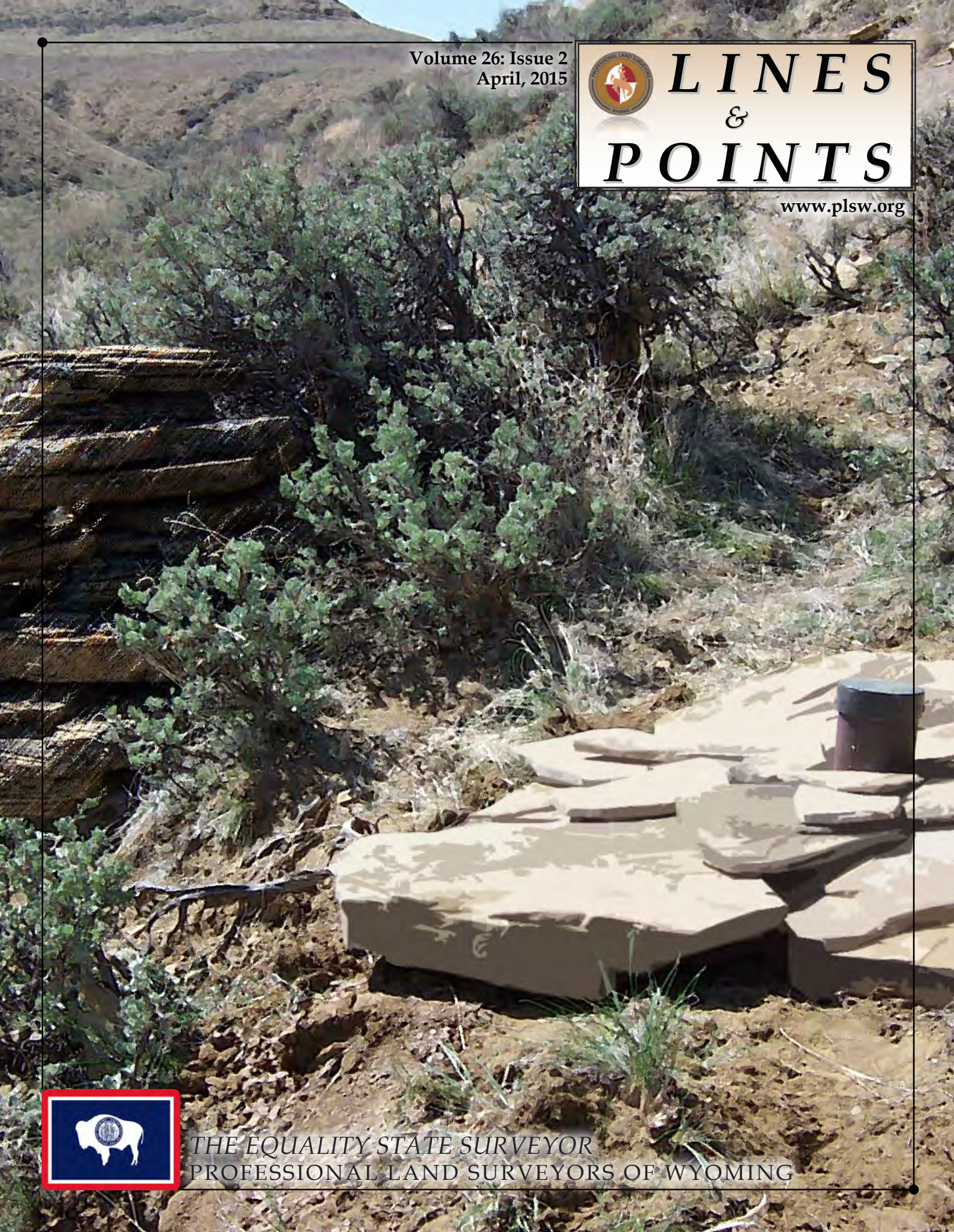
Volume 26: Issue 2
April, 2015

LINES & POINTS

www.plsw.org



THE EQUALITY STATE SURVEYOR
PROFESSIONAL LAND SURVEYORS OF WYOMING

Publications Committee

On The Cover

Tri Counties Corner (Washakie, Hot Springs, Park)
photo by
Northwest Chapter

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2014 PLSW SUSTAINING MEMBERS

- Bryan Baker - Frontier Precision Inc.
- John Baffert - Surv-KAP, LLC
- Chris Farnsworth - RDO Integrated Controls
- Kelly Goff - Underground Consulting Solutions
- Susan Hall - Trimble
- Tim Klaben - Berntsen International Inc.
- Troy Langston - Monsen Engineering

PLSW (Professional Land Surveyors of Wyoming) is a statewide organization of Land Surveyors registered 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).

Advertising Information

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Employment	Free	Free

Special Rates apply for PLSW Chapters and cover placements.

For more information please contact Jack Studley.

PRESIDENT'S MESSAGE

To the PLSW membership:

Greetings! I hope that everyone who attended the WES convention had a good time catching up with friends and colleagues, enjoyed the food and drink, and gained a few nuggets of information from the technical sessions. I want to again take the opportunity to thank you for your vote of confidence in me to lead you through the coming year, and to thank Carl and Marlowe for their dedication over the last year. Moreover, I am grateful that we have an excellent group of dedicated professionals who offer their time as chapter officers and committee members. Due to your hard work, the PLSW remains a strong voice for surveyors in Wyoming as well as outside our state through membership in NSPS and WestFed.

We appreciate that Shannon Stanfill, Executive Director of the Wyoming State Board of Professional Engineers and Professional Surveyors, attended our annual meeting and reiterated their support of the surveying profession and its interests. It's also comforting to know that we have strong representation on the board from Jerry, Skylar, and Jeff.

Now that the holiday season is past us and we look forward to spring, we sit here at near zero temperatures and forecasts of snow, a mixed blessing for sure. We're anxious to get on to the business of getting to the field, but grateful for the additional moisture.

So too, the price of fuel is a mixed blessing – our personal pocketbooks are happy to pay less, but for those of you who work closely with the oil and gas industry, your businesses have to adjust to the slowdown. If history is a good barometer, that won't last long either.

Legislative issues don't seem to take a break. The bill in favor of protection of survey monuments is not dead, but has gone back to committee for refinement so that it will be successfully adopted at a later date. We are watching House Bill #89, with respect to ownership of pore space (subsurface space which can be used as storage space for carbon dioxide or other substances) and split estate lands. Whether that will affect surveying in these areas remains to be seen. The trespass bill (for purposes of data collection) is still out there too, although we are confident that surveyors will be exempt.

The PLSW website is adding new items all the time. The chapter map is dynamic with contact information for each of the chapter directors. Advertising is available there too, and the counties that have online access to survey documents are linked. Watch for more to come.

I wish you all a successful muddy season! I know that you will prevail over whatever Mother Nature and politics might throw at you.

Remember that you can't climb the ladder of success with your hands in your pockets. Cheers!

Suzie Sparks, PLS

President, Professional Land Surveyors of Wyoming

ANNOUNCEMENTS

Congratulations!

•The members of the Professional Land Surveyors of Wyoming would like to recognize the achievement of the following new Wyoming registrants:

Christopher Kaschmitter; Casper, WY	LSIT 164
Chester J. Kasper; Jackson, WY	LSIT 165
Steve Granger; Evansville, WY	LSIT 167
Alan G. Warner; Denver, CO	LS 14735
James G. Temple; Conway, AR	LS 14749
Scott Hughbanks; Anthony, KS	LS 14750
Joesph K. Messner; Moorcroft, WY	LS 14751
Leslie Davis; Conway, AR	LS 14763
Zachary Hassler; Billings, MT	LS 14827
James Combs; Paris, TN	LS 14844

•**The NSPS Political Action Committee (PAC) has created the "Jefferson Club,"** a group of committed and dedicated NSPS members who contribute $500 per year to the NSPS PAC. Jefferson Club members are provided special benefits, including free admission (PAC contributor and spouse) to an event in April in Washington, DC, during the NSPS-MAPPS joint conference. That event is a special dinner on Tuesday, April 14, at the Capitol Hill Club in Washington, DC which will also include members of the MAPPS PAC "Inner Circle" and special guests from Congress.

To join the Jefferson Club, please complete the on-line form. On that form, indicate "PAC Fund" on the drop-down menu for ""Fund:" and contribute $500 or more.

You can send a personal check (payable to NSPS PAC) to the NSPS headquarters office, NSPS, 5119 Pegasus Court, Suite Q, Frederick, MD 21704, or pay by credit card by calling: 240-439-4615, ext. 112. Pledges for installment contributions will be accepted.

•Professional Land Surveyors of Wyoming are looking for member volunteers for the position of State Secretary and/or Treasurer. Interested parties please contact Cevin Imus (307) 682-1661

•A new page has been created at www.plsw.org for Legislative issues. Check it out for a listing of Wyoming House and Senate Bills.

•The 2009 Manual of Survey Instruction is now available online through the BLM website at http://www.blm.gov/pgdata/content/wo/en/prog/more/cadastralsurvey/2009_edition.html. It can also be accessed directly at plsw.org on the "References" page.

•**Occupational Information Network (O*NET) again seeks help from NSPS members**

NSPS Executive Director Curt Sumner has recently been approached by the Skill Assessment Team of O*NET to again assist in a U.S. Department of Labor effort to identify occupation experts who can help to insure that occupation descriptions listed in the O*NET database are current and accurate. The two categories for which descriptions are being updated are Surveyor and Surveying Technician.

Volunteer participants identified by NSPS should have five (5) or more years of experience, or supervisory/training experience, in the respective categories for which they will provide input. Participants will be asked to complete O*NET questionnaires. The O*NET team has specifically asked that NSPS seek out current Surveying Technicians as part of the group that reviews the technician category.

Anyone interested in participating, or has staff they believe can contribute, should contact Curt atcurtis.sumner@nsps.us.com. There is likely to be a time lag between the time a person volunteers and when they are contacted by O*NET.onet

Lines and Points Article Rotation Submission Schedule By Chapter

Responsible Chapter	First Call Date	Last Call Date	Publication Date
Northwest Chapter	Thank You!! (see "Following Footsteps" in this issue)		
West Chapter	June 1	June 15	July 1, 2015
Central Chapter	September 1	September 15	October 1, 2015

ANNOUNCEMENTS (Cont.)

• **Surveyors Historical Society** will be under new management starting in January 2015. After more than two decades as SHS Administrator, surveyor Roger Woodfill is retiring. The SHS Board of Directors has conducted a nationwide search for a new Administrator. Among the many candidates who applied were professional management firms, SHS members of great experience, and several highly-qualified nonmembers.

One proposal, however, stood out from all the rest. It came from a large professional organization - a state surveyors society in the Midwest - with its own fully-equipped, modern administration office and a staff of two full-time employees. In addition, their executive director brought skills beyond mere management. She is a professionally-trained historian, with a love and enthusiasm for history, who has two degrees and extensive experience with historical societies. That was the proposal selected by the SHS Board.

In a contract arrangement similar to the one we enjoyed with Roger Woodfill all these years, SHS will now be administered from the headquarters of PLSO - the Professional Land Surveyors of Ohio, Inc. Our new SHS Executive Director is Melinda Gilpin, who fills that same role for PLSO. Her Administrative Assistant is Valerie Worth. Both are direct employees of the non-profit Ohio Society.

Starting in January 2015, the full new contact information:

SURVEYORS HISTORICAL SOCIETY
6465 Reflections Drive, Suite 100
Dublin, Ohio 43017-2353
Tel: 614-798-5257 Fax: 614-761-2317
Email: info@SurveyorsHistoricalSociety.com (NOTE The society's former address will also still work)
Executive Director: Melinda Gilpin
Administrative Assistant: Valerie Worth
Website: www.SurveyorsHistoricalSociety.com

OPUS-Projects Manager's Training

A class of 23 braved the weather and enjoyed a couple of days of instruction about the workings of *OPUS Projects* on February fourth and fifth in Cheyenne.

Much thanks to our instructor Bill Stone, NGS/NOAA, and Laramie County Community College for their generous donations of resources.

Participants found that the benefit/cost of the class will not be matched any time soon. After the minimal expenses, a few extra dollars went to the SE Chapter's "Original Cheyenne Corners" monumentation project and to the PLSW Scholarship fund.

Thanks also to Mike Londe and the SE Chapter for all their coordination efforts.

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257 Laura Louise Lane
Bozeman, MT 59715
1-800-927-3001

RAPID CITY
1540 Deadwood Ave.
Rapid City, SD 57702
1-800-658-4590

Geodetic Surveying: Part VI

The Formation and Activities of the Ordnance Survey of England From Its Founding Until About 1800

Herbert W. Stoughton, PhD, PELS, CP

Introduction

Although a brief description of the origins of the Ordnance Survey of England were in Part III of this series, the author decided to expand on its formation, activities, and personnel through 1870. Although the Ordnance Survey is nearly five decades older than the U.S. Coast and Geodetic Survey, it is interesting to witness the growth and development of a pure military organization (England) and a civilian organization (USA). They are somewhat parallel with their own unique histories. Both organizations developed proud traditions and produced outstanding contributions to the scientific communities of geophysics and geodesy. Also, personnel from each organization made significant contributions in developing programs and disseminating information and knowledge to other organizations through international organizations and meetings.

The Beginning: Major Edward Williams and the Duke of Richmond

The last decade of the eighteenth century witnessed a series of isolated events, both political and scientific, which would have significant consequences. In 1789, the French Revolution started a series of events which would embroil Europe in military conflicts until 1815 (Battle of Waterloo) and the sporadic mid European events which culminated with the France-Prussian War (1870) and the unification of Germany under Kaiser Wilhelm and Bismark.

Many believe that General Roy's campaign in Scotland was the start of the Ordnance Survey. General Roy's death and the completion of the mapping of Scotland did not terminate the geodetic surveying and mapping program in England, Scotland, Wales, and Ireland. Roy's geodetic assistants: William Mudge, Isaac Dalby, and Edward Williams were still active and would form the nucleus for the Ordnance Survey and future geodetic surveying operations. Mudge was an officer of the Royal Artillery; and Dalby (1744 - 1824) was a civilian. He had been the mathematical master at the *Naval School* at Chelsea from 1761 through 1787 when the great instrument maker Jesse Ramsden recommended to General Roy his appointment for the surveys. In 1799, Dalby retired from field work and was appointed Professor of Mathematics at the *Royal Military College* at High Wycombe. Dalby wrote a two-volume text book on mathematics for cadets at the *Royal Military College*. Long after his death these text books remained the standard until the mid nineteenth century. Without any fanfare, in Roy's narrative of the trigonometrical surveys of Scotland, Dalby stated his theorem. There is no derivation or explanation. If φ and φ' represent the geodetic latitudes of point 1 and 2, respectively; α and α' represent the geodetic azimuth from 1 to 2 and 2 to 1, respectively; and $\Delta\lambda$ the difference in longitude, then:

$$\tan\frac{\Delta\lambda}{2}=\frac{\cos\frac{\varphi'-\varphi}{2}}{\cos\frac{\varphi'+\varphi}{2}}\cot\frac{\alpha'+\alpha}{2}$$

Dalby was computing the *difference in longitude* between points 1 and 2. The reason for this was that the size and shape of the earth (reference ellipsoid) was poorly known, but it was reasonably easy to determine the azimuths at both ends of the survey line. This equation appeared nearly four decades (c. 1787) prior to Carl Gauss's *General Investigation of Curved Surfaces* (1827). Research indicates that Dalby never published any additional information on the formula in professional papers or text books. Dalby died in 1824. In 1828, there arose an agitated discussion in the *Philosophical Magazine* between James Ivory and Dr. Louis Tiarks. Ivory (17 February 1765 - 21 September 1842) was an outstanding scholar in mathematics, physics, and philosophy. After several years attempting to make a living operating a flax spinning mill, he was appointed professor of mathematics (1804) at the *Royal Military Academy* at Great Marlow, which became *Sandhurst* in 1812. He suffered a serious break down (nervous?) in 1817, and lived as a recluse in London. A biographer writes that "his difficult personality led him to quarrel with many of the British scientific establishment". In the July, October, and December 1828 issues of *Philosophical Magazine* he vehemently denied the viability of Dalby's theorem.

Enter Dr. John Louis Tiarks. Born in Jever, Germany, in May 1789, Tiarks accepted an appointment in the

library of Sir Joseph Banks (England). His education at the *University of Gottingen* where Gauss was professor of astronomy qualified Tiarks (a student) to be the English astronomer to the commission appointed under the Treaty of Ghent to establish the boundary between Britain (Canada) and the United States. It was on this expedition that Tiarks closely worked with his U.S. counterpart Ferdinand Rudolph Hassler. In 1828, Dr. Tiarks entered the fray with Ivory. His position was not adversarial, but a matter of clarification. His arguments and comments were published in the November issue of the *Philosophical Magazine*, and demonstrated beyond a doubt that Dalby was correct. In the January and February 1829 issues of the *Philosophical Magazine*, Ivory corrected his mistakes and assumptions and recanted his previous writings. At a later date, Dalby's theorem would be demonstrated to be a special case of Gauss's more general work.

Dalby's theorem, as originally stated, addressed the problem of computing the difference in longitude. In the fifth edition of *Surveying* (Bouchard and Moffitt) at page 328, the authors stated "Because of the convergence of meridians, the difference between the forward azimuth and the back azimuth of a line will not be exactly 180°. The amount of this convergence $\Delta\alpha$ can be found by the relationship:

$$-\Delta\alpha = \Delta\lambda \sin \tfrac{1}{2}(\varphi + \varphi') \sec \tfrac{1}{2}(\Delta\varphi) + (\Delta\lambda)^3 \boldsymbol{F}$$

The back azimuth is:

$$\alpha' = \alpha + \Delta\alpha \pm 180°$$

There is no mention that this is Dalby's theorem with a higher order term "$(\Delta\lambda)^3$ $\boldsymbol{F}$" to address the issue that Dalby's theorem is *not on a sphere* but on an ellipsoid of revolution, which deviates slightly from the sphere. Inspection of A.R. Clarke's *Account of the Observations and Calculations of the Principal Triangulation . . .* contains a list of all the observers of the major triangulation. Mr. Dalby is not listed as an observer. Apparently, his primary endeavors were the data reduction, computation and adjustment of the work.

It is interesting to note that although two of the classical application theorems of spherical trigonometry being Dalby's theorem and Legendre's theorem, only the latter theorem is mentioned in American spherical trigonometry text books published after 1900.

The third member of Roy's field party, Edward Williams, was an officer, and would play a role in the formative years of the Ordnance Survey. After Roy's death, the third Duke of Richmond, Charles Lennox, exercised a very active and significant interest in geodetic operations. Research indicates that the Duke's interests were to provide practical support and financial resources. His "political and social" connections helped to transition a survey from a "scientific" program to a "National Survey". From 1791, the Duke issued instructions and later directed operations. Lt. Col. Edward Williams, first Director of the Survey, heaped accolades on the Duke of Richmond for his liberal assistance in early operations. Richmond used his personal funds to purchase Ramsden's second 3-ft theodolite. The first unit was used by General Roy in Scotland, and was owned by the *Royal Society*.

On 10 July 1791, the Ordnance Survey was officially formed comprising of Major Edward Williams as Director, Lieutenant William Mudge, and Mr. Isaac Dalby. Dalby was specifically responsible for the reduction of observations and subsequent geodetic calculations. Most of our background knowledge about Williams appears in the *List of Officers of the Royal Artillery...* Williams died in 1798, and was succeeded by Mudge. It is interesting to note that Williams's service and death are not mentioned in the early history written by Mudge.

The last decade of the eighteenth century saw the Ordnance Survey executing triangulation in southern England, and compiling maps for potential military operations due to the political climate in France following the French Revolution. The offices of the Survey were in the Tower of London.

Besides the 3-ft theodolite, Ramsden constructed two 100-ft. and at least one 50-ft steel chains. General Roy had measured the baseline at Hounslow Heath twice employing glass rods. Ramsden's tape was used in the 1791 measurement (15 August to 28 September). The mean of the three measurements was accepted (27,404.2 feet - 5.1902 miles). In 1793, a base line of verification was measured on the Salibury Plain. Using Ramsden's new chains, the reported corrected length was 36,574.4 feet (6.9270 miles). When a comparison to the latter base line through the triangulation from the Hounslow base line was made, the difference was 0.1 foot.

The new triangulation became the base for the national "one-inch" map of the United Kingdom. The one - inch map series means one inch equals one mile (1 : 63,360).

P·L·S·W· - Northwest Chapter

Spring, 2013

Following Footsteps at the Tri Counties Corner

Introduction

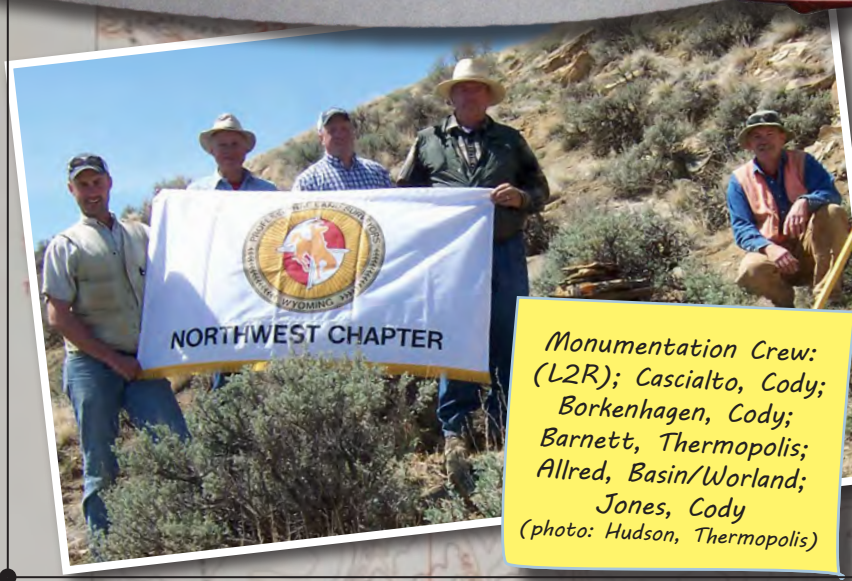
During the past score of years the Northwest Chapter of PLSW has engaged in several projects involving historic events and geographic sites· Our latest project, during the spring of 2013, incorporated both as we recognized the centennial of the organization of Hot Springs and Washakie Counties, and the perpetuation of the Public Land Survey System monument marking the comer common to those two counties, and Park County which had been organized two years earlier·

As aspiring and practicing land surveyors we all use the term "following in the footsteps" as an acknowledgement of our responsibility, to clients and the public, to retrace previous land surveys and recover the original monuments or remaining evidence of the monumentation· While that is often accomplished with relative ease, other situations entail extraordinary effort· Each survey and each comer thereof, offers uncertainties to be anticipated, situations to be recognized, and solutions to be effected·

Planning the Mission

The subject comer is located about six miles north of Wyoming Highway 431 and one-half mile east of the Murphy Draw Road; approximately sixteen miles southeasterly of Meeteetse· It is properly designated as common to Townships 47 and 48 North, Ranges 97 and 98 West of the Sixth Principal Meridian, Wyoming· A more generic description is the southwest comer of Washakie County and the southeast comer of Park County, on the north line of Hot Springs County - henceforth the "Tri Counties Comer"·

Records of the General Land Office, now the Bureau of Land Management, state the comer was established by the original survey in 1883 and last monumented by the dependent resurvey in 1915· Our plan was to recover the 1915 monument, a 3 in· dia· iron post with brass cap, rehabilitate it, establish a reference monument in each township, and document said comer perpetuation· Additionally, we would determine accurate geodetic positions on each of the monuments using GPS methodology· Such was our avowed mission; not seen as particularly difficult and subject only to coordination and favorable weather· Since no comer record reports had been filed in any of the three counties, our initial concern was "What is still out there?" At our April meeting two successive Saturdays in May were chosen, one for monumentation, the other for observations·



Monumentation Crew: (L2R); Cascialto, Cody; Borkenhagen, Cody; Barnett, Thermopolis; Allred, Basin/Worland; Jones, Cody
(photo: Hudson, Thermopolis)

Stabilizing the corner monument and site
(photo: Barnett, Thermopolis)

Township corner
-as recovered

Township corner
-as rehabilitated

Reference monuments; Filled with concrete, stamped and "shovel ready"

Park Co ref monu, "Reference Mon No 2 of 4", viewed northwesterly

Lyle Casciato, as head chainman, using 100-foot link chain

Kevin Jones, as rear chainman, prior to "throwing" 100-foot steel tape

USC&GS azimuth mark, set in 1950, with 1931 station site in background

Reconnaissance and Monumentation

Late in April two crews on successive days (obviously indicating the need for better coordination) reported the monument was recovered in apparent good condition, but leaning, on a moderately-steep, sagebrush-covered, rocky slope· During the next week four reference monuments were prepared, each a concrete-filled Survey Supply Service Co· iron post with brass cap, for placement in each of the four adjoining townships·

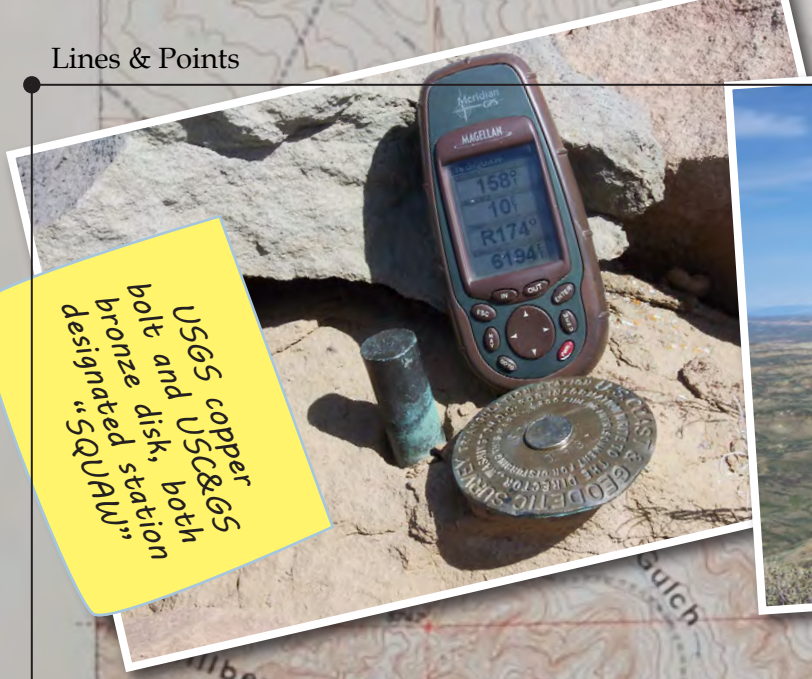
On May 11,2013, using a six-member crew, the 1915 monument was replumbed, straddled, and placed aside the substantial excavation· Sub-surface memorials consisting of a railroad spike and ceramic magnet were set, followed by the rusted but salvageable GLO monument· We then stabilized the monument, repaired the rock mound, and planted the four reference monuments· With the manual labor finished, we performed time-honored activities (older members mentoring newer members) in the "art of chaining" with steel tape, link chain, plumb bobs and chaining pins followed by "throwing" the 100-foot steel tape (into a double coil)·

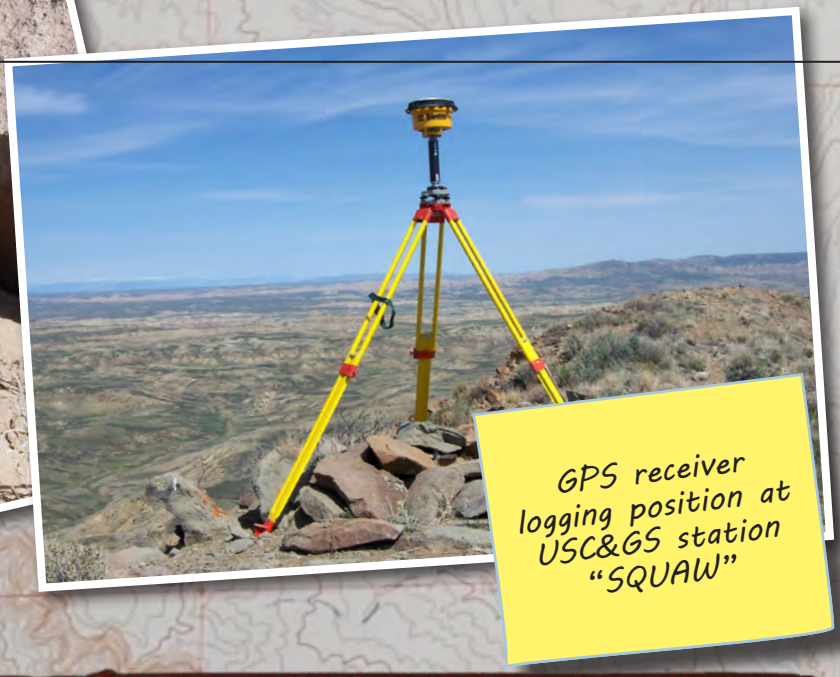
Weather Delay

Daybreak on the following Saturday revealed rain had fallen overnight and was continuing to turn last week's powdery dust into this week's gumbo mud; thus the plan for GPS observations was aborted· We local surveyors of the Big Horn Basin tolerate wind, cold, even snow - but not steady rain· Although disappointed, all agreed the rain was desperately needed, and by next Saturday we might even have a little dust again·

Observations

On May 25 we met along the Murphy Draw Road, transferred the Trimble GPS receivers, and dispersed· One unattended receiver occupied the National Geodetic Survey high accuracy station at the Gooseberry Rest Area (about seven and one-half miles distant) and another at the Coast and Geodetic Survey azimuth mark (about three and one-half miles distant)· One crew set up on the tri counties comer and tied in the four reference monuments and topographic features· Another crew ascended "Squaw Butte" (not her official USGS quad name) and occupied the station established in 1931, last officially occupied in 1972, and very recently visited by "St· Inlandopher", the patron saint of local GPS surveyors, who placed "Jeffersons" (nickels) on the station and reference mark disks, and on the azimuth mark disk, as symbols of desired local accuracy· Another crew established a base receiver on a quarter section comer and ventured forth to recover and tie other PLSS comers in the vicinity· By mid-afternoon GPS observations were complete and all crews assembled for a demonstration of field astronomy (more





mentoring) wherein a theodolite was oriented to north, elevated to the latitude, and fervently believed to be pointing to the proximity of Polaris· Although its image passed through too much atmospheric debris, too many lens elements, and too many years of strained eyesight to be positively confirmed, the old-timers knew it can be done "in broad daylight" because they have done it· With field work complete and equipment loaded, 'veyors favorite malted beverage was consumed in celebration of the successful remonumentation and positioning of the "Tri Counties Comer"·

Post-Processing and Documentation

Positions of the three control stations and the corner monument were processed using OPUS-RS methodology provided by NGS· The resulting positions were in close agreement with the published positions of the HARN station (PID AA2126) and the first-order triangulation / high precision traverse station (PID PX0369) and previously undetermined positions of the azimuth mark (PID CQ7379) and our now revered township comer· Additional recovery, perpetuation, and positioning of four adjacent quarter section comers and one section comer fulfilled our mission of "following in the footsteps" left nearly a century before by the GLO survey crews·

We chose to document our comer perpetuation efforts through the preparation and filing of State of Wyoming Comer Record reports for the comer common to four townships and three counties, in accordance with the state statute and SBRPEPLS rules and regulations; adding an additional report for the triangulation station and azimuth mark· Those reports were signed and sealed at our June 10 chapter meeting and appropriately filed in Hot Springs, Washakie, and Park Counties later that week· Additional reports, for the other PLSS comers, were independently prepared and filed later·

Since the motivation for our mission was the centennial celebrations in Hot Springs and Washakie Counties, a narrative report and the appropriate comer record reports were delivered to the respective centennial committees prior to the official celebrations· The Hot Springs County celebration was later in June, followed by the Washakie County celebration in July of 2013· Additionally, one chapter officer witnessed the sealing of the Hot Springs County Centennial Time Capsule (a metal box containing over 100 items) at the January 9, 2014, meeting of the Hot Springs County Historical Society, with our comer documentation safely deposited for the next five score years·

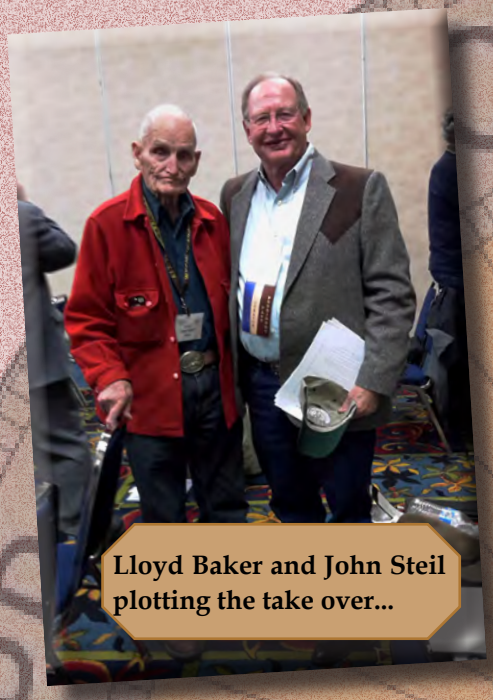
GPS receiver at 1/4 corner one-half mile west of the Tri Counties Corner (Squaw Teats in background)

Rust ring left by 1975 concrete-filled iron post showing the effect of chemically "hot" soil common in the area at 1/4 corner one-half mile east of Tri counties Corner, prior to remonumentation

Observation crew (L to R): Casciato, Cody (azimuth mark & PLSS Corner); Barnett, Thermopolis (HARN & PLSS Corner)

Abell, Worland (Tri Counties Corner and reference monuments, with Trimble 5800); Hudson, Thermopolis (USC&GS station)

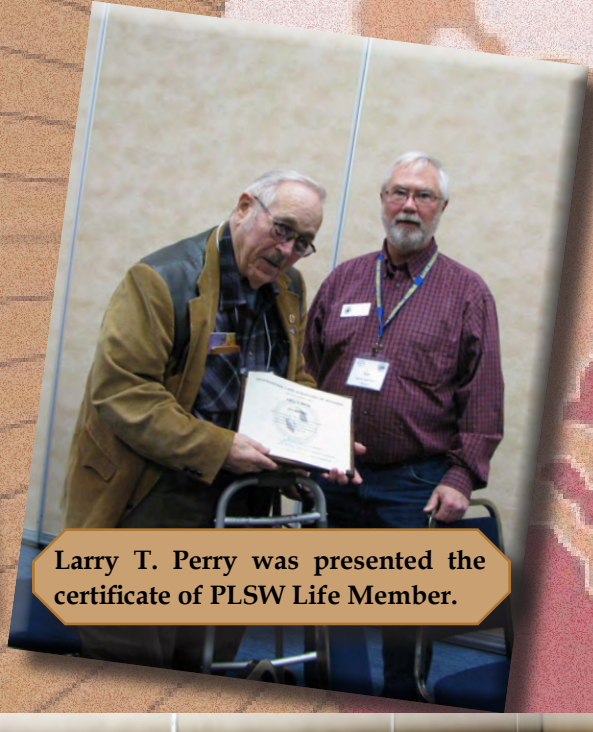
2015 PLSW President Suzie Sparks getting ready to rule with an iron hand, err, hammer!



Lloyd Baker and John Steil plotting the take over...

John Steil was p plaque for PLSW (the highest award c

Hair Club Meeting?



Larry T. Perry was presented the certificate of PLSW Life Member.

2015 Annual Membership Meeting
of the
Professional Land Surveyors of Wyoming

presented with a Honorary Member confered by PLSW)

Carl Carmichael recieving the Past President's Plaque from 2015 President Suzie Sparks

Catherine Stoughton prettying up a picture of Herb and Lloyd Baker

The annual meeting attendees paying rapt attention to the proceedings...

Jeff Jones swearing in the 2015 PLSW Officers with Carl Carmichael supervising the ceremony

This letter is to inform you of the official cadastral surveys that were approved in Wyoming in 2014 and have been published to BLM Wyoming's Cadastral Survey website. Copies of these images can be viewed or printed from this website: **http://www.wy.blm.gov/cadastral/plats14.htm**

Township and Range	Type of Survey	Meridian	Accepted
T. 52 N., R. 76 W.	Dep. Res. & Subd.	6 P.M.	01/24/2014
T. 2 N., R. 5 E.	Supplemental Plat	W.R.M.	01/24/2014
T. 21 N., R. 88 W.	Dep. Res. & Subd.	6 P.M.	02/20/2014
T. 21 N., R. 86 W.	Dep. Res. & Subd.	6 P.M.	02/20/2014
T. 51 N., R. 76 W.	Dep. Res. & Subd.	6 P.M.	02/20/2014
T. 12 N., R. 84 W.	Remonumentation	6 P.M.	02/20/2014
T. 52 N., R. 77 W.	Dep. Res. & Subd.	6 P.M.	03/19/2014
T. 16 N., R. 72 W.	Dependent Resurvey	6 P.M.	03/19/2014
T. 16 N., R. 95 W.	Dep. Res. & Subd.	6 P.M.	03/19/2014
T. 23 N., R. 94 W.	Dep. Res. & Subd.	6 P.M.	05/15/2014
T. 20 N., R. 71 W.	Dep. Res. & Metes & Bnds	6 P.M.	05/15/2014
T. 27 N., R. 83 W.	Dep. Res. & Subd.	6 P.M.	05/15/2014
T. 43 N., R. 93 W.	Corrective Dep. Res.	6 P.M.	05/15/2014
T. 49 N., R. 105 W.	Supplemental Plat	6 P.M.	06/17/2014
T. 49 N., R. 106 W.	Supplemental Plat	6 P.M.	06/17/2014
T. 26 N., R. 90 W.	Dep. Res. & Metes & Bnds.	6 P.M.	08/28/2014
T. 22 N., R. 87 W.	Dep. Res. & Subd.	6 P.M.	08/28/2014
T. 40 N., R. 116 W.	Supplemental Plat	6 P.M.	08/28/2014
T. 40 N., R. 117 W.	Supplemental Plat	6 P.M.	08/28/2014
T. 41 N., R. 116 W.	Supplemental Plat	6 P.M.	08/28/2014
T. 41 N., R. 117 W.	Supplemental Plat	6 P.M.	08/28/2014
T. 42 N., R. 116 W.	Supplemental Plat	6 P.M.	08/28/2014
T. 33 N., R. 100 W.	Dep. Res. & Subd.	6 P.M.	08/28/2014
T. 55 N., R. 66 W.	Dep. Res. & Subd.	6 P.M.	09/19/2014
T. 55 N., R. 67 W.	Dep. Res. & Subd.	6 P.M.	09/19/2014
T. 45 N., R. 60 W.	Dep. Res. & Subd.	6 P.M.	09/19/2014
T. 51 N., R. 103 W.	Dep. Res. & Metes & Bnds.	6 P.M.	09/19/2014
T. 55 N., R. 100 W.	Dep. Res. & Metes & Bnds.	6 P.M.	09/19/2014
T. 57 N., R. 95 W.	Corr. Res., Dep. Res. & Subd.	6 P.M.	09/19/2014
T. 24 N., R. 99 W.	Dep. Res. & Subd.	6 P.M.	10/24/2014
T. 34 N., R. 110 W.	Dep. Res. & Subd.	6 P.M.	10/24/2014

Once upon a time there was an area, right here, that was blank...only lonely white paper between these two wonderful advertisements. But the editor is afraid of blank space that is not artfully placed! So now, you are reading this.

Common Research Mistakes Surveyors Make

Seniority of Title

by
Knud E. Hermansen †
P.L.S., P.E., Ph.D., Esq.

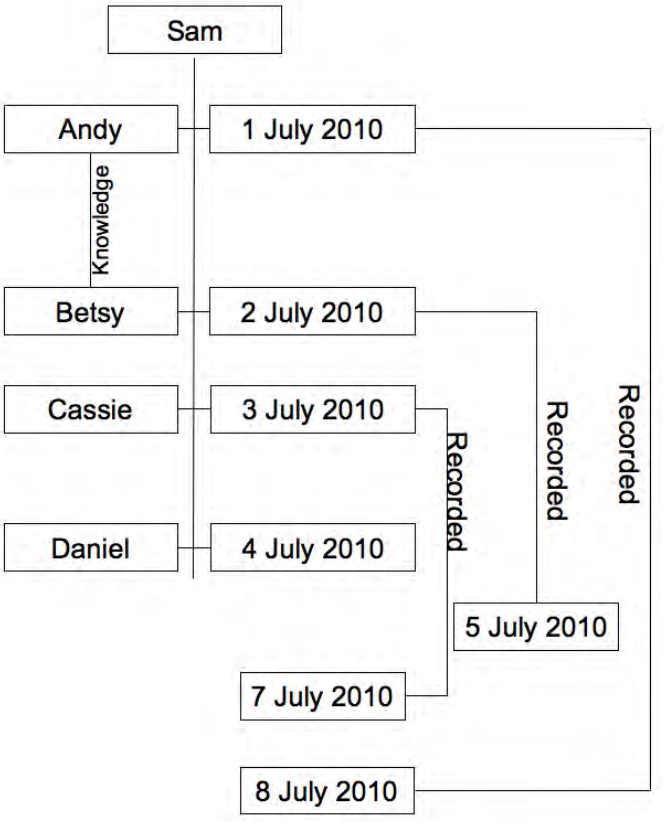
I am often tangled in litigation involving surveying services and research mistakes. I must also admit that in excess of forty years of practice, I have made my share of mistakes performing record research. There are five common mistakes often made by surveyors when researching the records. This article will explain the common mistake made by surveyors when determining senior title.

Many surveyors are under the misunderstanding that once a person conveys property, they cannot subsequently convey good title in the same property to another person. This is never true. In fact, there is not a single state recording act that would place senior title with the first grantee unless the grantee took immediate steps to record the deed or take possession of the property.

The recording acts in all states fall into one of three general categories of statute: 1) Race, 2) Notice, and 3) Race-Notice. The general definition of each category is the following:

> Race — The first person to record their deed has senior title regardless of the sequence the conveyances were made or the knowledge a grantee had of an earlier conveyance.
>
> Notice — The last conveyance made where the grantee did not have notice of an earlier conveyance has senior title.
>
> Race-Notice — The first person to record their deed who was conveyed the property without notice of an earlier conveyance has senior title.

Consider the following example: Sam conveys a lot to Andy on 1 July 2010. A short time later, Andy tells Betsy that he purchased the lot from Sam. Betsy goes to Sam and offers to buy the same lot that Sam sold to Andy. Even after Sam explains to Betsy that he has already conveyed the lot to Andy, Betsy insists of paying money to Sam in order to obtain a deed to the lot. Sam, with marginal ethics, goes for the money and conveys the same lot to Betsy on 2 July 2010 that was previously sold to Andy. Sam now realizes he can make a considerable profit if he keeps conveying the same lot to other individuals without knowledge of an earlier conveyance of the lot. Consequently, Sam conveys the same lot to Cassie on 3 July 2010. On 4 July, Sam conveys the same lot to Daniel.



On 5 July, Betsy records her deed. (Thereby providing "the world" constructive notice of a conveyance of the lot from Sam.) On 7 July, Cassie records her deed. On 8 July, Andy records his deed. Daniel never records his deed.

Even though Andy was the first conveyance from Sam, he does NOT have senior title under any of the recording acts. Under the "race" category of recording act, Betsy has senior title. Betsy was the first to record a deed to the lot. Under the "notice" category of recording act, Daniel has senior title. Daniel was the last person to be conveyed the lot without notice of an earlier conveyance. In fact, Daniel will have senior title under a notice category of recording act even though Daniel never records his deed. Under a "race-notice" category of recording act, Cassie has senior title. Cassie was the first person to record a deed from Sam that was delivered to her without notice of an earlier conveyance.

As can be seen from this example, without knowledge of the category of a state's recording statute, surveyors will often terminate their record research prematurely or will mistakenly determine senior title resides with the wrong person in a situation such as an overlap.

A surveyor should take the time and determine what category of recording statute is effective in their state. At least two states have more than one category of recording act in effect.

† Knud is a professor in the surveying engineering technology program at the University of Maine. He offers consulting services in the area of boundary litigation, title, easements, land development, and alternate dispute resolution.

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