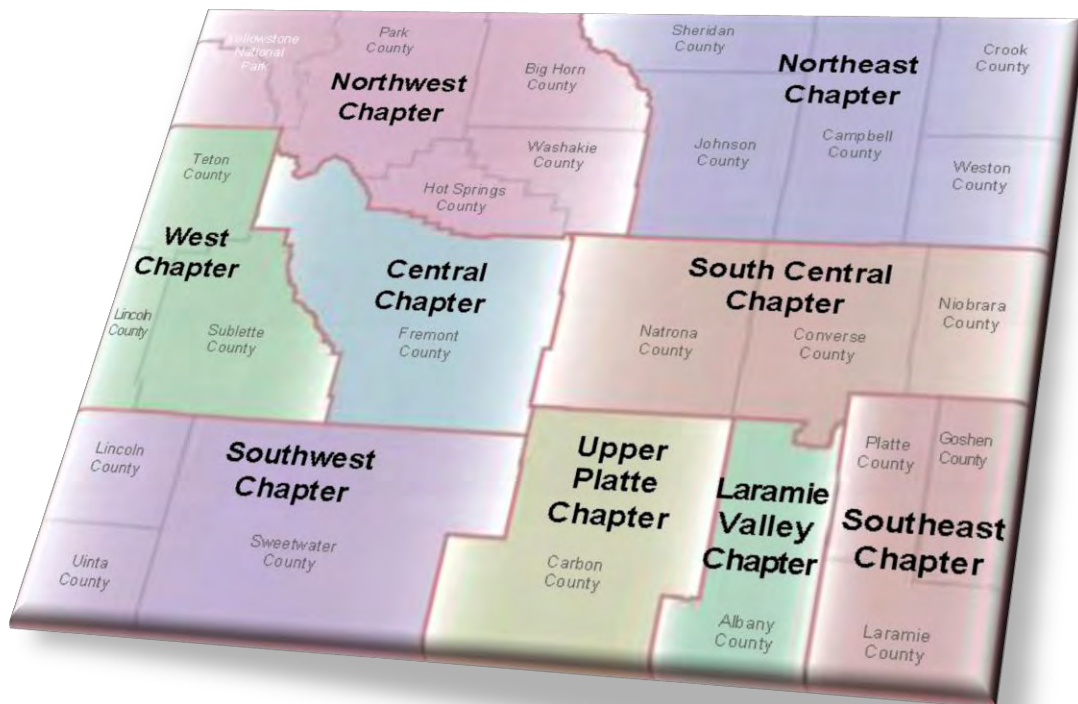


Volume 21: Issue 1  
April, 2010

 **LINES  
&  
POINTS**

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PROFESSIONAL LAND SURVEYORS OF WYOMING



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PLSW (Professional Land Surveyors of Wyoming) is a statewide organization of Registered Land Surveyors licensed to practice in the Equality State of Wyoming. PLSW is dedicated to improving the technical, legal, and business aspects of surveying in the State of Wyoming. PLSW is affiliated with the National Society of Professional Surveyors (NSPS) and the Western Federation of Professional Land Surveyors (WestFed).

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## PRESIDENT'S MESSAGE

From the President,

It feels like PLSW is on the upswing. I am not sure why it feels this way, but to me it does. Hopefully this upswing is for real and is not an illusion or a flash in the pan. I like the feeling that I am getting.

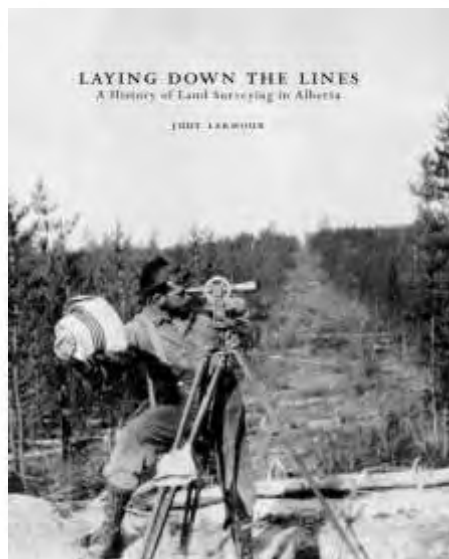


I think that most of the feeling can be attributed to the willingness of the PLSW members to jump in and get after it. For this I am very thankful and grateful. Most volunteer organizations run on the 90/10 principle. 90% of what gets done is accomplished by 10% of the people. The 10% will get tired. They will probably not ask for something unless they REALLY need it. When they ask, let's be sure they get what they need, when they need it.

I will try to do my part. I am confident that you will do your part.

Sincerely,  
Mark Rehwaldt

## LAYING DOWN THE LINES A HISTORY OF LAND SURVEYING IN ALBERTA BY JUDY LARMOUR



Between the Fourth Meridian and the Continental Divide is a vast land with some of the most varied landscapes, difficult terrain, and treacherous climates in Canada.

The challenge of exploring, surveying and mapping the territory now known as Alberta holds some of the most fascinating stories in the 100-year-old province's history.

From the first excursions of David Thompson and John Palliser to the challenge of laying down the township grid and the ongoing work of surveying for industry and development, from the first hand-drawn maps to modern satellite imaging and computer modeling, historian Judy Larmour captures the fascinating details and the spirit of the hardy surveyors in the dramatic centuries-long struggle to find and mark place.

Chapters include Mastering A Dry Land: Land Surveyors and Irrigation (Chapter 4), The Challenge of Surveying Alberta's North (Chapter 6), and Urban Provincial and Professional Affairs in the Glory Days to World War I (Chapter 8)

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From the Prexy Pasture Party Chief:

My understanding is that it is a tradition to see the University of Wyoming surveying students out in Prexy's Pasture. I had the privilege of being the "party chief" last fall and again this spring. I received a certain amount of good natured ribbing about the number of times that Prexy's Pasture has been surveyed, that it is being surveyed once again, and that if it was surveyed correctly the first time I wouldn't be out there every semester. Ok, ok, ok!!!

Engineering surveying has traditionally been a fall class. During the fall semester it is pleasant to be outside with the students during the surveying lab. The scenery is nice and it is sheltered from the wind. So far this spring, surveying labs have not been brutal from a weather stand point, but they are not as pleasant as they were in the fall.

The students are still students. The priorities remain much the same as they have throughout the ages, grades, money, studying, the guys discuss girls and the girls discuss guys, getting homework done, and of course food which includes liquid bread, not to be confused with BEER. I overheard one of the student surveying parties singing, "In heaven there is no beer. That's why I drink it here, and when I'm gone from here, all my friends will be drinking all the beer!"

Last semester the discussion in class was about traversing and reducing the azimuths and distances to latitudes, (delta northings) and departures (delta eastings). Not exactly a new subject and I figured that I had it pretty well under control. In the **northern** hemisphere northings and eastings are used by surveyors instead of the (x,y) that the math people use. So far, so good. Then the "Question" came up, do they use southings in the southern hemisphere instead of northings? That is something that I had never thought about before! I had no clue and responded that I would check around. The principle at the school where my wife teaches at is from England and I remembered that they had friends from Australia. Maybe they knew a "down under" surveyor. That was strike out. Dean Ettema is from New Zealand. I sent him an email. Then I ran into him in the hall way and asked. Well he had taken surveying a **long** time ago and remembered that the books came from England. Conclusion, the surveying we do originated in England, we use northings and eastings, therefore Australia and New Zealand probably also use northings and easting. If you find out different let me know.

On the serious side, a Land Surveying advisory committee needs to be formed. As most of you have probably guessed, things have a completely different perspective from inside the ivory towers than they do from the outside world which you work in. The purpose of the advisory committee is to provide those of us inside the ivory towers with the real world perspective of what we need to be teaching to prepare the students for the real world. Volunteers are needed.

The plan is to have the Bachelor of Applied Science ready for the Fall 2010 semester. Sheridan College is progressing with having the Associates of Applied Science available via Outreach. The idea of a minor in Land Surveying has been suggested and will be discussed. The Board of Registration for the State of Missouri has approved all of our surveying classes except Coastal Water Boundaries and the Board of Registration for the State of Massachusetts has approved all of our classes with the exception of Public Land Surveys and Advanced Public Land Surveys. It makes sense to me and I can accept it.

Sincerely,

The Prexy Pasture Party Chief



# Wyoming Engineering Society

~90<sup>th</sup> ANNUAL CONVENTION~

## 2009 PRESIDENTIAL PROJECT OF THE YEAR AWARDS

### Survey Technician Skill Training Program

#### Key Entities & Submitted by:

Northwest Chapter of the  
Professional Land Surveyors of Wyoming  
&  
Northwest College

#### The intent:

- ✓ To provide students with practical survey training for use in seeking employment as well as furthering their education.

#### Some highlights:

- ✓ The partnership of PLSW and NWC developed a curriculum that prepared students to be "job ready".
- ✓ Total of 80 hours of training that were broken into four blocks and included lectures, lab, and field components.
- ✓ Students were exposed to state-of-the-art equipment and were taught by experienced land surveyors.
- ✓ 16 slots available - 46 applications for the first session - demand has been higher each time it is offered.
- ✓ Cost of the program was approximately \$1,000 per student - students each paid \$350 with the remainder being covered by grants.
- ✓ Template is being used to develop other workforce training programs at NWC.



The 2010 Convention of the Wyoming Engineering Society (WES) was a great success!

It was held in Laramie on February 4<sup>th</sup> and 5<sup>th</sup> at the Hilton Garden Inn and University of Wyoming Conference Center. There were a great number of vendors present and the event was well attended. There were also a number of interesting programs. The highlight of the Thursday luncheon was the WES President's Project of the Year Awards. This year presented Two First Place awards in the Survey Project category...and who said that surveyors don't know how to pick and prepare a good project?

### Boundary Survey Camp Guernsey

#### Key Entities & Submitted by:

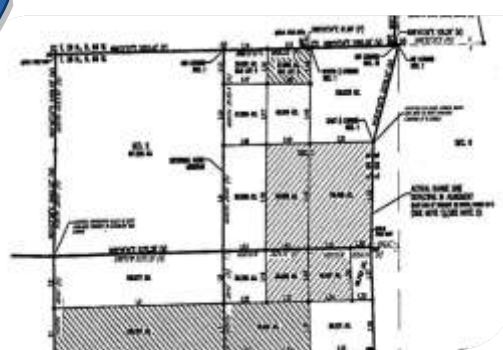
A.V.I. Professional Corporation  
&  
Wyoming Army National Guard

#### The intent:

- ✓ Survey a portion of the subject township to establish defined boundaries for a land purchase to augment and facilitate ongoing Army National Guard operations.

#### Some highlights:

- ✓ Property was originally surveyed in 1880 with subdivisions created in 1882.
- ✓ Some sort of fraud appeared to exist with the original surveyor(s) because the found monuments show that the existing range line is as much as 692 feet west of the theoretical location that is described in the original surveyor's notes. The current survey finds that the range line of the property is significantly irregular and this defective alignment cannot be rectified.
- ✓ To re-establish the subdivision of this township, the corners for all sections in the northeast quarter of the township searched for and surveyed.
- ✓ The first line west of the range line was held as a Guide Meridian and monument obliterated corners were re-established.



# P.L.S.W. - 2010 ANNUAL MEETING



SWEARING IN OF THE 2010 ELECTED OFFICERS AND DIRECTORS.

## MEETING MINUTES

(**DRAFT** – MINUTES MUST BE APPROVED AT THE 2011 ANNUAL MEETING)

### 1) The Annual Meeting of the Professional Land Surveyors of Wyoming, Inc

- a) Location: Hilton Garden Inn, Laramie, Wyoming
- b) Date & Time: Thursday 4 February 2010 at 2:00 P.M.
- c) Presiding Officer: Mark Rehwaldt, President

### 2) Call to Order:

- a) President Rehwaldt called the meeting to order at 2:10 pm.

### 3) Agenda Revision and Adoption of Revised Agenda:

- a) A moment of silence for Darrell Thomas White and Marty Winemiller will be added after the introductions

### 4) Introductions:

- a) President Rehwaldt introduced the Officers and asked each Director in attendance to stand and introduce themselves.
- b) Each Committee Chairmen in attendance was asked to introduce themselves and give a brief overview of what their committee does:
- c) Scott Scherbel – Scholarships
- d) Randy Stelzner – Membership
- e) Bill Fehringer – Education
- f) Jon Anderson – Investments
- g) Herb Stoughton – History
- h) Larry Perry – Public Relations
- i) Kevin Jones – Audit & Finance
- j) Mark Corbridge – Legislative & TrigStar
- k) Paul Reid – S.O.S.
- l) Will Dolinar – Website
- m) Honorary Members: Martin Pedersen and Rick Hudson.

### 5) In Memorial:

- a) President Rehwaldt called for a moment of silence for Darrell Thomas White and Marty Winemiller, members of the Land Surveying community and past PLSW members, who had passed away during the past year.

### 6) Last Call for Sealed Ballots:

- a) President Rehwaldt made a last call for any ballots to elect officers for the coming year.

### 7) Minutes of the Annual and Board of Directors' Meetings in 2009:

- a) John Steil made a motion to approve the 5 February 2009 Annual meeting minutes as written. Seconded by Herb Stoughton. The motion was approved unanimously.
- b) It was indicated that BOD minutes for the year are available upon request.

### 8) President's Report:

- a) President Rehwaldt had no significant issues to report.

### 9) Secretary's Report:

- a) Secretary Scherbel indicated that only a few of the Chapters have submitted their Chapter histories to him. The remainders of the Chapters were requested to send in their histories and copy Herb Stoughton, PLSW historian. An annual financial report is also due from each Chapter. Only a few Chapters have submitted their annual reports to Treasurer Scherbel. A request was made for the remainder of the Chapters to send in their annual financial reports.
- b) Secretary Scherbel indicated PLSW membership includes a total of 288 Members and Associates: 173 Members, 1 Life, 9 Honorary, 85 Associate, 5 Special, 9 Student, and 5 Sustaining.

### 10) By-Laws election results:

- a) Randall Stelzner, PLSW Teller, read the proposed changes to the by-laws. The by-laws require that a 2/3 vote of the Members is needed to pass any amendment. The total number of Members at the end of 2009, the year of the By-Laws vote, was 180. That would require 120 votes to pass each amendment.
- b) Article IV, Section 8- Quorum: A total of 133 votes were received with 121 votes in favor and 12 votes against. The amendment passes.

Continued on Page 15

## The Judicial Functions of Surveyors

By

**Thomas McIntyre Cooley**

Herbert W. Stoughton, Ph.D., P.E., P.L.S., C.P.  
Geodetic Engineer

**Thomas McIntyre Cooley**  
**1824 - 1898**

### *Part I - Biographical Sketch*

Thomas M. Cooley, the eighth of thirteen children, of Thomas Cooley and his second wife, Rachel Hubbard Cooley, was born January 6, 1824, at Attica, Wyoming Co., New York. He was a descendant of Benjamin Cooley (selectman of Springfield, Massachusetts, 1646). Cooley's early years were spent performing hard work in a region only opened for settlement in the previous decades. He was graduated from the Attica Academy in 1842. During his last years at the Academy he taught school and was a voracious reader. After completing his studies at the Academy, Cooley received no additional formal education. However, he commenced reading the law with Theron K. Strong of Palmyra, Wayne Co., New York. Strong would later become a Supreme Court judge. In September 1843, Cooley moved to Adrian, Lenawee Co., Michigan, to continue his study of law with Tiffany & Beaman.

In January 1846, Cooley was admitted to the Michigan Bar, and at the end of the same year married Mary E. Horton, of Adrian. From 1848, Cooley practiced with the firms of Beaman, Beecher & Cooley and later Cooley & Croswell. Charles M. Croswell would later be elected governor of Michigan. In 1857, the Michigan legislature appointed Cooley to compile the state statutes. The thoroughness and skill in the effort gained Cooley recognition as a competent attorney. In 1858, he was appointed official



reporter of the Michigan Supreme Court. Early in his career, the jurists recognized Cooley's abilities in "management of cases" and in "picking out and enforcing the strong and important points in the case."

Between 1858 and 1864, Cooley edited eight volumes of *Michigan Reports* (V. 5 - 12). His scholarship was recognized early in his tenure as the court reporter. In 1859, the University of Michigan Board of Regents chose Cooley, James V. Campbell (dean, 1859 - 1871), and Charles L. Walker Professors of Law of the newly formed Department of Law. Cooley would serve as department secretary and dean (1871 - 1883). He would remain a member of the law school until 1884. The following year he accepted a position of Professor of American history and constitutional law in the Literary Department, which he held until his death.

In 1864, Cooley was elected to the Michigan Supreme Court to fill the vacancy caused by the death of Justice Manning, and was reelected in 1869 and 1877. In the 1880's, Cooley became involved in railroad affairs and legal matters. In 1886, he was appointed receiver of the Wabash (east of the Mississippi). In 1887, President Cleveland appointed him to the newly formed Interstate Commerce Commission. He became the Commission's first chairman, and historians categorically state that it was his efforts that shaped the policy of the commission for future decades. When Cooley left the commission (in 1891), it was written of Cooley: "You have organized the National Commission, laid its foundations broad and strong and made it what its creators never contemplated, a tribunal of justice, in a field and for a class of questions where all was chaos before." In 1893, Cooley was elected president of the American Bar Association.

Justice Cooley's writings were not limited to the Michigan Reports. He authored *A Treatise on the Constitutional Limitations which Rest Upon the Legislative Power of the States of the American Union* (1868); *Blackstone's Commentaries* [edited] (1871); [Storey's] *Commentaries on the Constitution* (1873); *The Law of Taxation* (1876); *Treatise on the Law of Torts* (1879); *The General Principles of Constitutional Law* (1880); and *Michigan, a History of Governments* (1885). Many of these

works went through multiple editions. It is reported that Cooley authored Reports of the Interstate Commerce Commission, except for the purely statistical portions. Justice Cooley wrote a considerable number of articles in various journals, and delivered some "public addresses," including presenting a number of lectures at John S. Hopkins University in 1877 and 1878. About Cooley's law school lectures, A.C. McLaughlin wrote: "His lectures were characteristically clear, thoroughly organized, and so straightforward and even apparently simple, that the art and drudgery involved in preparation were concealed from the listener. They were condensed, terse and telling, but doubtless because of their merits the students often failed to realize that they were being led unerringly by a master." William M. Beaney wrote about Cooley's writings: "As a justice his opinions were characterized by clear, vigorous statement of law, with emphasis on the certainty which he felt to be a dominant element of law." Beaney further states: "Cooley's *Constitutional Limitations*, which went through seven editions, was unquestionably the most influential legal treatise in the half century following its publication. Its natural rights doctrines served as effective legal ammunition for those opposing social legislation adversely affecting property rights and the capacity of business men to run their affairs as they saw fit."

Thomas McIntyre Cooley died on September 12, 1898, (another source states September 17) at Ann Arbor, Washtenaw Co., Michigan. H.B. Hutchins authored a biographical sketch of Justice Cooley in W.D. Lewis's *Great American Lawyers* (V. VII, 1909).

In the eyes of his peers, Justice Cooley was deemed an eminent nineteenth century attorney.

COOLEY LAW SCHOOL

# WILLIS ISLAND SURVEY LEGACY

R.L. "Rick" Hudson, L.S.

## PART I - A CAPSULE OF HISTORY



Local land surveyors in Wyoming have the good fortune provided us by those General Land Office Deputy Surveyors who performed the original surveys of the late 19<sup>th</sup> and early 20<sup>th</sup> centuries with integrity and resolution. We are often overheard asking each other, "How did they do it so well, given the conditions they had to deal with?"

### AN UNSURVEYED ISLAND

In 1909, an unsurveyed island in the Big Horn River, downstream from the new town of Thermopolis, gained considerable public attention with construction of the railroad. Still known as Willis Island, even though it is no longer encircled by the river, it is partially bounded by marshy Cover Slough and traversed by U.S. Highway 20 and the Burlington Northern and Santa Fe Railway. The analysis of the century-old original survey and the legacy it imparts serve to answer our question and to guide us in our current surveys as we practice our chosen profession.

### THE ENTRYMAN AND THE RAILROAD

Following the ceding of the "Ten Mile Square" portion of the Shoshone Indian Reservation in 1897 and platting of the town site of Thermopolis in 1901, the building of the Big Horn Railroad in 1909 was an important event for the residents of this area that was then part of Fremont County and later Hot Springs County.

The railroad acquired a 200-foot wide strip of land from Emery and Eva Willis for three hundred dollars according to the Right of Way Deed dated July and recorded

in August, 1909, at the office of the Fremont County Clerk and Ex-Officio Register of Deeds in Lander.

Of record in a "quit-claim book", the conveyance describes, "...on each side of the center line of the railroad...as the same is located over and across an unsurveyed island in the Big Horn River." Followed by, "...a part of the consideration...is for damages sustained or that may be sustained by reason of changing the channel of the Big Horn River so that the water of the river shall flow on the south easterly side of the railroad and said island or any

other damage that may be sustained by reason of the construction of the railroad over and across the land...or the changing of said channel "; the unsurveyed status surely requiring immediate attention.

In March of the following year they conveyed additional land to the railroad by a second Right of Way Deed, receiving \$350 for, "...all that part of an unsurveyed island in the Big Horn River...lying and being on the easterly side of the right of way of the railroad..."; and, amid great celebration, the first train steamed into Thermopolis from the north in June of 1910.

## THE ORIGINAL SURVEYS

The island was not mentioned in the field notes of the General Land Office original survey of the line between Ranges 94 and 95 West of the Sixth Principal Meridian, through Township 43 North, on July 22<sup>nd</sup>, 1899. The upper point was located during the meander of the right bank of the river a month later and the island is shown on the survey plat approved on April 28<sup>th</sup>, 1900.

The General Land Office issued Special Instructions to Od J. Midthun, as United States Deputy Surveyor, dated August 30<sup>th</sup>, 1909, for the "Survey of an Island in the Big Horn River in Sections 19 and

24 Township 43 North, Ranges 94 and 95 West". He was a local surveyor, from Lander, who was familiar with previous surveys in the Thermopolis vicinity. This would be his only

contract-era survey for the GLO. His survey was approved on October 2<sup>nd</sup>, 1911, by Alpheus P. Hanson, the U.S. Surveyor General for Wyoming.



*"How did they do it so well, given the conditions they had to deal with?"*

### WILLIS HOUSE

*Meander of Willis Island  
fractional sec. 24 T. 43 N.  
R. 95 W.*

*I commenced at meander-  
corner of fractional section  
19 and 24 T. 43 N. R. 94 and  
95 W. on right bank of Willis  
Island as already described  
in these field notes.*

*Thence I run with meander  
in sec. 24*

*Through dense undergrowth*  
S. 58 1/2° W. 7.00 ch. 5 ft. bank  
S. 40 1/4° W. 9.00 " 7 1/2 ft. bank  
N. 75 1/4° W. 5.50 " 7 ft. bank here  
dense undergrowth

W. 190 7 ft. bank  
N. 1 1/2° W. 5.20 8 ft. bank  
N. 26° W. 5.00 8 ft. bank at  
320 ch. road to  
Willis house

*at 500 Willis House  
bear S. 80° E. 3.40 ch.*

### WILLIS ISLAND SURVEYS 1992 TO 2009

My personal experience with the 1909 original survey of Willis Island includes various cadastral surveys by me in 1992, 2001 and 2009. During the most recent survey, of the western portion of the island, I was pleased to observe the original meander courses closely follow the top of the old bank above Cover Slough, formerly the left hand channel of the river, and with the accuracy of the tie to the old stone "Willis House".

Looking northward to the rugged sandstone escarpment on that late winter day, I was again impressed by the crew's ability to maintain acceptable chaining precision.

Next Time: PART II -  
THE 1909 ORIGINAL  
SURVEY LEGACY



## A Brief History of Elgin, Knowles & Senne, Inc. and their Ephemerides

*Marc Cheves, LS*

Until the early 1980s practically all surveyors used the Altitude Method to determine the astronomic direction of a line, based on a celestial observation of the sun. That method required the surveyor to measure the vertical angle to the sun, but did not require the accurate determination and use of time in the observation. For decades the Altitude Method had been described in ephemerides published by such companies as Berger, Gurley, and Keuffel & Esser (K&E). The method has severe limitations insofar as accuracy and observation time of day. On the other hand, the Hour Angle Method can be used on any star whose position is known as well as the sun, plus it has essentially

no accuracy or time of observation limitations. It does require a very accurate determination/measurement of time, but does not require the vertical angle to the body (which is inherently erroneous due to parallax and refraction). With the availability of cheap, highly accurate timing devices in the late 70s ("time cubes," precise digital stopwatches, etc.) the long standing problem of a surveyor acquiring highly accurate time in remote locations was solved. The Hour Angle's time had arrived and Joe Senne knew it.

In the spring of 1984, Joe approached Dick and David about one of his lifelong dreams, to author an ephemeris. Joe joined the firm at that time and

its name became Elgin, Knowles & Senne, Inc. They approached the Lietz Company about publishing the "Lietz Ephemeris" which would use the Hour Angle Method exclusively and also would include program code for HP 41 calculators which would reduce the calculation burden to practically nothing. A deal was struck, Elgin, Knowles & Senne, Inc. receiving a royalty from sales of the ephemerides. It would compete with the "K&E Ephemeris" which had been published for decades.

During the summer of 1984, Dick, David and Joe wrote the first edition of what would become the "1985 Lietz Celestial Observation Handbook and Ephemeris." Twelve thousand ephemerides were printed in

Kansas City, and the first edition (1985) was introduced to the world at the 1984 ACSM convention in San Antonio, Texas. The three authors were there to autograph copies. The ephemeris was a tremendous hit. That first year of publication a second printing of 6000 ephemerides was ordered and sold. The Hour Angle Method and HP 41 celestial observation programs had arrived. Unknown to Lietz and Elgin, Knowles & Senne, Inc. was K&E's decision not to publish a 1985 version of their ephemeris. 1984 was the last edition of the K&E ephemeris. The "Lietz Ephemeris," as it became known, was the only game in town.

The three partners started offering celestial observation seminars. Over the next few years they averaged about 10 seminars a year on celestial observations, mostly to

state surveyor association conventions. The seminars offered instruction on determining the astronomic direction of a line (and its conversion to grid direction) based on observations of either the sun or Polaris. The seminars followed the ephemeris and discussed field methods, pointing techniques, errors, and calculations. It also explained the use of the HP 41 programs and covered the conversion of an astronomic direction to a State Plane grid direction.

Dick, David and Joe wrote a series of 16 articles on celestial observations for POB magazine. In 1989 the series was expanded and compiled into the publication, *Practical Surveying Guide to Celestial Observations*.

The ephemeris provides tables of data necessary to determine the astronomic direction of a line by observing

certain stars or the sun. The Elgin, Knowles & Senne, Inc. ephemeris uses a program written by Dr. Joe Senne to produce the ephemeris data. It is a very complex, large program which generates highly accurate ephemeris tables. Their idea was to reduce some of the algorithms in that program and place the program into a ROM module which could be inserted into the HP 41. After quite some development and with the aid of Hewlett Packard, in 1986, Elgin, Knowles & Senne, Inc. produced and began selling ASTRO\*ROM, a module for the HP 41 calculator. It was the first internal ephemeris program ever produced for a handheld calculator. It sold for \$130.00. It was followed in 1989 by ASTRO\*ROM2 which had a few refinements. ASTRO\*ROM was followed by ASTRO\*DISK, precise internal software for the PC.

## The Players

Elgin, Knowles & Senne, Inc. began as Elgin & Knowles Surveying Consultants, Inc., formed by Dr. Dick Elgin, PE, PLS and Dr. David Knowles, PE, PLS in 1983. David was Dick's PhD advisor at the University of Arkansas (1979 to 1982). During those years David directed the Associate Degree in Surveying program within the Department of Civil Engineering. As a Graduate Associate, Dick taught in David's program while he pursued his PhD degree. Dick's dissertation "Legal Principles of Boundary Location for Arkansas," was a synthesis of over 1,400 decisions of the Arkansas courts relative to locating the boundaries of rights in real property. He received his degree in May of 1982, and later that year became Assistant Professor of Civil Engineering at the University of Missouri Rolla (UMR) (now the Missouri University of Science & Technology) where Dr. Joe Senne, PE, was Department Chairman. Dick and David expanded Dick's dissertation and published a book by the same name (*Legal Principles of Boundary Location for Arkansas*, Landmark Enterprises, Rancho Cordova, California, 1984, now out of print). In only a few years, Landmark sold the 2,000 copies printed, most of the proceeds going to the Arkansas Geological Commission, which had funded Dick's dissertation research.

In 1983, David and Dick and the late Robert L. Elgin, PE, PLS (Dick's father) founded Elgin & Knowles Surveying Consultants, Inc. Initially, the corporation focused on consulting surveying services related to legal aspects of boundary location, litigation, solving unusual surveying problems, advising surveying instrument manufacturers, and providing surveying education through seminars taught by David and Dick. They established ties with the Lietz Company of Overland Park, Kansas and conducted seminars on a variety of surveying subjects for Lietz around the country.

Joe Senne had a lifelong fascination with astronomy that had grown from a hobby to an avocation and profession. In the 70s, a group known as the International Occultation Association (IOTA) was formed and for many years Joe served as Vice President for lunar grazing occultation prediction. A worldwide network of observers, using these predictions, helped to refine star positions and the profile of the moon's edge. Joe also worked with the U.S. Naval Observatory in this obscure area of astronomy.

In 1987, Dick, David and Joe wrote, directed and produced a 4.5-hour instructional videotape, "Sun Observations for Astronomic Azimuth." It came with a complete study guide and could be purchased or rented. Always the educators, the trio offered continuing education to surveying practitioners.

In about 1990, Hewlett Packard introduced the HP 48 and its G and GX models. They were to replace the venerable HP 41. (Old school HP 41 fans never thought the "48's" were ever as good and easy to program as the HP 41.)

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*Thank you  
gentlemen!*

(Photo by  
R. L. Hudson)

For the HP 48, Elgin, Knowles & Senne, Inc. produced ASTRO\*CARD, still offering internal ephemeris celestial observation software. They were sold for \$175.00.

In the late 1980's through the 1990's, ASTRO\*ROM, ASTRO\*DISK and ASTRO\*CARD were extremely popular. Many, many units of each were sold by Elgin, Knowles & Senne, Inc. Each came with a User Manual and the company's phone number for free support. With the expansion, maturity and application of GPS, the necessity of the firm's "ASTRO" products faded. By the late 1990's sales of the firm's various "ASTRO"

products slowed substantially (the ASTRO\*ROMs sold out in the late 1980's). ASTRO\*CARD and ASTRO\*DISK, along with SPC83\*CARD continued to be sold into 2008.

As Lietz became Sokkia, the name on the ephemeris cover changed. Since 1985 there were edits and upgrades. For a few years, HP 71 programs were included. A simple HP 42 program listing was added in 1990. In 1991, HP 48 program listings were added. Over the years the number of

capabilities and academic backgrounds in celestial observations as well as their practical application to surveying practice. These talents coupled with business insight and acumen all brought to surveyors worldwide their practical application of celestial observations. They came along at the right time.

The K&E ephemeris ended in 1984. Their ephemeris started in 1985, followed by the development of internal ephemeris celestial observation software, instructional materials and seminars which continued until 2008.

They influenced half a generation of surveyors and raised the level of surveying practice from 1985 until 2008, the last year for their "Sokkia Ephemeris."

David Knowles is retired from the University of Arkansas and now devotes most of his time to his lifelong passion, fly fishing and tying flies. Dick

Elgin sold his business (Elgin Surveying & Engineering, Inc.) in 2008 and now spends his time touring on his bicycle. Joe Senne has long been retired from the UMR, but is still involved with worldwide grazing occultation predictions and his other astronomical interests.

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ephemerides sold faded. In the last few years most were sold to university bookstores. Academia seemed to still be teaching celestial observations after the surveying profession had embraced GPS. 2008 was the last year for the "2008 Sokkia Celestial Observation Handbook and Ephemeris."

Dick Elgin, David Knowles and Joe Senne brought together knowledge, interest, research abilities, software development

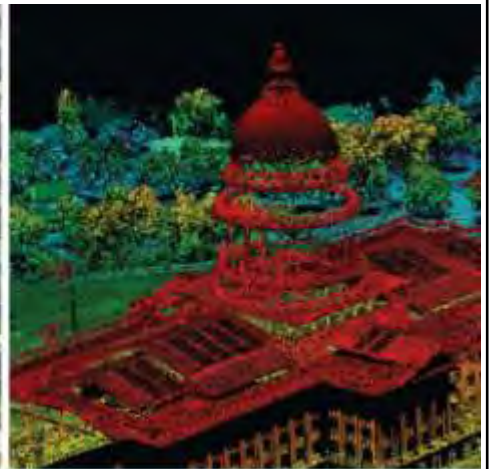
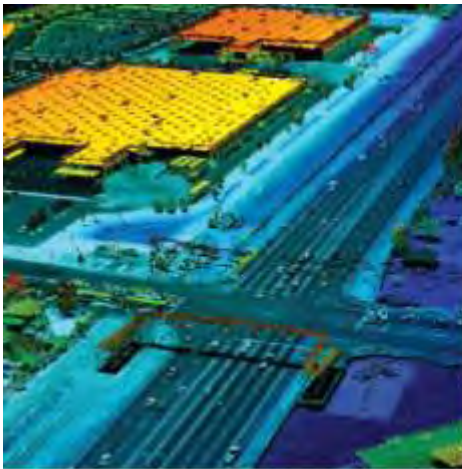
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## **Martha "Marty" D. Winemiller**

March 19, 1938 - December 9, 2009

Marty Winemiller is fondly remembered by Wyoming land surveyors who ever contacted the BLM State Office requesting GLO plats and field notes. Ms. Winemiller was employed by the Bureau of Land Management from the late 1970's until her retirement in 1995. Ms. Winemiller passed away on Wednesday, December 9 at the Northern Colorado Long Term Hospital. Marty and her husband, Jon, regularly attended the monthly PLSW Southeast Chapter meetings. For about five years Marty served as Secretary/Treasurer for the Southeast Chapter.

Ms. Winemiller was born in Indianapolis and was the daughter of Dale and Ruth (Porter) Rains. She married Jon H. Winemiller, who survives, on January 21, 1956, in St. Joseph, Missouri. Marty is survived by her husband, one son - Jon D. Winemiller and wife; two daughters - Debbie Sue Shinstine and husband and Vicki Ruth Steel and husband; five grand children; one great-grand child; and a sister-in-law.

Funeral arrangements were conducted under the direction of the Schrader Funeral Home in Cheyenne. A memorial service was conducted on Saturday, December 12, with interment at the Mountain View Memorial Park.

### *Continued from Page 6*

- a) Article VIII, Section 7 - Payment of Expenses: A total of 133 votes were received with 126 votes in favor and 7 votes against. The amendment passes.
- b) Article IX - Committees: A total of 133 votes were received with 107 votes in favor and 26 votes against. The amendment does not pass.
- c) President Rehwaldt took a count of all Members to confirm there were enough present to have a quorum at the annual meeting. Since there were more than thirty (30) Members present, President Rehwaldt indicated that a quorum was present to conduct business at the annual meeting of PLSW.

### **11) Treasurer's Report:**

- a) Statement of Bank Account balances as of 31 December 2009:
 

i) Checking Account	\$ 1,067.42
ii) Savings Account	\$ 4,600.46
iii) Investments	\$ 104,659.76
iv) Total cash	\$ 110,327.64
- v) PLSW started last year with a balance in the general fund of about \$28,000. Income for the year was \$17,538. We received \$16,700 from dues with the rest coming from interest and dividends from investments. We had actual expenses of about \$13,800. The general fund ending balance was \$32,073.33.
- vi) The seminar fund started with a balance of \$42,642. We brought in \$14,000 in revenue and spent about \$9,000. The seminar ending balance was \$47,103.20.
- vii) The scholarship fund started with a balance of \$26,664. We brought in a couple thousand between the raffle and direct contributions. We usually bring in about \$3000 in interest and we made just under \$2000 in investments. We have paid out \$2500 in scholarships and a matching amount to the Northeast Chapter of \$500, for a total of \$3000. That gives an ending balance in the scholarship fund of \$31,151.11.
- viii) The 2010 budget indicates \$17,500 in dues revenue, some interest and a \$5 per paid member transfer to the scholarship fund for a total budgeted revenue of \$16,745. The budgeted expenses are expected to be \$28,275, leaving a budgeted deficit of \$11,530. Historically we have never spent all that was budgeted, so we have never had an actual deficit. We expect the general fund balance to be approximately \$20,500 at the end of 2010. We expect

seminar and scholarship revenue to be about the same as last year.

- ix) We continue to invest conservatively in safe investments.
- b) Herb Stoughton made a motion to approve the Treasurer's report. Seconded by Jeff Jones. The motion was approved unanimously.

### **12) 2010 Budget:**

- a) Dennis Dawson made a motion to approve the 2010 budget as proposed. Seconded by Harry Kessner. The motion was approved unanimously.

### **13) Committee Reports:**

- a) Audit - Finance: Kevin Jones, Past President - Kevin filed an original report with the Secretary/Treasurer. The audit committee found the books to be in order. It does not constitute a certified audit. The Board is responsible for establishing a method for accomplishing the audit - the committee did not find any established method for doing that. The committee went over all financial information provided by the Treasurer and it looks good.

The committee is making two recommendations for discussion:

1) It has historically been the first-past President's job to be the committee chair. Kevin's research and experience indicate it is unusual for a member who can vote on fiscal matters to be a member of the audit. He recommended the first-past President should not be on the committee and in particular, chair the committee. It should be someone further down the chain or someone not involved with the record keeping. The Treasurer would have to provide more comprehensive documents to the committee as well.

2) The Treasurer should not rely on the receipt by the committee of just the standard quarterly Board financial statements, but should prepare a monthly balance sheet showing monthly flow of accounts. We are a non-profit corporation and should avoid jeopardizing that standing with the state of Wyoming. Jeff Jones made a motion to approve the Audit committee report. Seconded by Herb Stoughton. The motion was approved unanimously.

- b) Investment Committee: Jon Anderson - At this time last year we had an account value of about \$94,579. We have had another \$9000 added this year. There have been no monies withdrawn. Our equities have revalued some, are still at about 30% of the purchase price. Current balance is \$104,659.76. Allocations are about 14% (20% is cap). Given market conditions, the conservative approach has worked well. No other recommendations at this time to change anything.
- c) Legislative Committee: Mark Corbridge - The only thing under consideration right now is the Board proposing rules and regulations changes already posted on the Board of Registration website. Comments must be in by March 1. Emails have been sent to all Legislative Committee members. Mark asked everyone to solicit input from Chapters concerning the proposed changes and get that information to the committee members. The committee members are Rick Hudson (NW), Don Davis (SC), Ken Schramm or Mark Corbridge (Laramie Valley), Jerry Waters (SW), Paul Scherbel (W), Bill Pugh (NE), Mike Flaim (SE), Anita Morris (UP) and Randy Stelzner (Central). Mark is not aware of any other bills. Education changes will not come up until the 2011 session.

Kevin Jones said he would like to pose two questions and would like the Legislative committee to look into them:

1) Board rules are being fairly substantially rewritten, but there is no legislation that drives the rewrite - curious as to whether the Board is rewriting the rules because they feel they are stale. Are they being rewritten absent legislative changes just because they are outdated?

2) Noticed in appendices to ethics there is an NSPE code of ethics for engineers, but there is a somewhat transcribed code of ethics for surveyors. There is an NSPS code of ethics - why not quote those ethics in our governing rules? Herb Stoughton proposed that we need to bring it to the attention of

the Board formally. Scott Scherbel received a call from a person in the title industry telling him there is a proposal to change legislation related to description of easements. There is a draft submitted. Larry Perry received an email about state-level subdivision changes. Scott Peirson requested that everyone take the time to comment on the proposed rule changes. He also thinks PLSW should look at the state statutes on state plane coordinate information because it is very out of date.

- d) S.O.S. [Corner Record Honorarium]: Paul Reid –2010 contest will be held with Fall Technical Session in November 2010. 2009 Fall Tech Session winners were: Rick Hudson in first place and Skylar Wilson in second and third place.
- e) Questions from PLSW membership of any Committee.
  - i) Martin Pederson requested information on the promotional CD's and brochures that were paid for four years ago? (Old Business item under BOD meeting). Northwest Chapter has changed Directors and has lost continuity. Last word was Bruce Frederick was working on it and had taken it to a local printer in Worland. Marlowe noted it was on the BOD agenda, that an assignment had been made, a printer selected, and hopes to see results soon.
- f) Other Committee reports will be presented at the BOD meeting immediately after the Annual meeting.

#### 14) Delegate Reports:

##### A short presentation by each delegate of 2009 hi-lights.

- a) NSPS: Cotton Jones, Governor – Met in Gaithersburg at home office and Salt Lake in the Spring. The 2010 Spring meeting is in Phoenix April 24-28. The Fall meeting is being moved from the Washington, D. C. area to Orlando to coincide with another board of state societies meeting. There are developing issues between NSPS and ACSM which Cotton will follow and provide updates on. The NSPS insurance program provides outstanding benefits for the cost. Cotton has all the information and it is on nsps.org. A discussion followed about costs and benefits. Cotton said there was no submission for the plat contest for NSPS from Wyoming this year. He encouraged submittals for next year.
- b) ACSM: Jeffrey B. Jones, Area 7 Director – During Fall meetings NSPS/ACSM Capitol Hill days, they talked to over 250 members of Congress in their offices. Issues: 1) railroad monumentation and trying to get sponsors and legislation; 2) BLM funding was supposed to be slashed by 75%. They lobbied to keep BLM, USGS and NGS fully funded.. They had good response from those they talked with. The insurance program is incredible. He discussed some of the savings in the various programs. Those who have pursued and worked through the process have been well rewarded.
- c) Western Federation of Professional Surveyors: Paul Reid, Delegate. Paul provided a written report and indicated that two meetings were held during 2009. The NSPS President attended the last meeting. A discussion was held with regard to ACSM. ACSM doesn't really exist. Any association with ACSM on the PLSW website should be removed. The next

WestFed conference is March 2, 2011 in Spokane, WA in conjunction with the Washington and Idaho association's annual convention. Paul is the scholarship committee chairman. He said he noticed that a couple of Wyoming graduates in 4-year schools have never applied for a WestFed Scholarship. Paul encouraged applying for the scholarship.

#### 15) Old Business: none

#### 16) Citations and Awards:

- a) Jack Studley was recognized by President Rehwaltdt for faithfully fulfilling the duties of Secretary of the South East Chapter. Jack was recognized for going above and beyond the call of duty.

#### 17) Election Results:

- a) Randall S. Stelzner, PLSW Teller, reported that there were a total of 90 voters for the new Officers: President Mark Rehwaltdt received 87 yes votes and there were three (3) write-ins. Vice President Cotton Jones received 88 yes votes. Secretary/Treasurer Marlowe Scherbel received 89 yes votes with one (1) write-in.

#### 18) Installation of 2010 PLSW Officers and Directors:

- a) Jeff Jones conducted the installation of Officers and Directors. All Officers and Directors were installed properly and indicated their willingness to serve faithfully in their positions.

#### 19) Seating of New Officers and President's Inaugural Address:

- a) Mark Rehwaltdt addressed the members and said this is your organization. If there is something you want to make of it, go for it. Steve Roerick was a student of Mark's last semester and this semester, and the PLSW scholarship is making a difference for him.

#### 20) New Business:

- a) Cotton Jones discussed the BLM manual project. The mailing rates may have been over-estimated. Should the remaining funds be donated to the scholarship fund? The manuals are being fully published through the ACSM foundation. Any money raised is to be used for college scholarships. Herb Stoughton made a motion to have any extra monies made on the sale of the BLM Manuals be donated to the PLSW Scholarship fund. Seconded by Larry T. Perry. The motion was approved unanimously. The manuals are scheduled to be shipped February 22, 2010.
- b) John Lee indicated the BLM website is being updated with higher resolution images of original survey plats.

#### 21) Announcements:

- a) Date for 2011 Annual Meeting: 3 February 2011 at 2:00 p.m. at Cheyenne Little America Hotel.
- b) Board of Director meeting to follow after this meeting following a short break.

#### 22) Adjournment:

- a) Herb Stoughton made a motion to adjourn the annual meeting. Seconded by Kevin Jones. The motion was approved unanimously. The meeting was adjourned at 3:40 p.m.

### CREW'S VIEW

First, the new "crew" wants to send out a very special Thank You to Linda Abell for her years of work on this publication. One never quite knows the scope and time requirements until it's under one's own charge. We sincerely hope any changes we've made meet your approval and high standard.

*Is it lipstick on a pig?*

Send us your thoughts on the new look of YOUR professional publication. I've tried to spice up the look, and it's a work in progress, but the content within is up to all of you to produce. We, the committee, would like to see a publication that tells the many and interesting stories that make up the professions of surveying, mapping and related careers here in our Great State of Wyoming. That means your stories, your concerns, and your opinions! This publication's content should reflect the "pulse and vitals" of the Professional Land Surveyors of Wyoming!

So, I'll ask again... Is it lipstick on a pig? If so, what can YOU write to help?

Mike Flaim, PLS

The Crew's "Lipstick Applicator?"



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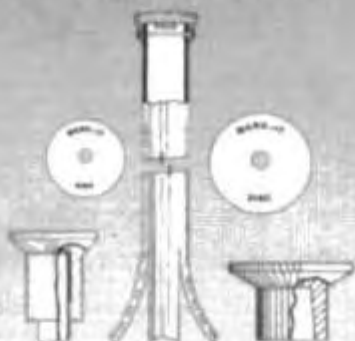
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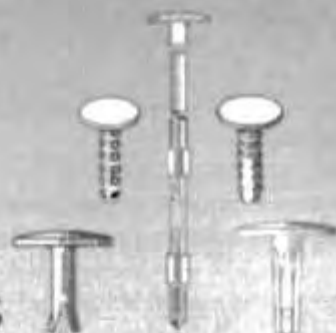
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