

# The Nova Scotian Surveyor

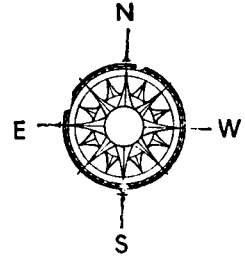
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## The Association of Provincial Land Surveyors of Nova Scotia Incorporated

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R. E. Millard, P. L. S., Managing Editor

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## A COURT CASE

This is not a survey problem, but involves the title to a particular lot of land, being Grant No. 12419, situated at Pockwock Lake, in Hants County, based on the dates of various conveyances, their dates of registration and the Municipalities in which they were recorded.

The firm of Todd and Polleys consisted of Ninean L. Todd and his nephew Frank Todd, the son of Freeman H. Todd, natives of Milltown, in Charlotte County, New Brunswick, AND John Polleys (a relative of the writer) born in Stewiacke, Nova Scotia, who in his infancy moved with his parents to the U. S. A., and subsequently became a noted lumberman with extensive holdings in both the States of Maine and Minnesota.

In 1871, these three parties became interested in real estate in the Province of Nova Scotia, and on June 30, 1871, entered into a co-partnership, which is registered in Halifax. They began to acquire lands, both severally and collectively, by purchase and grants, to large areas in the Counties of Halifax, Hants, and to a lesser extent, in Lunenburg. They thus amassed a considerable holding, which later became the nucleus of the Lewis Miller and Company property in 1903.

On December 29, 1876, these three parties jointly acquired Grant No. 12419 from The Crown, consisting of four hundred acres, at the price of \$240.00, and recorded at Windsor on February 5, 1877.

On December 23, 1880, John Polleys agreed to convey all his interest in this property to Freeman H. Todd, but this Agreement was only recorded in the County of Halifax, on May 9, 1881, and not at Windsor. The deed, however, in conformity with the Agreement, was not executed until after the death of Freeman H. Todd, when on January 16, 1886, John Polleys and Ninean L. Todd conveyed all their interest to the five children and heirs-at-law of Freeman H. Todd. This conveyance was recorded at Windsor on February 13, 1891.

On April 25, 1881, Frank Todd conveys his interest to his father, Freeman H. Todd, and here again this was only recorded at Halifax, on May 9, 1881. Later, however, he again conveys all his interest as an heir-at-law of his father, at which time it is recorded in its proper Municipality.

Freeman H. Todd died testate on or about 1885, and by his Will, dated September 5, 1885, recorded in the Registry of Deeds Office at St. Andrews, New Brunswick, he devised all his property to his five children; namely, Frank, Henry, Edwin, William, and Adeline Young, the wife of Charles Young.

On August 22, 1891, William Todd conveys all his interest in his father's estate to Frank, Henry and Edwin Todd, recorded at Windsor on July 25, 1892.

Finally on March 2, 1896, by a Quit Claim deed, recorded at Windsor on July 21, 1896, the remaining four heirs convey to Frank Daniel and Charles Young, incorporated as the firm of Young Brothers and Company, and including the lot in question.

This lot of land is now vested in Young Brothers and Company hereinafter known as the Defendants, with a clear line of title from the date of the Grant.

In the meantime, or on April 5, 1880, John Polleys and Frank and Ninean L. Todd, convey Grant No. 12419 for the sum of \$200.00 to Pierce and Martin Burns, Thomas Gillan and Martin Shea, hereinafter known as the Plaintiffs, and small time lumbermen in the District of Pockwock. This instrument was recorded in the County of Halifax on January 21, 1881, and not recorded at Windsor until a much later date, or on May 22, 1899.

It is rumoured locally that these four parties had entered into an Agreement with the firm of Todd and Polleys, for an exchange of land. This seems to be borne out by the fact that on March 3, 1880, these parties by two separate deeds, with a total consideration of \$200.00, conveyed other lands to Todd and Polleys.

In the Fall of 1898, the firm of Young Brothers and Company obtained a large order for dimension stock, and approached their Woods Superintendent, W. A. Christie, for the most likely place to obtain this material. Christie replied that the most likely area was in Pockwock Lake, but he doubted whether they could obtain that much material there, as the four hundred acre block had been sold by Todd and Polleys. Youngs' reply was that they were unaware of this, as they had a deed of this particular lot, and were going to exercise their rights. They, therefore, ordered Christie to proceed with an operation on this lot, and so in January 1899, this Company, under John Murphy, a contractor, proceeded to cut the lot in question. This, of course, was resented by Pierce Burns and the others.

On May 23, 1899, a Writ was issued against Young Brothers and Company, and the Plaintiffs in their statement of claim, maintained that they had bought and paid for the lot in question, receiving a deed for the same, and that it was in their possession. They asked for \$1,000.00 damages and an Injunction restraining the Defendants from any further trespass.

On June 26th of the same year, the Defendants entered a counter claim, in which they denied that the Plaintiffs were owners in fee simple, or that they were in possession of the lot at the time of the alleged trespass. In substantiation of this claim, they quoted Section 8, Chapter 84 of the revised Statutes of Nova Scotia, Fifth Series, which provides that all deeds affecting lands shall be registered in the County or District in which they lie. Also Section 18 of the same Chapter, wherein it provides that deeds or mortgages duly executed, but not registered, shall be void against any subsequent purchase or mortgage for valuable consideration, who shall first register his deed or mortgage of such lands.

This case was tried in the Supreme Court under Judge Meagher who rendered his decision on February 13, 1900, in favour of the Defendants.

In his review of the evidence, he noted that the lot in question was granted by The Crown in 1876, and duly recorded in Windsor, and also that the several following conveyances, including that into the defending Company, all were recorded in their proper District, that is, Windsor. He also recited the Registry Act, as well as several precedents in other cases as to title, all of which, in his opinion, was in favour of the Defendants.

The Plaintiffs argued that the Defendants were not bona fide purchasers for value without notice, inasmuch as they held under a Quit Claim deed without covenant, and that inasmuch as the predecessors in title to the Defendants had conveyed these lands, therefore, that nothing passed to the Defendants. The Judge ruled, however, that the necessary elements to a bona fide deed; namely, valuable consideration, absence of notice and presence of good faith, all existed in the Defendants' deed.

The Plaintiffs furthermore argued that Benjamin F. Young, one of the Company, had made an offer to the Plaintiffs. The Judge here ruled, that although B. F. Young had made an offer, he had not discussed his position or rights, and, therefore, could not be construed as invalidating the Company's title.

In the event of his judgment being reversed upon appeal, and in order to avoid any further cost or inquiry, he assessed the damages at \$400.00 for the logs taken, and the damage done through cutting of roads, etc. He then gave his judgment for the Defendants with costs.

He then made the following suggestion; "The Defendants grantors have had the benefit of two sales of this land, and, therefore, in all fairness, they should make satisfactory compensation to the Plaintiffs, which, I trust, they will be manly enough to do with all reasonable promptness on a fairly liberal scale."

On March 1, 1900, the Plaintiffs entered an appeal, but insofar as the records show, this appeal was never proceeded with.

For the verification of this case, reference may be had to Number 10363 in the Prothonotary's Office, Halifax, and to the Nova Scotia Reports for 1900, Page 199.

R. E. Dickie, P.L.S.

February 3, 1958.

## Be Careful Where You Cut!

Many years ago, Whitman Freeman, Deputy Crown Land Surveyor for the County of Queens, who resided in Milton, and died there in 1872, was approached by Mr. "X", a worthy and respected citizen of the young village of Caledonia, with the request that he make a survey of his property in that vicinity. Whitman replied that he was very busy at the time, but that he would attend to it at the earliest possible date.

Several months later, the survey not having been made, Mr. "X" was again in Liverpool and once more went to see Whitman, stating that Winter was fast approaching and that he was anxious to start logging.

Whitman replied that he was still very busy and had not had the opportunity to make the requested survey. He observed that however Mr. "X" undoubtedly had some idea of the boundaries of his lot, and thus could start well within those bounds without danger of cutting across the lines.

Mr. "X" replied that that was what he was afraid of, that his property was surrounded on three sides by Crown Lands and without knowledge as to where his own lines were, he was afraid that he might cut on his own lot, an attitude typical of many of our otherwise law-abiding citizens.

# Determination of the Magnetic Declination

Regulations for the direction of Land Surveyors holding Certificates of Qualification from the Board of Examiners as required by the Nova Scotia Land Surveyors Act, chapter 121 of 1923, is the only directive issued under that, or any other act, and moreover is one to which has been honoured more in the breach than the observance by the observer in private practice.

Regulations, page 9 paragraph 3, quote "In case no meridian has been established in the district, the surveyor shall determine the direction of the true meridian . . . by observation of the Pole Star . . . . or by direct observation of the Sun" end of quote.

In any gathering of Land Surveyors in Nova Scotia it is a common place to hear "No one is going to lug a transit into the woods to make an astronomic observation." Some surveyors do take a transit into the woods but such procedure is quite unnecessary as was indicated in a paper read before the Association in 1953 by the late J. Layton Reid, P. L. S. while he was a student in the Nova Scotia Land Survey School: the paper was published in the Nova Scotian Surveyor.

In 1957 an able young surveyor, Mr. Neil L. Flemming of Southhampton, N. B., while attending the school and of his own volition made 7 observations during four successive days the field notes of which were:

<b>Place of Observation</b>	Legion Station, Lawrencetown, Annapolis Co. May 5th, 1957				
	Latitude	44° — 53' — 03" N			
	Longitude	65° — 09' — 13" W.	Watch.	28 sec. slow.	
<b>Object</b>	<b>Magnetic Azimuth</b>		<b>Time</b>	<b>A. D. S. T.</b>	
			<b>H.</b>	<b>M.</b>	<b>S.</b>
Sun.	283° — 40'		17	23	13
Sun.	284° — 00'		17	24	15
Sun.	204° — 30'		17	26	05
				Elapsed field time 2M 52S	
Sum.	852° — 10'	Sum	52	13	33
Mean.	284° — 03'	Mean.	17	24	31
<b>Astronomic Azimuth</b>	262° — 00'				

22° — 03' — the magnetic declination which must be West because the magnetic Azimuth is greater than the Astronomic.

The Astronomic Azimuth of the Sun was computed by the Hour Angle method using the Napier's Analogies.

Following is a tabulation of all seven observations the place, compass, and procedure (mean of 3 pointings) are identical. Time was reduced to A. S. T. and watch correction applied.

Date	Time A. S. T.			Azimuth of Sun		Declination West	Field Time		Mean Declination
	H.	M.	S.	Magnetic	Astronomic		M.	S.	
5	16	24	59	284° — 03'	262° — 00'	22° — 03'	2	52	22° — 03'
6	17	26	20	295° — 20'	273° — 20'	22° — 00'	3	24	
	17	38	26	297° — 208'	275° — 24'	21° — 56'	2	10	21° — 58'
7	16	55	02	289° — 55'	268° — 03'	21° — 52'	2	48	
	16	58	59	290° — 43'	268° — 51'	21° — 52'	2	08	21° — 52'
*8	17	49	27	299° — 43'	277° — 44'	21° — 59'	2	16	
	17	52	35	302° — 20'	278° — 14'	22° — 06'	1	35	22° — 02.5'

The above suggests that this method of declination determination is worthy of further investigation and indicates that with correct time it is very probably faster and every bit as accurate as determination made with a transit and compass using the Altitude method.

Using the figures for the starred observation time not corrected — 1m 47s. fast declination would be 21° — 41' a discrepancy of 18' Watch 35 sec. fast Declination 21° — 55' discrepancy 04'

## SUMMARY

It would appear probable that accurate determination of the declination of a needle on any compass requires time to be accurate, when the Sun is near the Prime Vertical, to about 40 seconds in consideration of the fact that the needle can not be read closer than 5' in arc. If such be the case it should be obligatory on every Land Survey to carry and use a watch of known rating subject to periodic test by a recognized Inspector. This is more than is required of every locomotive engineer.

## Former Lands and Forests Deputy Minister Dies

Frederick Arthur Harrison, 74 well-known former deputy minister of Lands and Forests who retired in 1949 after 40 years of distinguished service in this province passed away recently at the home of his daughter, Mrs. Albert Egan, in Nantucket, Mass.

A native of Southampton, Cumberland Co., Mr. Harrison was the first to conceive the value of gathering forest fire statistics and this start, in 1915, was believed to have been the first attempt in Canada to tabulate and correlate such statistics which were submitted to his office by municipal fire rangers.

He was also the first to recommend the creation of game sanctuaries in Nova Scotia, and following the initiation of a Crown land survey in 1934 he also recommended that the Department embark on its policy of adding to Crown land holdings through the acquisition by purchase of lands which were cut over or burned.

### Crown Lands Chief

Coming from a family of land surveyors, Mr. Harrison entered the service of the Department of Crown Lands in 1908. He was appointed first as assistant to the commissioner and later became commissioner of Crown Lands.

The latter position he held until 1926 when the Departments of Forests and Game and Crown Lands were amalgamated as the Department of Lands and Forests.

For a time, Mr. Harrison held concurrently the offices of Deputy Commissioner of Crown Lands and acting Commissioner of Forests and Game. His appointment as Deputy Minister of Lands and Forests followed a few years later.

A son of the late Charles Tupper and Margaret (Parlee) Harrison, he was born on the homestead at Southampton, the original Lot 13 granted to his great-grandfather, Thomas Harrison, February 15, 1785.

F. A. Harrison is survived by: two daughters—Mrs. Albert (Dorothy) Egan, Nantucket, Mass.; and Mrs. Jack (Margaret) Morgan, Montreal; two brothers—Vincent, Halifax, with the Department of Lands and Forests; and Henry of Southampton; three sisters—Miss Lila Harrison, Southampton; Mrs. Charles (Kate) Dowling, Vancouver; and Miss Pearle Harrison, Seattle, Washington, and three grandchildren. His wife, the former Elizabeth Donalds, died Jan. 4, 1957, and a sister, Mrs. Ross (Ruby) Lawrence, died in 1923.

Funeral service was held from the old homestead in Southampton with interment in the family lot.

## A Letter to the Editor

Dear Mr. Editor:

Being an interested reader of The Nova Scotian Surveyor ever since its first issue, I wish to take this opportunity to compliment you on an excellent job well done, with the limited help you have received from the membership as a whole.

The paper was first started in November 1954 by the Executive purely on their own initiative, but unanimously endorsed by the Annual Meeting in 1955, its main objective being a link between the Executive and the Society of the one part, and the individual member Land Surveyor of the other. I believe that this has been accomplished, but I feel that we could make it a still more interesting paper. To accomplish this, I would like to make the following suggestions:

1. That a more concerted effort be made to have it published within the prescribed month, and in order to do this, it will be necessary to set a deadline for copy in advance.

2. That each and every member endeavour to contribute something of interest toward its contents.

3. Letters to the Editor, wherein the individual member may pass out bouquets or brickbats, or discuss matters of interest to the Society as a whole.

Many of you have something interesting to offer. It may be of a technical or practical nature; an anecdote; an experience, either practical or amusing; or just an amusing tale. Remember that this is your Paper and without your support, it is impossible for your Editor to obtain suitable material.

The next issue is scheduled for May, so come on all you members who read this, and resolve to contribute towards an increasingly interesting and informative paper, and thus give Mr. Editor a boost that I am sure he will greatly appreciate.

R. E. Dickie, P.L.S.

## New Members in 1957

- 218 Melvyn H. Wadden, R. R. No. 1, Stellarton, N. S.
- 219 Robert E. Gough, 19 Purcells Cove Road, Armdale, N. S.
- 220 J. F. Doig, Paradise, Annapolis County, N. S.
- 221 Norman Roger Eddy, Forestry Division, George Eddy Co., Ltd., Truro, N. S.
- 222 Luke Robert Feetham, Windsor Junction, Halifax Co., N. S.
- 223 Albert S. Richmond, P. O. Box 135, Port Coquitlam, B. C.

# TITLE SEARCHING IN NEW BRUNSWICK

By A. McF. Limerick as in October 1956 issue of THE CANADIAN SURVEYOR

(Continued From Last Issue)

This modern Registry Office was introduced in the North Riding of York in 1736 by an Act which declared that the Clerk of the Peace for the County was not doing his job of enrolling and preserving deeds of bargain and sale under the Statute of Enrollments, but that since there was no penalty on him for failure to carry out his duty some other method of protection for purchasers of land was necessary.

The Act provided that all deeds and conveyances could be registered and that the registration of a deed of bargain and sale would have the same effect as enrollment under the Statute of Enrollments.

Only sixteen years later, in 1752, the Province of Nova Scotia, at the first Session of its Assembly, passed a Registry Act modelled on the English one; and when New Brunswick was set up as a separate province, one of the first Acts passed in 1786 was a Registry Act.

By Section 10 of this Act, it was provided that all bargains and sales of any lands and tenements and hereditaments by deed, indented or on Poll, and grants and covenants whatsoever made by writing and duly signed, sealed and delivered and acknowledged by the grantor, etc., before a Justice of the Peace, when registered under the Act, are effective to pass title to the lands without livery of seisin, or any other act or deed or form or ceremony whatever.

As a consequence of this Act, from the time of establishment of the Province, any deed of land registered under the Act was a good conveyance of the land, but it would seem that until 1904 an unregistered deed was of no effect.

Summarizing the position with respect to conveyancing in the Province of New Brunswick, it would seem that there are, at least in theory, five methods by which a freehold interest in land can be conveyed: (1) by feoffment, that is actual livery of seisin or delivery of possession accompanied by an acknowledgment of the transaction in writing sufficient to comply with the Statute of Frauds; (2) by contract of bargain and sale enrolled under the Statute of Enrollments or registered under the Registry Act, and taking effect by virtue of the Statute of Uses; (3) by lease and release taking effect under the common law which would have to be in writing under the Statute of Frauds and need not, though it could, be registered under the Registry Act; (4) by a deed or conveyance registered under the Registry Act which is given its effect by Section 10 of the Registry Act (section 39 of our present Act); (5) after July 1st, 1904, by any form of deed or conveyance in writing intended to transfer title, and whether registered or not.

It is interesting to note that in this matter of conveyancing, as in some other matters such as the Divorce Law, we in New Brunswick were ahead of the Old Country. Only in London and York in all of England was there a registry system, whereas we have had one since 1752.

As to divorce, whether it is a matter on which we can pride ourselves or not, there has been a Divorce Court empowered to grant a full divorce in this province since 1791, while in England a Divorce Court was not set up until 1857.

Reverting back to the formal wording of our present-day deeds, you will note that we have combined in our grant clause a grant, a bargain and sale, and a release — three different forms of conveyance. Apparently lawyers don't believe in taking chances, and it is a wonder that we do not also use the expression "enfeoff".

I started out with a mention of the Camp Gagetown searches. As you can appreciate, the searching of titles for this camp was a big undertaking, about 1,400 individual granted lots being involved, as well as the Crown lands, highways, telephone and light lines, mining interests, and all other types of property interests to be found within the area.

As the first step in the project, I divided the total area into fifteen search districts, designating each district by a letter which represented some prominent settlement within the area, as for example "O" for Oromocto, "G" for Geary, "W" for Welsford, "C" for Clones, and so on.

Each search district contained approximately 100 granted lots which were numbered from 1 up, and these various lots were plotted on base maps of the area, at a scale of one quarter mile to the inch, and each lot was individually marked with its proper designation, such as E-27, B-32, etc. A roster of junior lawyers was assigned by the Department of Justice to work under my direction. Work was commenced on a twelve-hour day in the two Registry Offices, periods of the day being assigned to the various lawyers so that not more than three or four lawyers would be in attendance at the same time.

Each lawyer was then assigned a number of contiguous lots, and directed to furnish me with a full abstract of all documents registered with respect to those lots since the Crown grant.

It was decided to start all searches with the Crown grant, as no other method would insure that every interest and every piece of granted land in the area had been covered.

Dictation machines were placed in each of the Record Offices, and the several lawyers dictated their abstracts and filed the discs in an office set up in Fredericton, where a team of stenographers transcribed all abstracts and placed them on my

desk. My major headache now arose — that of interpreting the abstract, determining the effect of the sometimes peculiar deeds drafted by J.P.'s and also, I must confess, sometimes by lawyers, arriving at a conclusion as to the ownership of the land and property, and signing a report on the title including any and all encumbrances.

In many cases, the original granted lot had been subdivided one or more times, and, where this occurred, the subdivision was indicated by designating each small parcel with a sub number, for example, Lot B 12, if split into three pieces, was designated as Lot B-12-1, B-12-2 and B-12-3.

I wish I had kept the notes of the many queer things I encountered, such as the abstract of title in which the grantees named on a certain deed appeared as "His Majesty Ewart C. Atkinson". Needless to say, this was in Sunbury County.

Real problems of conveyancing arose in some cases, as where, in one deed, lands were conveyed to Mary Doe to have and to hold the said lands until the death of the said Mary Doe and on her death to her son, Joseph Doe, his heirs and assigns forever. Mary Doe gave a deed to the lands thirty years ago but did not die until the late 1930's. Unfortunately for the man who bought the lands, his interest disappeared at Mary Doe's death, and although he has held the lands ever since, he has not had a twenty years' possession necessary under the Statute of Limitations. We have not as yet paid him, and don't see how we can.

Title searching is an exacting and frustrating pursuit and, unless you have a flair for it and a type of mind which enjoys detective stories and the working out of puzzles, it can become very tedious and laborious work. Fortunately for me, I enjoy murder mysteries and other types of puzzles, and so survived the ordeal.

## NOTICE

To all members of the Provincial Land Surveyors Association of Nova Scotia.

Arrangements are now being made for the

## ANNUAL MEETING

to be held on

**October 27th and 28th, 1958**

in Halifax, N. S.

Make your plans now to reserve these days. A very interesting program is now being lined up. A very fine display of Equipment and Surveying Materials will be set up by various firms. Last year was good. This year is expected to be far better. Plan to attend. It will be worth while.

R. E. Millard, P.L.S.  
Managing Editor

## NOTICE TO MEMBERS

By Special Resolution, passed at the Seventh Annual Meeting on November 25, 1957, and passed by letter ballot from the membership of the Association, the dues of the Association have been increased to ten dollars for the first year of membership, and six dollars for each following year.

Effective January 1, 1958.

H. B. Robertson,  
Secretary-Treasurer

### DUES FOR 1958 ARE NOW DUE

Send money order addressed to Secretary-Treasurer, The Association of Provincial Land Surveyors of Nova Scotia, P. O. Box 1541, Halifax, N. S.

## Officers of Association of Provincial Land Surveyors of N. S. Inc.

	1955	1956	1957	1958
<b>President</b>	J. R. March	R. E. Millard	Freeman Tupper	Spencer Ball
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<b>Cape Breton Area</b>	A. H. Martell	A. H. Martell John S. Pope	A. H. Martell Eldon Adams	Eldon Adams Leonard M. Harvey

# HOW ROADS ARE BUILT

By A. F. Chisholm, Dalhousie University, Halifax

The following is a description of the sequence of events leading up to the completion of a road.

## LET'S BUILD A ROAD

Someone leans back in a comfortable chair and, with a wave at a map, says, "I think we should have a road from there to there."

A map is a nice sort of thing.

"There to there" is only a few inches of clean paper with a few lines on it. The ground it represents is something different again. "There to there" is a distance equivalent to three blisters, a sprained ankle, and a new pair of boots. In between the first and second "there" is a conglomeration of virulent and resentful forms of animal, mineral and vegetable life. Not shown on the map are mosquitoes, devil's club, grizzlies, thunderstorms, rattlesnakes, snow, scorpions, rain and stinging nettles. Nevertheless they are there, in quantities only limited by individual size.

However, this is not the concern of the man in the comfortable chair. He merely draws a line on the map and it is of no interest to him that it intersects a swamp, five hornets' nests, two cliffs, and the place where, in the near future, the engineer will sit on a cactus. The road is conceived and the suffering begins.

## Moving In

Moving in starts with the establishment of a camp. To some people the word "camp" conjures up visions of fishing, boating, campfire singing, hot rums and bikinis. But a survey camp is different. Very different.

The rules call for it to be established during a rain storm. Sometimes an exception is made and tents are put up in a snow storm. But rain is better, it leaks more. In more luxurious camps heaters are installed. Camp heaters are like atom bombs, if the blast misses you, the fall-out will get you. They are the only contrivances that produce smoke which will suffocate everything but mosquitoes.

The next step is for the cook to arrive, take one look, and quit, taking two months supply of flavouring extract with him. This is known as Labour Relations (not to be confused with Workmen's Compensation, which is when a ridge pole falls on the camp manager.)

The first night in camp everyone gets morbidly polluted. This is Industrial First Aid.

## The Preliminary Location

First of all a reconnaissance is made and it is established that there are six alternative routes for the road. Three are through swamps, one through a lake (not shown on the map), two over precipices, and all are uphill. (All roads are uphill, even coming home.)

This establishes that the road will cost twice as much as originally estimated.

The next step is to run a P-line (confusing term — it actually goes in at a painful crawl and means "preliminary"). This consists of an instrument crew chopping a path through the brush and marking it permanently with blood, sweat, tears and stakes. Their route is plotted in the office (the term is indicative of the underhand methods used) and discarded.

This proves that the road will cost three times the original estimate.

## Final Location

The same thing is done all over again only more so. The quantities of blood, sweat, tears and stakes are doubled, the plotting is intensified, and the road is expected to cost four times the original estimate. Cross-sections (a term only mildly indicative of everyone's mood) of side slopes are added to the confusion. Side slope is what your hard hat rolls down into a wasps' nest.

The road location is now bristling with stakes and devils' club and is ready for the contractor.

## Construction

First of all a bulldozer rushes in and knocks over all the stakes. For good measure it buries them along with miscellaneous equipment left in the way. Then it breaks down and the operator sits around drinking coffee until dark.

This is called Overtime.

From then on it's a mad scramble: the stakes are replaced, bulldozed over, replaced, knocked over by rock drills, replaced, blown up, replaced, dug out with a power shovel, replaced, run over by a truck, replaced, scraped out by an earthmover, replaced, buried with gravel, replaced, graded out, replaced, pulled out in fury by the party chief because the road is finished and they are in the way.

In the course of his attack on the stakes the contractor has built the road, which costs five times the original estimate.

Everyone rushes off and gets drunk while the man in the comfortable chair digs out another map.

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