1001 will be shown on the plan and field notes?</p> <p>d) What methods could the CLS have used for the required connection of his survey unless otherwise exempted in the survey instructions?</p> <p>e) What absolute accuracy standard, expressed in metres, is required for geo-referencing of the survey?</p> <p>f) What statutory action did the Surveyor General take in processing the survey returns?</p> <p>g) What is the required plotting accuracy for the OHWM on the final plan and field notes, expressed in millimetres?</p> <p>h) Under what statutory authority was the survey made?</p> <p>i) What statement of responsibility is required on the combined plan and field notes to comply with the Canada Lands Surveyors Regulations?</p> <p>j) Does the 100 foot reservation prescribed in the <i>Territorial Lands Act</i> apply to Lot 1001? Why or why not?</p> <p>k) Identify the official who will issue the certificate of title and the statutory authority under which he does so.</p> <p>l) In initial discussions with the client and in the resulting contract prepared for the survey, what time and cost contingencies should be covered?</p> <p>m) Unless specified otherwise in the specific instructions for survey, what type of monument would be set at each corner of the parcel?</p> <p>n) Describe three types of ancillary monumentation that might accompany the monuments set taking into consideration the nature of the ground, the terrain and safety unless conditions make it impractical.</p>	<p>4</p> <p>4</p> <p>3</p> <p>4</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>3</p> <p>6</p> <p>4</p> <p>4</p> <p>2</p> <p>6</p>	
	Total Marks:	100	