

Volume 34: Issue 4
October, 2023



LINES & POINTS

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On The Cover

USGS: SHERIDAN ASTRO STATION
PHOTO BY R.L. "Rick" HUDSON, L.S.

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Special Rates apply for PLSW Chapters and cover placements.

For more information please contact Jack Studley.

PLSW (Professional Land Surveyors of Wyoming; PO Box 8, Cheyenne, WY 82003) 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).

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PRESIDENT'S MESSAGE



Greetings to all. Though I do believe that Wyoming as a whole did not experience near the terrible heat conditions that some other parts of the U.S. went through, the cooler days of fall will be very welcome. In this message I thought I would brief the membership on some of the things that you might be interested in knowing about.

Wendy Lathrop will be our speaker for our 2023 Fall Tech session. You may remember her from our 2018 Tech Session. Her return engagement will be on November 2-3, 2023 at the Ramkota in Casper. Visit the events section of the PLSW website for more on this. We have been pretty successful with having a silent auction as well as drawings for various items from businesses and PLSW members. This is a fundraiser for the scholarship fund, and all your donations are much appreciated.

Keep your eyes open for information on the Westfed 2024 conference. PLSW is one of six state organizations sponsoring the conference at the Horseshoe Resort in Las Vegas on March 22-26, 2024. If the name does not sound familiar this was formerly Bally's and it's on the Strip right in the thick of things. The planning is still underway, but I found the following link to watch for more information as it becomes available:

www.plseducation.org. Westfed has a facebook page that I am sure will be updated as well. Just as a reminder, our Westfed representative is John Lee, and he and Duane Schmitz are serving on a planning committee for the event.

Just a quick mention of the Young Surveyors Network. Like Westfed and NSPS, PLSW has a budget item to support someone to participate in this. We have not had a representative on board for some time and are still looking for an interested young surveyor. They define a young surveyor as someone under age 35 or who is otherwise new to surveying. Find out more at: youngsurveyors.org

PLSW will always need members who are interested in serving on committees, as Directors or other officers for chapters, or as officers for the State Organization. PLSW is operated by the people who step up. We have benefited from years of service by our publications committee, our education committee, as well as others. And many thanks to those of you who are in proximity to Cheyenne and who keep track of the legislative front.

I will close with a reminder to consider who among your peers you can nominate as an Honorary member. Think also of who might benefit from a PLSW scholarship because another committee, our scholarship committee, is active and responsive.

Best Wishes to all,


Tom

Thomas Johnson, PLS

President

Professional Land Surveyors of Wyoming

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GENERAL INFORMATION

PRE-REGISTRATION:

- FEE: \$150 PLSW Members
- \$100 PLSW Affiliate Members
- \$225 Non-Members

A \$20 late registration fee will be added to all registrations received after October 12, 2023.

AGENDA

November 2nd

- 7^{am} - 8^{am} Registration
- 8^{am} - 12^{pm} Seminar
- 12^{pm} - 1^{pm} Luncheon & Annual PLSW Meeting
- 1^{pm} - 5^{pm} Seminar
- 5^{pm} - 9^{pm} Social Hour

November 3rd

- 7^{am} - 7:45^{am} Breakfast Buffet
- 8^{am} - 12^{pm} Seminar

LOCATION AND LODGING

A block of rooms has been reserved at the Ramkota Hotel, 800 N. Poplar St, Casper, Wyoming until October 3rd
Rate: \$88 per night. Telephone: 307-266-6000.

Booking link:

<https://be.synxis.com/?adult=1&arrive=2023-11-02&chain=16552&child=0¤cy=USD&depart=2023-11-03&hotel=65193&level=hotel&locale=en-US&rate=10G815&rooms=1>

PROFESSIONAL DEVELOPMENT HOURS

12 Professional Development Hours will be awarded for the entire seminar.

FOR MORE INFORMATION, CONTACT:

- Paul Svenson 307-266-2524
- Bill Fehringer 307-995-2620

To Accept or Not To Accept... That is the Question

The fundamental reason surveyors are in a regulated profession is because of one specific decision we make each time we do a boundary survey...what to do with the lack or over-abundance of corner evidence. Covers statutory, administrative, and case law on the subject.

Title Commitments and Reports: What's In Them and Why We Care

What are title commitments and reports? How do they affect the real property acquisition process? What do the documents included tell us, and what don't they tell us? After defining "title" and distinguishing between marketable and insurable title, we'll answer these and other questions.

Flood Maps, Map Changes, and Surveyors

FEMA-issued flood maps provide a lot of information, but not all of it is current. After a brief review of floodplain management background, we look at mapping in depth. What's the best source of Base Flood Elevation data? How can we submit better applications for Letters of Map Amendment (start to finish)? A few resources, a few warnings, and real life examples round out the discussion.

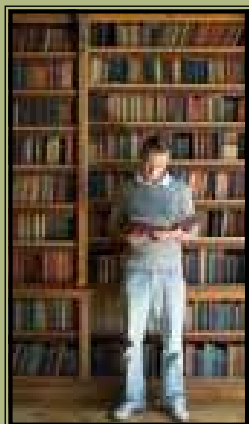
Wendy Lathrop

Wendy Lathrop, president and owner of Cadastral Consulting, is licensed as a Professional Land Surveyor in New Jersey, Pennsylvania, Delaware, and Maryland, and as a Professional Planner in New Jersey. She holds a Master's degree in Environmental Policy, and has been involved in surveying since 1974 in projects ranging from construction to boundary to environmental land use disputes. Wendy is also a Certified Floodplain Manager through the Association of State Flood Plain Managers (ASFPM).

APPLY NOW FOR A PLSW SCHOLARSHIP

If you are attending college with the intent of pursuing a career in Land Surveying in Wyoming, we want to give you money!

A Scholarship Application is available on our website <http://www.plsw.org>





HINTS TO AUTHORS

Dear Readers:

The editors of Lines & Points wish to convey our gratitude to the numerous authors who have contributed photographs, technical and professional articles, and other information to be incorporated into the quarterly journal. In recent years, the assembly and redaction of the submitted materials has taken on considerable technical application of the various English language compilers, office suites, and “publishing suites”. This means that the communication and transfer of information and materials arrive at the editors’ desktops in a multitude of formats and styles, which sometimes are not compatible with the PLSW personal computers.

We, the editors, are setting forth some simple rules for submitting materials which, hopefully will simplify your efforts and make the transition to the published version simpler and less time consuming.

1. If you have any questions or comments, please contact S. Dennis Dawson, Publications Comm. Chm., (dennieandbarb@gmail.com) or Michael A. Flaim, Editor-in-Chief (mike.flaim@bresnan.net).

2. If an article contains any illustrations, photographs, graphs, or other graphics, please transmit them as separate individual files. You may also include the illustrations within your manuscript, but the image integrity/quality is degraded seriously when attempting to extract them from the manuscript to create a published digital image. The Editor-in-Chief states that a much better digital resolution is obtained from the separate, individual illustrations submitted.

3. All submissions (electronic and snail mail) should be sent to S. Dennis Dawson (4005 Snyder Avenue; Cheyenne 82001). It is recommended a second copy be sent to Michael A Flaim (1212 Southwest Drive; Cheyenne 82007). It is further recommended a third copy be sent to Dr. Herbert W. Stoughton (2829 Carey Avenue; Cheyenne 2001. Dr. Stoughton has spent over two decades as a technical review editor of two national surveying journals, and will provide editorial/redactory review for grammatical presentation and punctuation format. The criteria for acceptable conformity to grammatical usage and punctuation shall be governed by the U.S. Government Printing Office Style Manual (any edition is acceptable).

4. It is strongly recommended that all submissions be transmitted six weeks prior to the publication deadline. The publication deadlines are: 1 January; 1 April; 1 July; and 1 October, annually.

5. Lines & Points is the official publication for the Professional Land Surveyors of Wyoming. Therefore, hence forth there will be incorporated in the publication all formal announcements pertaining to official business of the organization and other announcements. This includes announcements for the Annual Meeting; state-wide membership meetings; seminars; and the Fall Technical Session. These announcements are to be submitted to the PLSW Secretary/Treasurer John J. Studley (PLSW; Attn.: Mr. Jack Studley; P.O. Box No. 8; Cheyenne 82003) (jklz0318@gmail.com), at least four weeks prior to the publication deadline in which the announcement will appear. The PLSW Secretary/Treasurer will circulate the announcements to the Publication Comm. Chm.; the Editor-in-Chief; and the PLSW Board of Directors.

6. Advertisers and prospective advertisers should communicate directly with PLSW Secretary/Treasurer Studley about any advertisements and modifications.

LINES AND POINTS ARTICLE ROTATION SUBMISSION SCHEDULE BY CHAPTER

| Responsible Chapter | First Call Date | Last Call Date | Publication Date |
|----------------------------|------------------------|-----------------------|-------------------------|
| Southwest Chapter | December 1 | December 15, 2023 | January 1, 2024 |
| Northeast Chapter | March 1 | March 15 | April 1, 2024 |
| Northwest Chapter | June 1 | June 15 | July 1, 2024 |
| West Chapter | September 1 | September 15 | October 1, 2024 |
| Central Chapter | December 1 | December 15, 2024 | January 1, 2025 |
| South Central Chapter | March 1 | March 15 | April 1, 2025 |
| Southeast Chapter | June 1 | June 15 | July 1, 2025 |

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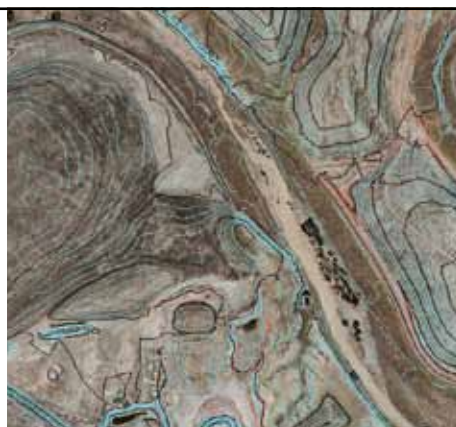
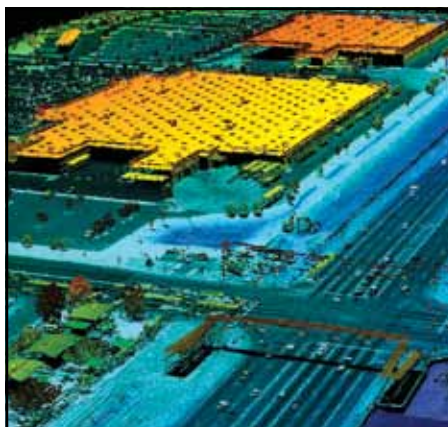
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The Western Federation of Professional Surveyors (WFPS) held a Board of Directors meeting on June 10, 2023 in Salt Lake City, UT.

HIGHLIGHTS FROM THE WESTERN STATES

ALASKA (ASPLS) Gary Gervelis - ASPLS Chapters are hosting virtual statewide meetings on a rotating basis. This reduces the workload for chapter officers and allows members from across the state to network. More information about APLS can be found on their website AlaskaPLS.org

ARIZONA (APLS) Mike Fondren - Current membership is 332. APLS is currently planning a fall seminar and member appreciation event. APLS presented a plaque to Lynda Bell in appreciation for her service as NGS Southwest Regional Geodetic Advisor. APLS is currently drafting letter to educate counties regarding the fact that it is a violation to accept subdivision plats sealed by Engineers. More information about APLS can be found on their website AzPLS.org

COLORADO (PLSC) Todd Beers - Current membership is 582. PLSC continues to actively participate in Quality Based Selection (QBS) meetings. Board of Registration will be going through sunset review process beginning in September 2023. PLSC is currently discussing mandatory continuing education. If the membership remains in favor, PLSC will work to introduce a bill in 2024. The scholarship committee has revised their requirements and will now accept applications from those attending non-Colorado schools. PLSC continues outreach efforts including reaching out to real estate and title companies, middle schools, high school, and guidance counselors. More information about PLSC can be found on their website PLSC.net

HAWAII (HLSA) Joanne Williamson - Current membership is 159. Right of Entry legislation was successful and was sent to the Governor for signature on May 4th In 2024 HLSA plans to introduce legislation for a statute of repose as currently there is no statute of liability or repose in Hawaii. More information about HLSA can be found on their website HLSA.hawaii.org

IDAHO (ISPLS) Austin Ishino - Current membership 223. The 2023 ISPLS Conference was a success. The Gem State Surveyor can now be viewed on the ISPLS website. More information about ISPLS can be found on their new website IdahoPLS.org

MONTANA (MARLS) Russ Kluesner and Dick Smith - Current membership 426. Montana has established a Young Surveyors Network (MT YSN). MARLS awarded \$11,500 in scholarships. An increase in CST participation has been noticed. The 3rd Edition of the Montana Subdivision and Surveying Laws Digest has been published and is available free of charge to current MARLS members, and for sale to non-members. Flathead Valley Community College is currently searching for a professor. MARLS is currently working on updating their bylaws. More information can be found on their website MARLS.com

NEVADA (NALS) Trent Keenan & Greg Phillips - Current membership is 276. Great Basin College had eleven graduates this year and the College of Southern Nevada (CSN) has received initial authorization for a new land surveying 4-year degree program. NALS continues to publish, print, and mail four issues a year of the Nevada Traverse. NALS is celebrating their 50-year anniversary this year and held a gala in conjunction with the Conference to honor past

presidents and charter members. As part of our 50th Anniversary celebration NALS will be setting a monument at the geographic center of Nevada. NALS continues to focus on outreach and has participated in multiple job fairs, STEM fairs, and career technical education (CTE) events this year. NALS mobilized a grassroots effort and was able to defeat a recommendation to eliminate the state-specific exam for licensure by comity. More information about NALS can be found on their website NvLandSurveyors.org

NEW MEXICO (NMPS) Roxanne Nimmer & Diego Sisneros - NMPS allocated funds to support land surveying students to travel to Washington D.C. for the NSPS Student Competition. NMPS will be participating in the Western Regional Survey Conference in 2024. More information about NMPS can be found on their website NMPS.org

UTAH (UCLS) Mike Nadeau - Current membership is 335. UCLS is planning a fall forum. UCLS was able to obtain an exemption for land surveyors from legislation that would have limited use of drones. UCLS Board has adopted a condominium plat guide. UCLS has a new membership fee structure. More information about UCLS can be found on their website UCLS.org

WASHINGTON (LSAW) Ben Petersen and Desi Schilling - Current membership is 789, an increase over last quarter. The LSAW fall seminar will be held in Vancouver, WA. The 2024 Conference will be held at the Tulalip Resort & Casino. LSAW continues to publish the Evergreen State Surveyor magazine in both print and digital formats. The second edition of the Washington Common Law publication is now available for order from the LSAW website. LSAW is considering hosting an in-state Lobby Day. More information about LSAW can be found on their website LSAW.org

WYOMING (PLSW) John Lee - Current membership is 126. PLSW held a fall forum in November featuring Dennis Mouland. The University of Wyoming has in place a minor in land surveying and a land surveying certificate program. Information about PLSW can be found on their website PLSW.org

WFPS FUNDAMENTAL OF SURVEYING (FS) EXAM STUDY COURSE

WFPS online Fundamentals of Surveying (FS) Study Course includes approximately 16 hours of videos and a manual. The program not only helps to bring affordable study resources to future Surveyors but also generates revenue for our state association members. To date, WFPS shared over \$4000 in profits with our state association members. Information on the program can be found at WFPS.org

STEVE PARRISH CONTINUING EDUCATION LIBRARY

WFPS has captured over 18 hours of webinars with respected speaker Steve Parrish. The webinars are available to purchase as a full library or as individual modules. For those that require certificate of completion for continuing education, exams are available. Please check with your state licensing board to confirm that continuing education credit for self-study webinars. Information on the program can be found at WFPS.org

WESTFED EDITOR'S FORUM

WFPS continues to host an Editors Forum to share information and exchange ideas for building better magazines. For information, please email the WFPS Executive Office at admin@wfps.org

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SHERIDAN ASTRO REVISITATION

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



Astro GNSS obs

AS LAST REPORTED

The Sheridan Astro Station was last recovered by Todd Cedarholm, PLS, in November 2013 and reported in his article appearing in the October 2017 edition of our Lines & Points, volume 28, issue 4. His article describes the station established by Samuel S. Gannett of the U. S. Geological Survey in 1896 which was the origin of the triangulation arc commencing in Sheridan and extending to Jackson Hole, Wyoming; a multi-year campaign covering nearly 200 miles and crossing two mountain ranges and valleys.

The station bears NGS PID PW0418 and the current data sheet contains the ominous notation "Benchmark Presumed Destroyed" which is fortunately not true, either in 2013 or in 2022. The data sheet provides the NAD83 (86) scaled latitude as 44 48 20 N (dms) and longitude as 106 57 12 W and the NAVD 88 elevation (posted) as 3736.27 feet. Todd's article was more practical, stating it to be at the corner of East Fourth Street and Crook Street in Sheridan. USGS Bulletin 558, dated 1914, provides additional information appearing on

page 125 as "... at northeast corner of Crook and Fourth streets, 375 feet southeast of station, in top of brick pier; copper disk marked "U. S. Geological Survey" and stamped with approximate latitude and longitude..." with an elevation of "3,733.907 feet". Since Todd's article contained photographs of the station mark and the pier, I assured myself that a current (2022) recovery was probable.

THE MOTIVATION

As a Wyoming Land Surveyor, in private practice for two score and eleven years, and a member of the Wyoming Historical Society, the opportunity to personally recover such an historic geodetic station became compelling. That opportunity became reality with my attendance at the 102nd Wyoming Engineering and Surveying Society convention beginning on February 1, 2022. After revisiting the Fetterman and Phillips monuments on the trip from Thermopolis, I arrived in Sheridan by mid-afternoon and proceeded west along East Fourth Street to Crook Street, east of the BN&SF Railway Station Grounds, across from the famous Sheridan Inn and the historic



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railroad depot. The address of the residence to the northeast is 307 East Fourth Street. Sheridan Astro was again recovered, still in very good condition considering its advanced age and somewhat vulnerable location.

CURRENT RECOVERY

After pausing to reflect upon the historical significance and methodology of its geodetic position, I placed a “hand held” GNSS receiver on the copper alloy disk and with a 15 minute observation had a position that took Samuel Gannett well over a month to observe. During the observation, I took measurements of the disk, the sandstone capstone and the brick pier; then photographed the station and site. While accurate azimuth and latitude have always been relatively easy to determine; longitude, being time dependent, was much more difficult to determine. As Todd reported, the latter required a telegraphic link to an observatory of known longitude; and atomic clocks and GPS satellites were still nearly a century in the future. Thus Sheridan was chosen with a telegraph office at the railroad depot, for connection to the observatory at St. Louis, Missouri.

ASTRO STATION MEASUREMENTS

1. The disk - A standard USGS copper alloy disk, 4 ins. in dia., grouted into the center of the top of the capstone. Stamping is generally legible; standard USGS imprinting; minor damage.
2. The capstone - A dressed sandstone, 2.0 ft. east-west by 1.7 ft. north-south, the top projecting 2.8 ft. above the concrete sidewalk.
3. The pier - Mortared brick on concrete base, 1.7 ft. east-west (2½ brick courses) by 1.4 ft. north-south (2 brick courses) immediately north of the north edge of the sidewalk along Fourth Street. The center of the pier is 10¼ ft. east of the east edge of the sidewalk along Crook Street. The station is slightly south of the fenced yard.
4. NAD 83 (WAAS): Latitude 44°48'21.3" N, Longitude 106°57'05.7" W, NAVD 88 elevation. 3736.27 sft. (per NGS Data Sheet)
5. PLSS location - NW¼NW¼ Section 26, Township 56 North, Range 84 West of the Sixth Principal Meridian, City of Sheridan, Sheridan County, Wyoming. GLO Original Survey, approved Dec. 9, 1881.



ADDITIONAL INFORMATION

Upon my return to Thermopolis, I re-read Todd's acknowledgments and downloaded the WyoFile article titled "Wyoming monument to the middle of nowhere" by Angus M. Thuermer Jr., dated July 5, 2016. Based on an interview with Todd, the article provides additional information pertaining to the astronomic observations and subsequent triangulation arc which served as the geodetic foundation for the topographic maps produced by the U.S.G.S. The observations of selected stars at the astro station most likely began with determination of a true meridian (north - south line), followed by latitude using the Horrebow - Talcott method (passage of stars on the meridian), and finally longitude utilizing precise time via the telegraphic link for simultaneous observation of stars at the Sheridan station and the St. Louis observatory. All of these observations required precise instrumentation and highly skilled personnel over many nights, followed by rigorous computations (without electronic

calculators or computers) to accurately locate a point of beginning in "the middle of nowhere".

A direct comparison of numeric values is somewhat misleading due to different reference frames, methodologies, and instrumentation. According to the WyoFile article the reported positions are:

1896 by S. S. Gannett:
 Latitude, 44°48'31.10" North;
 Longitude, 106°56'45.21" West
 (Astro observation, Clarke Spheroid of 1866)

2013 by Todd Cederholm
 Latitude, 44°48'21.26463" North;
 Longitude, 106°57'05.48893" West
 (GPS RTK, NAD 83), WGS 80 ellipsoid).

Regardless of the numeric values, the Sheridan Astro station has occupied the same location on the ground since 1896 and continues to serve as a testament to those scientific surveyors / astronomers of the U.S. Geological Survey.



The NGS Data Sheet

See file [dsdata.pdf](#) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.16
Starting Datasheet Retrieval...

*** NOTE - The station below is presumed destroyed.

1 National Geodetic Survey, Retrieval Date = OCTOBER 7, 2023

PW0418 *****

PW0418 DESIGNATION - SHERIDAN ASTRO STATION

PW0418 PID - PW0418

PW0418 STATE/COUNTY- WY/SHERIDAN

PW0418 COUNTRY - US

PW0418 USGS QUAD - SHERIDAN (2017)

PW0418

*CURRENT SURVEY CONTROL

PW0418

PW0418* NAD 83(1986) POSITION- 44 48 20. (N) 106 57 12. (W) SCALED

PW0418* [NAVD 88](#) ORTHO HEIGHT - 1138.817 (meters) 3736.27 (feet) POSTED

PW0418

PW0418 GEOID HEIGHT - -13.307 (meters) GEOID18

PW0418 DYNAMIC HEIGHT - 1138.42 (meters) 3735.0 (feet) COMP

PW0418 MODELED GRAVITY - 980,226.1 (mgal) NAVD 88

PW0418

PW0418 VERT ORDER - * POSTED, SEE BELOW

PW0418

PW0418.The horizontal coordinates were scaled from a map and have

PW0418.an estimated accuracy of +/- 6 seconds.

PW0418

PW0418.The orthometric height was determined by differential leveling

PW0418.and adjusted by the NATIONAL GEODETIC SURVEY in 1992.

PW0418

PW0418.* This is a POSTED BENCH MARK height.

PW0418

PW0418.Significant digits in the geoid height do not necessarily reflect accuracy.

PW0418.GEOID18 height accuracy estimate available [here](#).

PW0418

PW0418.Click [photographs](#) - Photos may exist for this station.

PW0418

PW0418.The dynamic height is computed by dividing the NAVD 88

PW0418.geopotential number by the normal gravity value computed on the

PW0418.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

PW0418.degrees latitude (g = 980.6199 gals.).

PW0418

PW0418.The modeled gravity was interpolated from observed gravity values.

PW0418

| | | | | | |
|-----------------|---|----------|----------|-------|-------------------------|
| PW0418; | | North | East | Units | Estimated Accuracy |
| PW0418;SPC WYEC | - | 578,330. | 430,060. | MT | (+/- 180 meters Scaled) |

PW0418

PW0418_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCK455632(NAD 83)

PW0418

PW0418 SUPERSEDED SURVEY CONTROL

PW0418

PW0418.No superseded survey control is available for this station.

PW0418

PW0418_MARKER: V = STONE MONUMENT

PW0418_SETTING: 9 = SET IN PREFABRICATED CONCRETE POST IMBEDDED IN GROUND

PW0418_MARK LOGO: CGS

PW0418_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY

PW0418

| | | | | |
|----------------|---|------|------------|-----------|
| PW0418 HISTORY | - | Date | Condition | Report By |
| PW0418 HISTORY | - | 1896 | MONUMENTED | USGS |

PW0418

PW0418

PW0418

STATION DESCRIPTION

PW0418

PW0418'DESCRIBED BY US GEOLOGICAL SURVEY 1896

PW0418'BENCHMARK PRESUMED DESTROYED.

Editor's Note: Updated description and photos can be added to existing mark PID Datasheets within this database (without need of additional GPS observation) by visiting: <https://geodesy.noaa.gov/surveys/mark-recovery/index.shtml>

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Book Review

by: Herbert W. Stoughton, Ph.D., P.E., P.L.S., C.P.

of

William A. Richards: Diaries of a Frontier Surveyor in Nebraska and Wyoming.

by: Lucia McCreery

Red Bank Press: Brooklyn, New York

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ISBN: 979-8-9881016-0-4;

LCCN: 2023906349.

[paperback: 6 in. x 9 in.; 296 pages]

Price: \$26.95

This reviewer shall initiate this book review by ‘returning’ to a Wyoming secondary school in 1958 (an arbitrary date sentimental to the reviewer). In that (identified) school, a teacher for the course in Wyoming history is proctoring the final examination to a group of tentative graduates. In a series of columns on the examination are listed a number of jobs or job skills. Although not inclusive, the list included: attorney; bartender; blacksmith; carpenter; cook; cowboy; day laborer; dentist, doctor, engineer; farm hand; Federal employee; governor; horse wrangler; house domestic; lawman; local politician; lumberman/forester; merchant; miner; nurse; seamstress; surveyor; tailor; teacher; teamster; etc. The examination question was: “From the above list of jobs and skills, identify all paying jobs/activities done by William Alford Richards (b. 1849 - d. 1912) performed after his 18th birthday. Answer: attorney; cook; day laborer; engineer; Federal employee; governor; horse wrangler; local politician; surveyor; teacher; and teamster!

Who was William Alford Richards (W.A.R.)? Although born in Wisconsin (1849), after the American Civil War he eventually migrated to the Omaha, Nebraska, area seeking a way of making a living, not having found teaching a satisfactory career.

Enter Ms. Lucia Alice McCreery, the great-granddaughter of W.A.R. The nucleus of the information used to compile this work was collected from the family’s personal archives. These documents are the original diaries, or transcriptions compiled by W.A.R.’s daughter,

Just published!

From Wyoming’s own W. A. Richards

Join our future governor as he surveys for settlement of the West. Writing in camp, he vividly and often humorously records his hardships and challenges—

- As a fledgling surveyor laying out townships west of Omaha, 1869
- Surveying the rugged southern and western boundaries of Wyoming Territory, 1873 and 1874
- Exploring and homesteading in the Bighorn Basin, 1884 and 1885

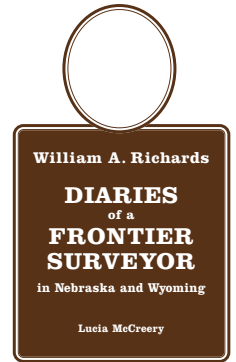
Plus technical explanations and essays by Dr. Herbert W. Stoughton and others • An essay with maps of Richards’s Nebraska surveys by Gene A. Thomsen, a Nebraska deputy state surveyor and historian • Paul Scherbel’s boundary corner remonumentation campaign • Biographical articles including Dennis Bland’s “W. A. Richards: Surveyor to Statesman”

- Richards’s dramatic published hunting stories and his revealing letters

By Lucia McCreery Red Bank Press®

Paperback 6” x 9” 296 pages 55 illustrations and photos, 22 in full color
30 maps and diagrams Available through bookstores and online retailers

For more about the book and Richards’s life and legacy
visit WilliamARichards.com



Eleanor Alice Richards McCreery, who served as the private secretary of Governor Richards. The documents, records, and memorabilia subsequently found their way into the Wyoming State Archives, American Heritage Center, and Ms. McCreery’s possession.

Ms. McCreery earned a B.A. in history and has been a journalist. These credentials serve as an impeccable foundation to saunter into the maze of historical archives and confusing research venues exacerbated by poorly designed and implemented indices. Frequently, novice researchers are frustrated by the impediments presented for them to collect historical facts. From what has been incorporated in this publication it appears that Author McCreery has been quite successful in her research journeys. This fact is documented in the ‘sources’ and ‘footnotes’. Serious historical researchers carefully inspect these sections as a potential grading tool for “the author doing his/her research”. After carefully inspecting the book’s “Sources and Notes”, this reviewer concludes that Ms. McCreery “did her homework”!

Inspection of the Table of Contents reveals definite planning and ordering of the volume's contents. For the most part, the work is ordered chronologically. After the "Introduction" information the volume is divided into six Parts; "Sources and Notes"; and "Index". Only Part 3 is not in chronological order of W.A.R.'s life. Part 2 contains the W.A.R. diaries written during the survey of the southern portion (1873) and western portion (1874) of the Wyoming Territorial boundaries. At this point, the reader has the opportunity to 'catch their breath' after reading about all the incidents, travails, and mishaps encountered in those two field seasons in the wilderness. Two incidents described by W.A.R. will highlight the 'mundane' life of a nineteenth century boundary surveyor. "The little black mule fell down a hill and landed heels up against a fallen tree - and if that had not stopped her she would have gone into the stream." And, "We're delayed by an accident to one of the mules (Dandy Pat) who tipped over backwards off a cliff forty feet high, made two complete revolutions lengthwise, and landed square on his back in the stream. Alighting upon the pack was all that saved his life, for it broke the force of the fall, also broke our large Dutch oven, busted a seamless sack containing sugar & 50 lbs. washed away, and smashed the pack saddle all to pieces . . . for I found that we must continue up this stream (which we now call sugar creek) . . .".

W.A.R. started his surveying career in central-western Nebraska performing chores around the survey camp, clearing the surveyor's sight lines, chaining, and other chores as assigned. It should be remembered that the areas being settled were devoid of any settlement, because Federal statutes outlawed settlement until the surveys had been executed and accepted in Washington. Therefore, a few teamsters hauling freight and wandering Native Americans hunting buffalo, migrating to seasonal camps, or occasionally looking to make mischief were encountered. Camps would be established and periodically moved to sites closer to where the surveyors were working. The field survey party was a self-contained organization containing a deputy surveyor, an instrumentman, chainmen, flaggers, a cook, and one or more roustabouts and wranglers. On smaller field parties, several of the assignments were

simultaneously completed by single individuals.

Ms. McCreery has faithfully collected, transcribed, and presented W.A.R.'s prose in an easy to read format. Although W.A.R. did not have any post-secondary education, and this reviewer is unaware of the highest level of primary-secondary education completed, from the initial diary entry (1 January 1869), the entries show a fundamental command of the English language, grammar, and punctuation. At times, W.A.R.'s entries were slightly terse, but under the circumstances and field conditions encountered it is acceptable and not derogatory in concisely recording the events.

Part 3 is titled: "Surveyors Trek Back to the Boundaries, 1906 - 2019". This is a welcomed interlude to the day-to-day field conditions encountered in 1873 and 1874. In a change of pace, Ms. McCreery has collected the stories of the search and recovery of the original multi-state corners (Colorado-Utah-Wyoming; Utah-Wyoming; Idaho-Utah-Wyoming; Idaho-Montana-Wyoming; and Montana-Wyoming). Ms. McCreery assignment was not to rummage through W.A.R.'s records, but to locate records and individuals in Colorado, Idaho, Montana, Utah, and Wyoming, who, over eleven decades launched campaigns to recover these corners for professional work and memorializing them for posterity.

Part 4: "Exploring and Homesteading in Wyoming's Bighorn Basin: 1884 and 1885" is a vastly different experience for W.A.R. The economic conditions of that era hampered W.A.R. and his contemporaries in finding satisfactory employment to support themselves and their families. Ms. McCreery skillfully assembles and describes the personal conditions and the societal/economic conditions in California, Colorado, and Wyoming in the 1880's. These four and one-half pages are well organized backdrops for the ensuing diary entries. This information was gleaned from letters W.A.R. saved and are now housed in the Wyoming State Archives. Ms. McCreery cited the value of these documents in filling in the details which were omitted in the diaries.

W.A.R.'s diary at this point is a mixed style of terse "bullets" and extensive narrative prose. Each style is acceptable to describe the encountered

events and observations. Having spent several occasions in the Big Horn Basin and along the western slope of the Big Horn Mountains, it was relatively easy to follow W.A.R.'s travels and excursions throughout the region. In this Part, author McCreery has skillfully researched, written, and inserted "bottom of page footnotes" which the reader can quickly access/read to dispel any potential editorial ambiguities. Although there are not the hair raising misfortunes that were encountered in the surveys in Nebraska and the southern and west boundaries of Wyoming, the information and daily routine required to carve out a homestead in the wilderness (Dessert Land Entry Claim Act) reminds the reader that pioneer life was quite different than the cinema and television depictions.

On page 208, we have a glimpse about train travel in the mid 1880's. It reads: "Left Rawlins at 12:30 A.M. Reached Cheyenne at 10:00 A.M., Reached Denver at 3 P.M." The UPRR distance between Rawlins and Cheyenne is about 150 miles. This would indicate an average speed of about 16 m.p.h.! However, undoubtedly, there would be a train stop at Laramie for passengers,

refueling, and possibly a crew change. The trip would continue with a long, steep climb from the Laramie Plains (elevation about 7,500 ft.) up the west side of the Sherman Mtns. to their summit (about 8,250 ft.) in about 20 miles, which also is the highest point on the entire UPRR. With a possible one hour layover in Cheyenne, the four-hour trip of 100 miles to Denver would average about 25 m.p.h.

Part 5 is "Related Letters and Stories". The contents of this section are not diary excerpts, but a "sweet dessert" for a bountiful meal. Of the ten entries, eight were authored by W.A.R. about hunting. But, the tenth is Gifford Pinchot's recollection of a W.A.R. narrative. One story was published in *Forest and Stream* (1885); two stories were published in *Recreation* (1896) and (1897); and four stories published in various newspapers around the country (*L.A. Times*; *The Pioneer*, Bemidji, MN). This last group of stories describe were stories about hunting in Wyoming.

Part 6 is "Appendix". To many historical authors, appendices are some form of literary after-thought or attempted explanation of material

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to be considered important, but relegated to a “railroad siding” for those readers curious about the details. This appendix authors addressed surveying matters which took place in Nebraska and Wyoming.

Mr. Gene A. Thomsen, a Nebraska State Deputy Surveyor (retired), searched the State Surveyors’ Office in which are housed the original plats and field notes (and other administrative documents) of all the G.L.O. surveys and resurveys pertaining to Nebraska. Mr. Thomsen assembled six maps, which accurately depict the originally published information, and contain annotated information in various colored inks delineating various aspects of the Nebraska surveys of township boundaries and the subdivision of the townships. Furthermore, the associated text and illustrations’ captions clearly identify the appropriate diary entries to lay readers for a better understanding of the areal extent of W.A.R.’s activities and the associated events.

Following Mr. Thomsen’s presentation are two and one-half pages describing the fundamental instruments (instrumentation), not called ‘tools’, employed on various aspects of the surveys. These pages are subdivided into “Instruments Listed in the 1873 Boundary Survey Field Notes” and “Instruments Listed in the 1874 Boundary Survey Field Notes.”

The remainder of this appendix addresses a number of technical topics concerning surveying procedures, instrumentation, etc., by Dr. Herbert W. Stoughton. Since the early 1960s, Dr. Stoughton has conducted historical research of G.L.O. surveys performed in Michigan (1815 - 1855); Southern California (1850 - 1900); Colorado (1880 - 1920); Montana (1880 - 1920); and Wyoming (1870 to present). One of his technical assignments was evaluating historical astronomical observations and being project manager for developing new astronomical instrumentation (while working for the Dept. of Defense). The topics addressed are titled: (1) “Flagstuffs, Stadia Rods, and Other Sighting Targets”; (2) “Classical Spherical Trigonometry”; (3) “Mound Building”; (4) “The Tangent-Offset Method for Surveying a Parallel of Latitude”; and (5) “Astronomical Azimuth Observations/Determinations”.

The ten pages of the “Sources and Notes” are clearly presented and conform to the highest standard of “scope of information”. If the reader decides to inspect the original source, adequate information has been provided to launch a search. Inspection and study of this section reveals to this reviewer that the author has expended an enormous effort providing the reader with primary and valid background information for follow-on study.

Interspersed throughout the volume are numerous illustrations. Some dating from the nineteenth century. One illustration which is very impressive is a portion of the map of the west boundary of Wyoming, between M.P. 142 and M.P. 170. On the left side is the actual map, with hachures depicting the topographic relief. On the right side is a profile of the terrain along the actual boundary. Along this profile are the reference “datum” elevations for various sections of the boundary (6,000, 8,000, and 7,000 feet (above sea level)). Just south of M.P. 160, the elevation is 10,358 feet (about ten miles north of the Snake River). At M.P. 170, the elevation is 9,800 feet. Between those two locations, there are several “peaks” and “valleys” separated by differences in elevation exceeding 1,000 feet! Ms. McCreery has judiciously selected supporting illustrations, and has appropriately placed them throughout the manuscript.

Many times works of this nature have been written to state a specific philosophy or agenda. From the first pages it is evident that this publication is a labor of love and documentary of factual events. In summary, this work is an invaluable contribution to both Wyoming history and historical Americana. It probably will not make the New York Times best seller list, but this work is a good read!



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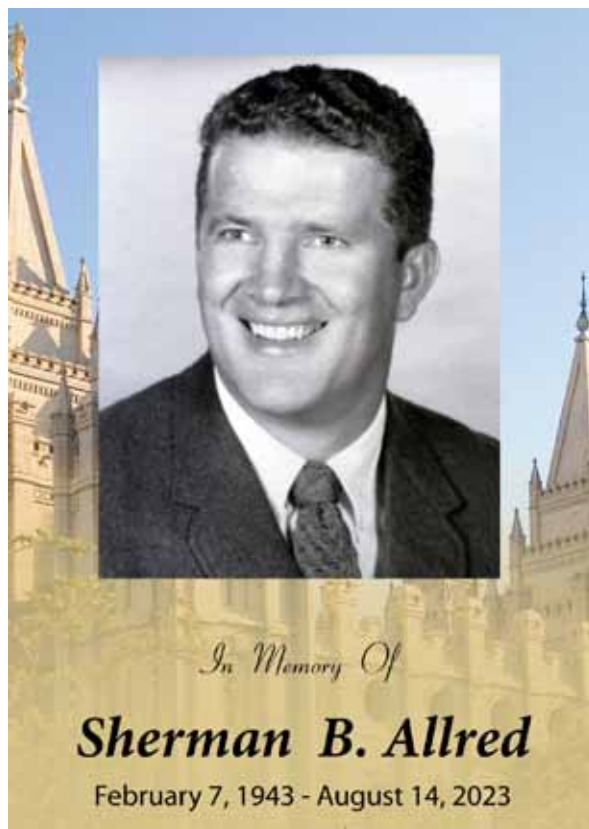
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Sherman B. Allred, 80-year-old former Basin resident, passed away on August 14, 2023 in the home of his son with his loving family by his side. Sherman was born on February 7, 1943 in Worland, Wyoming, the oldest of four children born to Howard Zeller and Shirley May (Schulze) Allred. Sherman's mother passed on Christmas weekend of his Senior year of high school from injuries sustained in a car accident. Sherman played numerous sports as well as doing some rodeo. As the oldest child, he honored his mother and father (who died in 1975) by showing a deep and abiding love for each of his siblings. He accepted an appointment to the United States Air Force

Academy for the graduating class of 1966, but later resigned his commission in 1963 with a honorable discharge and finishing his service obligation in the United States Army Reserve. During this time, he was called to active service in New Orleans before the Bay of Pigs deescalation. Sherman met Rebecca Straight in Basin in January of 1966 at a barbeque. After 3 dates, Sherman and Becky were engaged and married on March 11, 1966. Just after they were married, they went on a walk to get the mail in Basin at which time he pulled out his service card letting Becky know that if called, he had 48 hours to report for service. Following his graduation with Becky from Chadron State College, Sherman taught 3 years of middle school math in Ten Sleep. His younger son later met one of his middle school math students in the early 2000's at the Nevada National Security Site, this was discovered by learning they were both from Wyoming and had lived in Ten Sleep. Sherman's former student had remembered him and was grateful to his teaching as he (the student) had gone on to get his Electrical Engineering Degree. During this period, Sherman along with help from his Dad built a house for his family in Ten Sleep with all the business transactions occurring by the shaking of hands, no contracts (his word was his bond). Summers and breaks were spent with Becky's parents and family on a Ranch in Hyattville. Although Sherman clearly made an impact as a teacher, he found he far more enjoyed working for the Highway Department during



the summer learning civil engineering. He then went to work for an engineering firm. His work was seen in his commitment to his faith, family, and job. Although he did not have an engineering degree, through his education in math Sherman would get up every morning at 2:00 AM before work to study with success by earning and maintaining the Professional Engineer License. Sherman also earned and maintained a Professional Land Surveyor License. He also served as a leader in the State Engineering Association, and at the chapter level for the Wyoming Land Surveyor's Association. Sherman was active in the community serving as a Branch President,

in numerous bishoprics, 7 years as a Bishop, and as a Stake High Councilor for The Church of Jesus Christ of Latter-day Saints with occasional work in other callings from 1972 to 2015. Sherman was also active in the American Legion and served as the Legion District Commander for a period of time. He was surrounded by his entire posterity during the most recent 4th of July holiday. It has been said of Sherman and Becky through their lives together and service that you never see Sherman without Becky nor Becky without Sherman. It was with her in the early morning that he gave one final smile and tear to let Becky know his Spirit was leaving it's mortal tabernacle. Their's is a love story for the ages which will continue through the eternities. He was preceded in death by his parents. Survivors include his precious wife, Becky; sons, Enoch (Janell) Allred of Casper, Wyoming and Eric (Andrea) Allred of Saratoga Springs, Utah; eight grandchildren: Ashley (Mike) Bryant of Casper, Josh Allred of Casper, Melissa (Forrest) Hammeran of Springville, Utah, Daniel (Miriam) Allred of Rexburg, Idaho, Allison Allred of Millville, Utah, Lauren (Grayson) Schmalz of Provo, Utah, Jacob Allred of Saratoga Springs, Alyse Allred of Saratoga Springs; six great-grandchildren: Teagen, Layken, Adelaide, Lilly, Oliver, Aiden B.; brothers, Bob (Cora) Allred of Sheridan, Wyoming, Tom (Deanna) Allred of Worland, Wyoming; sister, LeAnn (Bud) Fogglin of Shepherd, Montana and numerous nieces, nephews and cousins.



Don A. Davis

April 5, 1952 – April 18, 2023

Don A. Davis, 71, a man of many nicknames, left this world for his eternal yurt on April 18, 2023, in Casper, WY. His family was by his side, recalling memories and listening to his favorite music.

Don was born in Oregon to Fred and Hazel Davis. Don was the oldest of five, with all the qualities of a firstborn child. His family settled in Casper where he began establishing his legacy, graduating from Natrona County High School (with only a few marks on his permanent record) and pursuing a successful professional journey.

Don knew Randisue in high school, but their stars didn't align until after graduation. They married, Randisue being his voice of reason, the yin to his yang, and they created a beautiful family and life together. Kelly, Brianne, and Alicyn softened his edges and brightened his eyes. The Fab Five enjoyed many camping trips, creating memories for years to come. Don was blessed with three sons (in-law), always exclaiming "Son-in-laws: they kiss your daughters and drink your beer!"

Don's real joy came from his grandchildren. Spending weekends on his mountain, turning grandsons into men. Afternoons were spent with ATV and dirt bikes rides, cooking in the dutch oven, and hiking with his various walking stick creations. He was a presence at band and choir concerts, sporting events, and Sunday dinners, but drew the line at recorder concerts.

After four decades, Don retired as president from WLC, which he jokingly referred to as, "a land surveying company with engineers." Don and Randisue enjoyed many retirement vacations across the country on walkabouts to visit national forests, parks, and battlefields. His biggest retirement project, though, consisted of planning, designing, and building a yurt at his retreat on Casper Mountain. He gathered family together for a roof-raising ceremony in 2018. His fire pits were his glory and getting his whole family together on the mountain was his euphoria. Winters didn't stop his enjoyment of Casper Mountain. At his last tally mark, he had 214 snowshoeing expeditions since he started recording, with an average of 70 each season.

Don is preceded in death by his parents, step-mother, Violet Davis, and beloved samoyeds Moon, Kheta, and Bailey.

Don leaves behind Randisue, his wife of nearly 46 years, three daughters: Kelly (Jeff) Hover, Brianne (Ken) Watkins, and Alicyn (Josh) Dugan, eight grandchildren: Trent (Rylee) and Brady, Abigail, Benjamin and Charlotte, and Grace, Asher, and Eliza, two great-grandsons: Gentry and Jensen, his brothers Jim and John, sisters Julie and Melissa, nieces, nephews, and a plethora of lifelong friends that were more like family.

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- Don Davis.



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