

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

**SCHEDULE III / ITEM 1
ACTS AND REGULATIONS RELATING TO SURVEYS OF CANADA LANDS**

October 2006
(March 18, 1999 Regulations)

Notice to Candidates:

On April 1, 2003 the Government of Yukon took over administration of all lands and mineral resources in Yukon. Legislation was created that mirrors the *Territorial Lands Act*, the *Yukon Placer Mining Act* and the *Yukon Quartz Mining Act*. As the new statutes are not yet accessible on the Internet and have not yet been issued as a revision insert to the e-Edition of the Manual of Instructions on which this examination is based, the present three statutes of Canada appearing in Edition 3 of the Manual continue to apply for the purposes of this examination. Candidates who choose to answer questions based on the successor legislation must clearly state this fact in order for marks to be awarded on that basis.

This examination consists of 7 questions on 4 pages

Marks

Q. No

Time: 3 hours

Value Earned

1	A Canada Lands Surveyor conducts a legal survey in the Whitehorse Coordinated Survey Area, Yukon Territory and connects her survey through two nearby pairs of coordinate control monuments. The survey is within fifty metres of meridian of longitude 135° west, which is also the central meridian of UTM Zone 8. The combined scale factor she has used is 0.999040. What is the elevation scale factor she has used?	3	
2	a. Give the names of five different types of legal survey monuments which have been authorized for surveys of Canada Lands.	5	
	b. Which type of authorized CLS monument is in most common use today?	2	
	c. Explain what a witness monument is and give an example of when it would be advisable to place one.	3	
	d. Draw a circle representing the plan view of a tree that is within 1 metre of your legal survey boundary and draw alongside the circle a line representing that boundary. Show in a distinct colour where you would place blazes on the tree to assist in finding the boundary.	3	
	e. When a Canada Lands Surveyor discovers that the mineral claim he is making a legal survey of is divided into two parcels by a prior location, what must he decide?	3	

3	<p>A Canada Lands Surveyor in the Northwest Territories makes a connection from a remote homestead survey he has just completed to the nearest corner of a nearby Group lot surveyed in 1910. A forest fire has burned the area since the time of survey and there is no evidence of the original three bearing trees recorded in the field notes of the 1910 survey. However, he is able to find evidence of cut stumps on two old lines intersecting at about the point where he had expected to find the original wood post.</p> <p>With careful examination of the area at the intersection of the cut lines, he finds four faint but regular depressions in a symmetrical pattern and a weathered mound of earth equidistant from two of the depressions. He carefully excavates the area centred by the depressions and exposes a vertical piece of wood. When carefully withdrawn from the soil, it clearly reveals a squared cross-section with pointed end. Axe marks are still visible on the remains.</p> <p>He concludes that he has found evidence of the original 1910 monument of the Group lot and confirms that the hole is very close to the intersection of the remaining cut lines. He places a new authorized monument in the hole and proceeds with the work to make the required connection.</p>		
	a. Describe two different methods by which he may make the connection.	4	
	b. Given that there are no trees of sufficient size near the corner to make bearing trees, what options are available to him to preserve the location of the monument he has just placed?	3	
	c. Assuming one of your answers in b, and using the authorized abbreviations for preparation of plans and field notes, write the full annotation which will appear on the combined plan and field notes of his survey to describe the actions he has taken at this location.	4	
	d. In conducting the survey of the remote homesite parcel, what options are available to him for the derivation of a bearing for the survey?	3	
	<p>e. The homesite parcel he has surveyed has been fitted to the approximate base of an escarpment on two sides so as to enclose the fertile valley soils. The resulting parcel has nine sides and a total perimeter boundary distance of 1,982.60 metres.</p> <p>i. What is the maximum angular misclosure he is permitted to have in his survey of the parcel?</p> <p>ii. What is the minimum accuracy standard for his survey, in centimetres, expressed by the semi-major axis of the ellipse showing the 95% confidence region?</p>	3	4

	f. He has chosen to survey the boundary along the river side of the parcel by three monumented straight lines so that no point on the boundary is closer than a prescribed distance from a legally described feature of the river.		
	i. Under what two pieces of legislation is he conducting his survey?	2	
	ii. What is the prescribed distance, in feet, he is respecting?	2	
	iii. Give the name and authorized abbreviation for that feature of the river.	2	
	iv. What are you able to conclude about this river?	1	

4	Give the maximum size, expressed by the dimensions of their rectangular sides, which may be applied for, for each of the following:		
	a. an iron and mica claim (<i>Yukon Quartz Mining Act</i>)	2	
	b. a mineral claim for other than iron or mica (<i>Yukon Quartz Mining Act</i>)	2	
	c. a creek claim (<i>Yukon Placer Mining Act</i>)	2	
	d. a river claim (<i>Yukon Placer Mining Act</i>)	2	
	e. a bench claim (<i>Yukon Placer Mining Act</i>)	2	
	f. a mineral claim (<i>Canada Mining Regulations</i>)	2	

5	Indicate whether each of the following statements is TRUE or FALSE.		
	a. An official plan may be prepared by a Canada Lands Surveyor based on the official field notes of another Canada Lands Surveyor.	2	
	b. Indian reserves established pursuant to Treaty 8 in Alberta are Canada Lands.	2	
	c. Specific instructions are required for the preparation of an explanatory plan of a sewer forcemain easement across private lands in Carmacks, Yukon	2	
	d. A standard <i>Yukon Quartz Mining Act</i> claim may have a location line in any direction or bearing.	2	
	e. Under the Canada Oil and Gas Land Regulations, a grid area, the whole of which lies north of latitude 70°, is bounded on the east and west sides by meridians of longitude 0° 30' apart.	2	
	f. Unless a grant, lease or other disposition of territorial lands states to the contrary, the grant, lease or other disposition conveys an exclusive right to any lake, river, stream or other body of water within, bordering or passing through the lands.	2	
	g. Only the Minister of Indian Affairs and Northern Development may issue a Certificate of Possession to an Indian person lawfully in possession of land in a reserve.	2	

	h. A National Park may be lawfully created by the Government of Canada in an area subject to an outstanding Aboriginal land claim.	2	
	i. The Surveyor General of Canada must be a Canada Lands Surveyor	2	
	j. A plan of a subdivision survey in the Northwest Territories is binding on the owner of the lands dealt with only after the Registrar of Land Titles has approved it and given it a registration number.	2	
	k. The No. 1 location post of a <i>Yukon Quartz Mining Act</i> claim may only be witnessed if the locator files with his application for the claim a statutory declaration setting out the circumstances and impossibility of establishing the post in its true position.	2	
	l. The position of a natural boundary may be determined by any method that will permit the boundary to be plotted to an accuracy of 1.0 mm at the final plan scale.	2	

6	Describe what rights and obligations of entry you have as a Canada Lands Surveyor in each of the following situations:		
	a. entry onto private land adjacent to your client's private property whose boundaries you are re-establishing	3	
	b. entry onto an offshore development well structure for the purpose of making a legal positional survey	3	
	c. entry onto a Yukon placer mining claim for the purpose of conducting a legal survey of a nearby bench placer mining claim	3	

7	You are a Canada Lands Surveyor in private practice in Inuvik, NWT. A prospective client telephones your office to make an appointment to speak with you with respect to topographic and legal survey services he will require in developing a 30 unit small business centre in Inuvik. He indicates to you that the ten lots he has purchased are being transferred to his corporation in two weeks. His plan is to develop the business centre and offer condominium-type ownership.		
	a. Describe the material you will assemble for this meeting.	3	
	b. Set out in point form the services you will propose to provide to him and their sequence.	5	
	Total Marks	100	