

IN THE COURT OF APPEALS OF THE STATE OF OREGON

JOSEPH DYKES
and ZAN DYKES,

Appellants - Cross-Respondents,

v.

JOE D. ARNOLD,
Trustee for the Arnold Living Trust,

Respondent - Cross-Appellant.

015185; A121699

Appeal from Circuit Court, Lincoln County.

Charles P. Littlehales, Judge.

Argued and submitted October 6, 2004.

Michael C. Petersen argued the cause for appellants - cross-respondents. With him on the briefs was Heltzel, Upjohn, Williams, Yandell, Roth, Smith & Petersen, P. C.

Dennis L. Bartoldus argued the cause and filed the briefs for respondent - cross-appellant.

Before Haselton, Presiding Judge, and Linder and Ortega, Judges

LINDER, J.

Affirmed on appeal and cross-appeal.

LINDER, J.

Plaintiffs and defendant, who own several adjacent lots in a rural area in Lincoln County, dispute the location of one of their boundary lines and, as a result, the ownership of a strip of property. Plaintiffs brought this ejectment action seeking possession of the disputed strip. In addition to their claim for ejectment, plaintiffs also sought a declaration that they had a permanent easement to draw water from a spring on defendant's property. Defendant counterclaimed to quiet title in his favor on the basis that he was the fee owner of it.⁽¹⁾

Relying principally on the testimony of defendant's expert surveyor, the trial court agreed that the boundary was where defendant claimed and that the disputed property belongs to him. The court therefore dismissed plaintiffs' claim for ejectment and quieted title to the property in defendant. The trial court also declared that plaintiffs have a perpetual easement to draw water from the spring on defendant's property. Plaintiffs appeal, challenging the trial court's conclusion that defendant owns the disputed strip of land.

Defendant cross-appeals, asserting that the trial court erred in granting the easement to plaintiffs. We reject defendant's cross-appeal without discussion. On plaintiffs' appeal, for the reasons we explain below, we affirm.

I. THE DISPUTE

The parties own a total of 12 parcels of property (lots) that lie around the center of a segment of land that is most easily referred to as "section 12" in Lincoln County.⁽²⁾ This particular controversy involves four of those lots--three owned by plaintiffs and one owned by defendant. Although the following diagram is not to scale and is not precise in the shapes of what it depicts, it illustrates the basic "lay of the land" involved in the general area of the dispute.

[Map 1](#)

Defendant owns lot 1401, as well as property north, east, and northeast of that lot (indicated in a general way by the lighter shaded areas). Plaintiffs own lots 1400, 1402, and 1403 that border lot 1401 to the south, as well as other property to the south and east of those lots (the latter indicated by the darker shaded areas). A county road--Tomjack Road--runs through the area and borders several of the parcels.

The crux of the dispute is over the location of the center of section 12. The deed for lot 1401 specifies the center of section 12 as the beginning point of the lot's boundaries. From that beginning point, pursuant to the deed's metes and bounds description, the boundaries basically run west, then south, then east, then north back to the starting point--that is, back to the center of section 12.⁽³⁾ Thus, the description puts the northeast corner of lot 1401 at the center of section 12 and sets all of the other boundaries by specific distances and directions from that point. The property descriptions to plaintiffs' tax lots 1402, 1400, and 1403 either start at the center of section 12 or have calls to the south line of tax lot 1401. The parties therefore agree that the disputed boundary between their respective lots depends on identifying the location of the southern boundary of lot 1401, which in turn depends on the location of the center of section 12.

As we discuss in greater detail later, the parties each commissioned a licensed surveyor to locate the center of section 12 and, based on that location, to identify the southern boundary of lot 1401. The two surveyors took dramatically different approaches to the task. Defendant's surveyor, Nyhus, aware that the center had been surveyed and marked ("monumented") in 1899 by the Lincoln County Surveyor, attempted to locate the center as set by that survey. He believed that he succeeded and that the section's center, as set in 1899 by the county surveyor, Derrick, coincided with the accepted boundary lines in the area as reflected by the deeds, county road location, fence lines, and lines of occupation of the last 100 years. Plaintiffs' surveyor, Denison, made no effort to retrace that prior survey because he thought it was flawed in its methodology. He therefore set out to locate the center anew, using the legally prescribed methodology and modern survey techniques and disregarding any evidence of the boundaries as reflected in the deeds, fence lines, county road location, and lines of occupation.

Plaintiffs' survey yielded different results. Plaintiffs' surveyor placed the center of section 12 about 71 feet northwest of where defendant's surveyor placed it. That, in turn, would mean that the southern boundary of defendant's property was north of where defendant and his predecessor in interest believed it to be, an approach that would make plaintiffs the fee owners of the disputed property. The following not-to-scale diagram illustrates how the boundaries of lot 1401 would shift, depending on which survey is deemed correct.

[Map 2](#)

II. BACKGROUND

With that description of the dispute as context, we turn to a more detailed examination of the facts and circumstances that bear on its resolution. In particular, we describe early surveys of section 12 during the late 1800s, beginning with an overview of the system that the federal government used for those surveys. We then discuss the original conveyances of property in section 12 from the federal government to private parties; several of the subsequent conveyances involving property and easements in the area; evidence pertaining to fences and other potential lines of occupation; and evidence about where long-time residents in the area have understood the center and center lines of section 12 to be. We also further examine the surveys made by the parties' experts, Nyhus and Denison, and their conclusions as to the location of the center of section 12. Our review of the record is *de novo*. See *Nedry v. Morgan*, 284 Or 65, 67, 584 P2d 1381 (1978) (ejectment claim is an action at law, but granting an equitable counterclaim to quiet title makes appellate review that of an equitable decree). To the extent that the facts are disputed or the parties disagree about what inferences should be drawn from certain facts, our description is based on the facts and inferences that we find persuasive.

A. The method of subdividing lands for conveyances from federal government ownership into private ownership

As is true of all land in the United States north of the Ohio River and west of the Mississippi River, title to land in Oregon was originally vested in the federal government, and much of it was conveyed into private ownership pursuant to federal land "patents," or grants, issued by the General Land Office (GLO). Before the federal government would transfer title through those original grants, the land first had to be surveyed by a federal government surveyor. Once surveyed, a plat of the survey, together with the surveyor's field notes, had to be filed with and approved by the federal government.⁽⁴⁾

The surveys were made using the "rectangular survey system," which divided the land into a grid-like pattern of increasingly small squares. Starting with an initial reference line called a "meridian," the first level of the grid was formed by the intersection of "township" lines running north and south with "range" lines running east and west. The intersection of those lines formed squares that were six miles on each side, called "townships." Townships were then subdivided into "aliquot" parts--which means "[c]ontained in a larger whole an exact number of times; fractional[.]" *Black's Law Dictionary* 81 (8th ed 2004). In particular, a township was subdivided into 36 one-mile squares called "sections," each with an area of 640 acres. The sections were assigned a number from 1 to 36, starting in the upper right-hand corner of the township and continuing alternately left and right down the sections, with the square in the lower right hand corner assigned the number 36. Thus, on paper, a subdivided township looked generally like this:

[Map 3](#)

The rectangular survey system also contemplated the potential subdivision of sections into aliquot parts, in part to make the land more affordable for settlers buying it on a per acre basis. Sections were subdivided into quarters of 160 acres each, referred to as the northwest quarter, northeast quarter, southwest quarter, and southeast quarter. The quarters, in turn, could be subdivided into half-quarters of 80 acres and quarter-quarters of 40 acres. Quarter-quarters were the smallest unit of land for which the federal government would issue a grant. Once land passed into private ownership, landowners were free to subdivide it further and sell it in lots of whatever acreage and shape they chose.⁽⁵⁾ The following map illustrates the sizes of the possible aliquot parts of a section:

[Map 4](#)

The physical work of measuring and marking the boundaries of townships and sections "on the ground" was done by surveyors employed by or under contract to the federal government. In the late 1800s, when the federal surveys were made of the land at issue in this case, the work was accomplished using compass bearings and chains to locate, measure, and mark the boundaries for the sides. The chains were 66 feet

long. "Eighty chains," laid length to length, totaled a mile. Surveys were performed by crews of at least two who would measure the boundaries by starting at a fixed beginning point, walking the chain along a compass bearing until it reached its length, placing a temporary marker at that position, and then walking the chain another 66 feet, placing another temporary marker, and so on. After doing that 80 times, the crew successfully would have marked off a mile.

The federal surveyors also physically marked, or "monumented," the corners of the sections, often using stakes or posts. Halfway between the corners, along the outside boundaries of each section, the federal surveyors also set marks at what are known as the "quarter corners." The federal survey did not mark the interior boundaries of a section or the center of a section. Rather, the center lines were drawn on the survey plat through projection, thus providing the boundaries for the quarter sections (160-acre parcels) on paper only. The interior boundaries for the smaller aliquot parts (half-quarter and quarter-quarter parcels) were not projected, however. As a result, a plat of a section as surveyed by the federal government, together with the monumented corners, looked much like this:

[Map 5](#)

Where the federal government's work left off, the local government's work began. The federal government's objective was to be able to accurately describe the land with as little surveying as possible, and then convey the land into private ownership. Walter G. Robillard & Lane J. Bouman, *Clark on Surveying and Boundaries* § 4.05, 111 (7th ed 1997) (*Clark on Surveying*). As a result, the federal government surveyed a section's exterior boundaries only; the interior survey work customarily was left to be performed by local officials:

"[T]he county surveyor played an important part in the development of America. It was intended that he would complete the identification of the individual parcels or aliquot parts of the sections after the federal government surveyors created the sections and the land went into private ownership."

Id. § 2.13 at 55. Most states therefore provided for an official local surveyor whose duty was to survey the lands for individual ownership, usually at the landowner's request and expense. *Id.* § 2.13 at 55-56; § 4.05 at 111. Over time, as the lands came into private ownership, thousands of miles of interior boundaries and their necessary corners were surveyed by official local surveyors and their deputies. *Id.* § 2.13 at 55-56.

Not surprisingly, those surveys of the 1800s were not models of precision. The challenges involved were substantial: the surveying equipment and chains were heavy and by some standards "inferior"; the chains could become worn and less exact; the terrain was often rough, steep, and densely forested. *See id.* § 4.05 at 111. Frequently, the crews took shortcuts of various kinds, rather than follow to the letter the technical instructions prescribed by the federal government. Those problems, and more, injected large inaccuracies into the initial surveys. But, although the means and the methods seem crude by today's standards, the achievement of so systematically surveying some 1.5 billion acres of the land north of the Ohio River and west of the Mississippi River was a remarkable accomplishment in its time and remains so today.⁽⁶⁾

B. The early surveys and conveyances of land in section 12

Section 12 was first surveyed by George Mercer, a federal surveyor. He performed the work in two stages. His field notes indicate that, in 1867, he set the northeast corner of section 12, then proceeded to the southeast corner, and set the east quarter corner midway between those points. He then returned to section 12 in 1870 and completed the survey by marking the remaining corners and quarter corners. As was customary, he did not survey the interior boundaries or set the section center. Instead, he surveyed only the exterior boundaries and monumented, with stakes, the four corners and four quarter corners around the section perimeter. That same year--1870--Mercer's survey plat covering section 12 was filed and accepted by the GLO, thus permitting the land to be conveyed into private hands.

The first grant of land in section 12 to private ownership was made in 1876. The GLO conveyed the full southwest quarter of the section--which includes the property and boundaries in dispute in this case--to Eugene Adams. The conveyance described the land as the "South West quarter of Section Twelve" according to "the official plat of the survey of said land returned to the General Land Office by the Surveyor." In 1876, the southeast quarter was conveyed to Thomas Adams (possibly a relative of Eugene Adams).

No other land grants in the section were made for several years. Eugene Adams evidently conveyed his entire interest in the southwest quarter to C. H. Williams sometime before 1897. Then, in 1897, C. H. Williams conveyed his interest in the "southwest quarter" to David H. Williams.

Two years after that conveyance, in April 1899, the Lincoln County Surveyor, Z. M. Derrick, performed what is the first recorded survey of the interior of section 12. His field notes reflect that he performed the survey for a landowner identified as D. Williams--*i.e.*, David H. Williams, the then-owner of the southwest quarter.⁽⁷⁾ Derrick had performed surveys for the federal government before becoming the Lincoln County surveyor and, to this day, is regarded as one of the best surveyors in Lincoln County's history. As part of his survey of section 12, Derrick located the center of the section and marked it with a 4" x 4" redwood post that he drove two feet into the ground. The parties' surveyors who testified in this case did not agree, based on Derrick's notes, exactly how Derrick determined the location of the center of section 12. Based on the surveyors' testimony and our own best efforts to review Derrick's notes, however, it appears that he set the center by starting at the east quarter corner, chaining across to the west quarter corner, then back to the center. Derrick did not locate the line of intersection between all four of the opposing quarter corners. The difference in technique is illustrated below:

[Map 6](#)

By marking the center at the mid-point between two quarter corners, rather than at the intersection formed after running lines between each of the opposing quarter corners, Derrick took a short-cut called "stubbing in." Although "stubbing in" was not authorized and often led to inaccuracy in the surveys, it was a common practice in those days.⁽⁸⁾

C. The subdivision of the southwest quarter and the first deeds referencing the center of section 12

The remainder of the land in section 12 was conveyed from the federal government to private parties in the years that followed.⁽⁹⁾ David Williams, who had requested the Derrick survey, sold his full interest in the southwest quarter to the McBee family in 1922. The conveyance described the property simply as the southwest quarter of section 12, without reference to the original Mercer plat or to the Derrick survey. The McBees were the first owners of the southwest quarter to subdivide it and convey it to other owners. All of the lots in dispute in this case originally were part of a larger, irregularly shaped parcel in the northeast corner of the McBees' quarter section that they conveyed to the Hazeltons in 1926. Apparently, that was the first deed to make a specific "call" to the center of section 12. The description began at "the center of section 12" and then, using metes and bounds, described the directions and lengths of the parcel's various boundaries, coming back to the beginning point. The deed did not refer to the Derrick survey or Derrick's redwood post monument. Nor did it refer to any other measure for the center of the section, such as the "geological" center of section 12. It called, merely, to the "center of section 12."

The parcel of land created by that conveyance from the McBees to the Hazeltons contained all of the lots at issue in this case, plus some land to the south of the road. On a map, it looked generally like this:

[Map 7](#)

Subsequent conveyances of the parcel--first to other members of the Hazelton family, and then to the Grays--used the identical description. Thus, each ensuing conveyance began and ended the property's boundaries at the center of section 12.

The next event of note took place in 1931. By then, the McBees had subdivided and sold off several portions of the southwest quarter. That year, the Grays and three other owners of lots in the southwest quarter deeded portions of their property to Lincoln County for Tomjack Road. A total of six conveyances were required. Each of the six identified the property being conveyed to the county through deeds that began their descriptions by references to "the center of section 12." The location of Tomjack Road therefore was dependent on the location of the center of section 12.

The details of the next several conveyances involving the property in dispute are not important to this case. The Grays subdivided their parcel further and sold those lots, but the portion that they retained included all of the property involved in this dispute. Of some note is that the McBees (who had originally sold the parcel to the Hazeltons) issued a correction deed to the Grays to cure an error in the description. In doing so, the new description used Tomjack Road as marking a portion of the western boundary of the parcel. Eventually, the Grays conveyed the land that they retained to family members, who in turn conveyed it to the Fishers in 1968. Each of those conveyances used the center of section 12 as the beginning reference for the parcel's description. And each identified the location of Tomjack Road in relation to the parcel's boundaries.

D. The creation of lots 1401, 1402, and 1403 by the parties' common predecessor in interest

From 1968 to 1977, the Fishers retained the full parcel conveyed to them by the Grays, which, to reiterate, included all of what later became the lots (1400, 1401, 1402, and 1403) involved in this dispute. The Fishers thus were the parties' common predecessors in interest.

The Fishers created lot 1401 and sold it to defendant in 1977. Defendant wanted to buy that section of the Fishers's property because it abutted property to the north that defendant's family owned. Defendant approached the Fishers and asked them to sell him a strip of land approximately 350 feet wide and 100 feet deep along the northern boundary of the Fishers' property. The Fishers agreed. Defendant and Mr. Fisher then walked the property to identify the boundaries of the parcel to be created and sold to defendant. A fence post marked what the Fishers and defendant's family had long believed to be the center of section 12. A fence line ran west from that post, marking what the two families believed was the boundary between the Fishers' property and defendant's family's property to the north. Another fence line ran south from the post and had long been treated as marking the boundary between the Fishers' property and the property to the east. Starting at the fence post--which they believed marked the center of section 12--defendant and Mr. Fisher measured the property lines for what would become lot 1401. No survey was made of the property. Instead, defendant went to the Lincoln County Surveyor, who drew up the legal description for the conveyance based on Mr. Fisher's representation that he wanted to sell the northernmost 100 feet of what was then tax lot 1400 to defendant. The surveyor prepared the deed based on the property description for the Fishers' tax lot and the measurements that Mr. Fisher provided. Thus, as did the description in the Fishers' original deed, the description for the deed to the newly created lot 1401 began and ended at the center of section 12.

The next year, the Fishers sold the remainder of what they owned to the Browns. That deed, like the others in the chain of title, used the center of section 12 as the starting point of the property and included a specific call to Tomjack Road at a specified distance west from the center. But it also expressly exempted the property conveyed to defendant in 1977. While the Browns owned the property, they subdivided it into lots 1402 and 1403, leaving a smaller lot 1400. Through three conveyances made in 1990 and 1992, the Browns sold those three lots to plaintiffs. Each deed either began the property description at the center

of section 12 or specifically referenced the south boundary to tax lot 1401 and included a call to Tomjack Road at a specified distance west from the center.

E. The understanding of long-time local residents

Defendant, as well as defense witness Cody Alvin Gray, both lived on properties bounded by Tomjack Road in section 12 while they were growing up in the 1950s and 1960s. As earlier noted, the Gray family at one point owned the parcel of land that included all of the lots involved in this dispute. Cody Alvin Gray was a member of that family and grew up on that land. He was 54 years old at the time of trial and had lived in the area throughout his life. He also had relatives who lived on other parcels in the southwest quarter.

Cody Alvin Gray testified that, as he was growing up, an old fence ran south from the center of the section and that a square wood post was located at the center of the section. His father had told him that the fence was important, because it was what separated the four properties that met at the center of the section. Gray specifically understood that post to be where the four quarters of section 12 met. Although the fence was no longer standing, remnants of it could still be found in the area.

Defendant's testimony was similar. As he was growing up, defendant's family lived on the property directly northeast of the center of the section 12. The center of the section marked where defendant's family's property and the Grays' property met. A fence post in that area was the accepted "corner" for both lots, and a fence running south from that post was the understood boundary between the Grays' property and the property to the east.

F. The Nyhus and Denison surveys

That brings us to the present time and the current dispute and, more specifically, to the competing surveys presented by the parties. As we noted at the outset, the parties' surveyors approached the task of identifying the center of section 12 with different objectives. Nyhus, defendant's surveyor, after discovering that the center had been surveyed and monumented in 1899 by Derrick, set out to locate Derrick's center. Using Derrick's notes, together with the lines of occupation as shown by old fences, and the placement of the county road, Nyhus focused on a three-foot diameter circle as the probable location where Derrick had placed the center. He carefully removed the topsoil in that area and found a square stain of dark wood organic material that tapered to a point roughly one foot down, which he concluded was the remains of Derrick's redwood center post. Nyhus was satisfied that he had found the remains of Derrick's original redwood post. In retracing Derrick's steps, Nyhus was also satisfied that Derrick had used Mercer's original corners and quarter corners in making his survey. Nyhus therefore used the Derrick center as the center of section 12 for purposes of locating the disputed boundary line between plaintiffs' and defendant's lots. Nyhus concluded that the center of section 12 was where defendant and his predecessor in interest, who had originally created all of the lots in question, believed it to be.

Plaintiff's surveyor, Denison, took a different approach. He concluded that Derrick's survey should be disregarded because Derrick had not used what was then--and still is--the legally prescribed method for measuring to the center of a section. That is, Derrick had "stubbed in" to find the center, rather than running east-west and north-south center lines between the opposing quarter corners and then placing the center at the point where the two lines intersected. Because no other recorded survey in the nearly 100 years since had attempted to locate the center of section 12, Denison approached it as though the center of the section had never been identified by any authoritative survey. He therefore located the center anew, using the legally prescribed methodology and modern survey equipment. According to Denison's survey, the center of section 12 should be located about 71 feet northwest of where Nyhus located it.

As earlier described, based on Denison's survey, the boundary between plaintiffs' and defendant's properties is substantially north of where the Fishers and defendant thought they were creating it. As a result, lot 1401, if located based on the Denison center, is not where defendant and the Fishers intended it to be, because the center of the section is not where they thought it was. If the Denison survey were controlling on where the boundaries are, plaintiffs would then own the disputed strip of land.

But that conclusion has more fundamental implications as well. As Nyhus testified, Denison's center, if legally controlling, would result in a kind of boundary "chaos" throughout the area. If the Denison center were used for every deed and easement that had, over the years, made a specific call to the center of the section, the legal boundaries for property throughout the area would not coincide with the lines of occupation. Tomjack Road would not be where it should be, based on the deeds conveying the property to the county. Fences that had long been treated as running on boundary lines between parcels would be well off of those boundary lines. Driveways would be out of place. Tomjack Road would be in the wrong place. And at least one property owner's house would no longer be on his lot, but would sit in the middle of where Tomjack Road should be located. The map below shows in a general way how boundaries would shift if Denison's center were legally controlling.

[Map 8](#)

Treating Derrick's center as the center of section 12, in contrast, would not create that same confusion or chaos. Rather, the legal boundaries would coincide--within expected tolerances--to the boundaries suggested by such things as the lines of occupation, the location of Tomjack Road, and the fence lines and their remnants.

III. LEGAL ANALYSIS

The central dispute between the parties boils down to which of the two surveys--Nyhus's or Denison's--legally controls. In that regard, the parties' positions have a common starting point. The parties effectively agree that the controlling inquiry in determining the boundary line between their properties is "to ascertain and give effect to the intentions of the parties [to the deed], as evidenced by the language of the [deed of conveyance] and the circumstances attending its execution." *Wirostek v. Johnson*, 266 Or 72, 75, 511 P2d 373 (1973). That is, the parties agree that we need to construe the deed to lot 1401 with the aim of determining what was intended by the language "the center of section 12."

From there, however, the parties' positions sharply diverge. Plaintiffs argue that "there is no deed here that specifically refers to the Derrick Survey, the marker purportedly set by Derrick, or any other monument purportedly set at the center of Section 12. Consequently, that point must be located according to applicable survey law." In other words, plaintiffs contend that, as a matter of law, the reference in the deed to the center of section 12 must be deemed a reference to the center as a correct survey would locate it. Plaintiffs further argue that, in setting the center of section 12, Derrick did not follow applicable survey law and that Derrick's center is therefore a legal nullity. Plaintiffs thus maintain that, because Denison's survey located the technically correct center of the section pursuant to "applicable survey law," and because Nyhus's survey merely retraced Derrick's arguably invalid one, Denison's survey, not Nyhus's, must be used to determine the correct location of the disputed boundaries.

Defendant takes issue with the proposition that the deed's reference to the center of section 12 legally must be understood to mean the center of the section as a modern and technically correct survey now would set it. Rather, according to defendant, that language is ambiguous and could mean either the "mathematical" center of the section or the center as it had been marked on the ground by Derrick and perpetuated by the fence post in the ensuing years. Defendant argues that the flaw in Derrick's survey methodology does not, as a matter of law, defeat reliance on the center that he set, and that the collateral evidence amply establishes that, in fact, the fence post that perpetuated the location of the Derrick center

was relied on to create the boundaries to lot 1401. Thus, according to defendant, the Nyhus survey, which located and restored the Derrick center, should control.

A. *The intention of the parties to the deed*

With regard to whether the deed's reference to the center of section 12 is ambiguous, indefinite, or uncertain, we have no difficulty concluding that it is. To be sure, as plaintiffs argue, the deed does not specify the center of section 12 as determined by the Derrick survey. Nor does it refer to any particular monument, such as the fence post that local adjacent residents believed marked the center. The same is true of every other deed in evidence, including several of the other deeds in the parties' common chain of title that refer to the center of section 12.

But neither do those deeds, including the deed to lot 1401, refer to the center by reference to the original Mercer plat, which is the language that plaintiffs would read into them. Nor do they refer, as apparently other deeds drafted in the late 1800s sometimes did, to the "geographical center of the section."⁽¹⁰⁾ We know of no legal authority--and plaintiffs cite none--that holds that a mere reference to "the center" of a section compels the conclusion, as a matter of law, that the parties intended to be governed by the mathematical center as it might be located in the future, rather than as it had been located. What sparse case law we can find is, instead, to the contrary. *See Reed v. Tacoma Bldg. & Sav. Ass'n*, 2 Wash 198, 202, 26 P 252, 252-53 (1891) (the mere reference in a deed to the northeast corner of section 8 was not sufficient to raise the presumption that the parties intended to be governed by the United States survey rather than to refer to a known point represented by a monument or other specific permanent object), *cited with approval in McDowell v. Carothers*, 75 Or 126, 135, 146 P 800 (1915) (general reference in deed to the "south line" of a donation land claim sufficiently referenced the actual monument on the ground marking the boundary as it was long understood to be, rather than the boundary as located correctly by later surveys); *see also Dorsey v. Ryan*, 110 Ill App 3d 577, 584, 442 NE2d 689, 694 (1982) (mere fact that a deed gives a call for north does not require the line to be run true north or astronomically north, rather than to the established boundary lines of the quarter section).⁽¹¹⁾

The next question, then, is what did the parties intend when they referred to the "center of section 12" as the starting point for the description of lot 1401? There are two possible ways to approach answering that question, either of which takes us to the same conclusion.

The first approach is to regard the reference to "the center of section 12" as an indefinite or uncertain term in the deed. Here, all of the properties in dispute were a part of what was, at one point, a larger lot (1400) owned by the Fishers. As noted above, the earliest deeds to that property referred only to the center of section 12, followed by metes and bounds descriptions. In 1950, however, a corrected deed for that property was recorded that, in addition to beginning and ending its metes and bounds description at the center of section 12, also made a specific call to Tomjack Road. Thus, even if the deed's reference to the center of section 12 is treated as "indefinite" or "unknown," the deed also contains a "definite and ascertained particular[]"--*i.e.*, the county road--that can be used to determine the lot's boundaries. *See* ORS 93.310(1).⁽¹²⁾ All of the parties to this dispute acquired the properties in question long after the property description was corrected in 1950. Using the definite measurement to the county road, and tracing the line back to what the deed would then treat as the center of the section, places that point at, essentially, Derrick's center.

Alternatively, the reference to "the center of section 12" may also be considered ambiguous, in which case we can consider parol and other evidence as to what the parties intended. *McDowell*, 75 Or at 131 ("Boundaries may be proved by every kind of evidence admissible to establish any other controverted fact."). The testimony is uncontradicted that, when the Fishers and defendant measured for lot 1401, they understood the center of section 12 to be marked by a particular fence post. There is also ample evidence, as well, that residents in the area had, for many years, understood that fence post to mark the center of the

section, and that Derrick's center, as retraced and located by Nyhus, was consistent with the location of that fence post. Plaintiffs dispute that conclusion, arguing that the record does not persuasively establish that Nyhus in fact located Derrick's center. Plaintiffs also dispute the credibility of defendant and other witnesses who recounted the past understandings of local residents. From our review of the record, however, we are satisfied that Nyhus did successfully locate the remains of the original Derrick monument and, therefore, that he found the center where Derrick placed it. As for the credibility of the witnesses, from our review of the record and the competing conclusions that might be drawn, we are not willing to disturb the trial court's inherent credibility assessments. *See State ex rel Juv. Dept. v. Geist*, 310 Or 176, 194, 796 P2d 1193 (1990) (on *de novo* review, the appellate court is to give "considerable weight to the findings of the trial judge who had the opportunity to observe the witnesses and their demeanor in evaluating the credibility of their testimony").

B. *The legal validity of Derrick's survey*

The above analysis does not fully resolve this dispute. Plaintiffs further argue that, in all events, Derrick's survey was a legal nullity due to his failure to follow the correct methodology for locating the center of section 12. Plaintiffs' position is that federal law mandates that the center be located using a particular methodology, that Derrick's failure to use that methodology resulted in the misplacement of the center, and that no property can lawfully be conveyed by reference to that misplaced center.

As we explain, we agree that Derrick failed to follow the methodology that he was legally supposed to follow. But we disagree that either federal law, state law, or our own cases require that his survey be treated as a nullity. Rather, we conclude that, because Derrick was the first official to survey the interior of section 12 and to establish the center of the section, his survey should be regarded as an original survey that is controlling despite any errors in it, just as Mercer's survey is. That conclusion should follow at least in circumstances like these, where Derrick's was the only recorded survey to monument the center of section 12 during nearly a 100-year period, and the center as he located it has been relied on and has determined the lines of occupation over that time.

1. *Applicable survey law*

The federal statute governing the survey of public lands before they are conveyed into private ownership has remained relatively unchanged since its original enactment. The current codification of the provision pertinent to this case, 43 USC § 752, provides in part that "boundary lines[] actually run and marked in the surveys * * * shall be established as the proper boundary lines of the sections, or subdivisions, for which they were intended[.]" That provision has led to the long-settled rule that the original survey, as actually run "on the ground," controls, even if the survey was done incorrectly and the boundaries are in error. *United States v. Doyle*, 468 F2d 633, 636 (10th Cir 1972) (canvassing authorities); *see Goodman v. Myrick*, 5 Or 65, 68 (1873) ("in government surveys, the line actually run upon the ground by the original surveyors is the true line"). The federal statute goes on to direct how the boundaries that were not actually run and marked are to be ascertained. *See* 43 USC § 752. The statute says nothing, however, about who is to make the survey of those additional boundaries or the effect of a survey that does so incorrectly.

The more detailed provisions for surveying public lands, which have remained largely unchanged since their original publication in the 1800s, are contained in *The Manual of Instructions for the Survey of Public Lands of the United States* (1973 ed) (*Manual*) and a supplement to it entitled *Restoration of Lost or Obliterated Corners and Subdivision of Sections* (1974 ed) (*Supplement*), both published by the Bureau of Land Management (the successor to the GLO).⁽¹³⁾ The instructions in the *Manual* identify the method by which a section is to be subdivided--*i.e.*, the method by which the center lines of a section should actually be run on the ground and the center of the section located so that it can be monumented:

"To subdivide a section into quarter sections, run straight lines from the established quarter-section corners to the opposite quarter-section corners. The point of intersection of the lines thus run will be the corner common to the several quarter sections, or the legal center of the section."

Manual § 3-87; *see also Supplement* at 26-27. In other words, the federal survey instructions require the center of a section to be marked at the intersection of the center lines running north-south and east-west through the middle of the section. A surveyor may not, as Derrick did, "stub in" the center by finding the midpoint of only one of the two center lines.

It is less apparent than plaintiffs assume it to be, however, that the instructions in the *Manual* are binding by their own terms on a local interior survey of lands that have passed by federal grant into private hands. ⁽¹⁴⁾ The instructions expressly observe that, as a rule, the "sections are not subdivided in the field" by the federal government, although "certain subdivision-of-section lines" (e.g., interior quarter-section boundaries) are protracted on the plat. *Manual* § 3-74; *Supplement* at 22. Instead, the "local surveyor is employed as an expert to identify lands which have passed into private ownership," a task that entails the "subdivision of the section into the fractional parts shown upon the approved plat." *Manual* § 3-76; *see also Supplement* at 25-27. As the *Manual* observes, it is "a matter of expert or technical procedure to mark out the legal subdivisions called for in a patent," a process that includes "locat[ing] the legal center of the section in order to determine the boundaries of a quarter section." *Manual* § 3-92. The *Manual* further observes that, in performing that survey work, "the local surveyor is performing a function contemplated by law." *Id.* § 3-76.

But the *Manual* cautions that the federal government "assumes no control or direction over the acts of local and county surveyors in the matters of subdivision of sections and reestablishment of lost corners of original surveys where the lands have passed into private ownership[.]" *Id.* The rules that control the acts of the federal government's own surveyors are, instead, to be considered "by all other surveyors as merely advisory and explanatory of the principles which should prevail in performing such duties." *Id.* And, even as to disputes over uncertain or erroneous location of corners or boundaries originally established by the federal government, the federal government will exercise no jurisdiction; those matters, too, are to be settled by local authorities. *Id.* Thus, in all respects, once the land is conveyed into private hands, the states, not the federal government, have jurisdiction over it.

Those provisions suggest that federal law, in and of itself, did not require Derrick to follow the instructions in the *Manual* in locating the center of section 12. That is not to say, however, that his "stubbing in" methodology was legally permissible. State law, rather than federal, required him to follow the survey techniques as set forth in the *Manual*. In particular, in 1899, when Derrick performed the interior survey of section 12, a county surveyor's official duties included surveying any land in the county at a landowner's request and expense. *See The Codes and General Laws of Oregon*, ch XIII, title IV, § 2480 (Hill 2d ed 1892). The law further directed the county surveyor, in the subdivision of land, to "[m]ake all surveys of legal subdivisions in conformity with the laws and regulations of the general land-office of the United States." *Id.* at ch LXXVII, § 4151. ⁽¹⁵⁾ As we have already concluded, Derrick did not do so. By "stubbing in" the center of the section by placing it at the midpoint of only the east-west centerline, Derrick took a shortcut commonly taken by federal government and local surveyors of the day. The shortcut that he took, however, was not a legally authorized one under state law.

2. *The consequences of Derrick's error*

One significant question remains: What now? Nearly 100 years later, what should be the legal consequences of Derrick's shortcut? Plaintiffs urge that Derrick's survey is a legal nullity. But the fact is that no statute, state or federal, so provides.

As already described, federal law specifically dictates that the boundaries and markers placed on the ground by *federal* surveyors are binding, even if the surveyor did not follow the instructions in the *Manual* or otherwise performed the survey inaccurately. In effect, the settled rule for federal government surveys accords dignity to the boundaries and monuments physically set on the land, even when not done pursuant to the applicable survey law. The rule is one of repose, as identified in one of Justice Cooley's often-cited passages:

"Nothing is better understood than that few of our early plats will stand the test of a careful and accurate survey without disclosing errors. This is as true of the government surveys as of any others, and if all the lines were now subject to correction on new surveys, the confusion of lines and titles that would follow would cause consternation in many communities. Indeed the mischiefs that must follow would be simply incalculable, and the visitation of the surveyor might well be set down as a great public calamity."

Diehl v. Zanger, 39 Mich 601, 605 (1878).

But federal law says nothing--one way or the other--about later surveys of section interiors. Despite expressly contemplating the need for those surveys, neither the federal statutes nor the instructions in the *Manual* direct what must happen when the same kinds of errors are made in those original local surveys. The silence does not suggest that the original surveys that marked a section's interior boundaries and center should not be accorded the same dignity; it suggests only that that matter, too, was left to state law.

State law, however, is also silent. It was in 1899, and it remains so today. Consistently with federal law, ORS 209.200 directs how a "resurvey" of lands surveyed by the federal government is to be performed by the county surveyor. Section and quarter-section corners set by the original federal survey are controlling and must "stand," regardless of the accuracy of that survey. *See* ORS 209.200. If they must be "reestablished," they must be placed where the original survey placed them, even if it was wrong. *See id.* It is only if an original federal corner cannot be found or its original location cannot be determined that a county surveyor establishes it pursuant to the *Manual*. *See id.* But nothing in ORS 209.200 or any other statute directs what should be done with a center originally surveyed and marked inaccurately by a county surveyor. The solution has been left to the courts to devise, as a matter of common law.

We turn, then, to the key cases cited by the parties to determine if there is precedent that either binds us or guides us. The primary Oregon authority that plaintiffs rely on is *Talbot v. Smith*, 56 Or 117, 107 P 480, *on reh'g*, 56 Or 124, 108 P 125 (1910). In *Talbot*, the plaintiff's predecessors in interest conveyed portions of a section by a deed that referenced the "northeast corner" of the section, followed by specific metes and bounds measurements. The deed made no reference to the section's east-west center line, although the parties to the deed apparently had assumed that the parcel's southern boundary would end up, through the metes and bounds description, at that line. *Id.* at 118; 56 Or at 124 (on rehearing). Some years *later*, a county surveyor purported to establish the east-west center line of that section. 56 Or at 121-22. He did so without locating the original government quarter-corner needed to mark one end of the east-west centerline and without reestablishing it in the way he was legally required to do. 56 Or at 120-21; *see also* ORS 209.200(2). The issue for the court was whether the unambiguous terms in the deed should control, in which case the property did not run to the center line as the survey established it; or whether the erroneous survey should control over the description in the deed, even though it came later in time and was done in error.

The court declined to let the erroneous later survey control the description in the deed. *Talbot*, 56 Or App at 121-23. Plaintiffs understand *Talbot* to have reached that result because the county surveyor failed to follow federal instructions in locating the center line of the section. We disagree. Although the court observed that the flaws in the survey rendered it "wholly unreliable," only a few sentences later, the court held that "regardless of any of the surveys offered in evidence, the descriptions in the deeds are conclusive." *Id.* at 121. The court reiterated the point, stating that, "wherever the quarter section line or

the division line of the claim may be located, it cannot control the descriptions in the deeds." *Id.* at 123. The court was unwilling to conclude, where no monuments were mentioned in the deed, that monuments placed by a *later survey* should control the deed's description. *Id.* at 121; *see also* 56 Or at 126 (on rehearing). In short, as we read *Talbot*, it stands for the unremarkable conclusion that the boundaries determined by the express and unambiguous description in a deed control over boundaries determined by a later survey. The fact that the later survey was erroneously made was simply further reason not to let the survey control the deed.

This case involves almost the converse of the facts that confronted the court in *Talbot*. Here, the erroneous survey came before the deed, not after. Here, the Derrick monument at the center of the section, or at least the fence post that perpetuated its approximate location, existed when the deed was drafted; it did not come later. And here, as we have already concluded, the deed's reference to the "center of section 12" was a reference to the center of the section as it had been located by Derrick. So, here, the question is whether the erroneous survey is to be disregarded in favor of a *later* mathematically correct one made after the deed was drafted. On that question, we find no guidance in *Talbot*.⁽¹⁶⁾

Closer to the mark is the primary case on which defendant relies, *Wirotek*. There, the parties' common predecessor in interest subdivided a parcel into eight lots based on an incorrect survey by Leuthold, a private surveyor. *Wirotek*, 266 Or at 73-74. The plaintiffs purchased the lot directly to the east of one purchased by the defendants. The defendants constructed improvements on an area that, according to the incorrect survey, was actually on the plaintiffs' property. *Id.* at 74. When the property dispute arose, a second survey, by Pacific Surveys, determined that Leuthold had not correctly located the centerline of the section. *Id.* The defendants took the position that the property lines should be based on the survey that correctly identified the section center line. The plaintiffs took the position that the boundaries were those that were established on the ground by the earlier survey. *Id.* The court agreed with the plaintiffs, stating:

"In construing a deed our duty is to ascertain and give effect to the intentions of the parties, as evidenced by the language of the instrument and the circumstances attending its execution. As we have indicated, both defendants' and plaintiffs' deeds made reference to the Leuthold survey. That survey was commissioned and conducted for the sole purpose of establishing boundaries for each tract that the [common predecessors in interest] were planning to sell, and the corner stakes set by Mr. Leuthold were conspicuous and known to all the parties. It is evident that conveyances of the parcels were made on the assumption that the stakes marked their boundaries, and that when they purchased neither plaintiffs nor defendants had any idea that the Leuthold survey may have been incorrect.

"It is seldom that surveys are made with perfect accuracy. Indeed, in the present case the Pacific survey disagrees in various respects with a survey of the same area and utilizing the same center section line conducted by Marx & Chase, Inc. in 1969, and with a survey conducted by D. T. Meldrum in 1933. *The appropriate inquiry in cases of this kind is not whether a survey is completely accurate, but whether the lots are purchased in reliance upon the boundaries which it establishes. When there is such reliance, to sanction the relocation of boundaries on the basis of subsequent surveys would defeat the intentions of the parties and subvert the security of possession.*"

Id. at 75-76 (emphasis added) (footnotes omitted).

Wirotek thus holds that an inaccurate survey should be given effect over an accurate survey when the evidence establishes that lots have been conveyed based on the boundaries established by the inaccurate survey. Although helpful at first blush, its holding is limited by its facts. *Wirotek* involved a common predecessor in interest who held a large parcel of property and a survey error that affected only the lots that were created when the larger parcel was subdivided. The boundaries of the original parcel were not in dispute. In other words, there was no question that the common predecessor in interest owned everything that he subdivided. The only issue was where, within the larger parcel that he owned, the subdivision

boundaries belonged. Thus, the court signaled that its holding was limited to that situation by cautioning at the end of the opinion:

"[T]his is not a case where property not originally owned by the grantor is encroached upon as a result of possession in conformance with an allegedly erroneous survey. Under either the Leuthold or the Pacific survey, plaintiffs' and defendants' properties lie entirely within the tract originally owned by [their common predecessor in interest]."

Id. at 76.

In this case, Derrick's placement of the center had the effect of altering the inside boundaries of each of the quarter sections of the section. Among other problems, the southwest quarter section ran over onto what should have been part of the land in the southeast quarter and did not extend as far north as it should. The following illustration shows the essential problem:

[Map 9](#)

Thus, the conveyance of lot 1401 using a description referencing the center of the section as set by Derrick potentially could encroach on land not owned by the grantor. Reliance on Derrick's survey therefore presents a different problem--or at least a further one--than the court addressed in *Wirotek*.

That leaves us looking for guidance.⁽¹⁷⁾ We have found it--in two places. The first is one of the foremost treatises on surveying, *Clark on Surveying*. That authority identifies precisely the problem that confronts us in this case--*i.e.*, the problem of the center of a section, as it would be located by a correct survey, not conforming to the lines of occupation. Among the chief reasons for that happening, *Clark* explains, is the tendency of surveyors to "stub in" the center of the section using only one or two of the quarter-section corners or the mid-point of the north-south or east-west section center line. *Clark on Surveying* § 10.22 at 276. *Clark* then lists, in apparent order of preference, the generally endorsed solutions. The first is to deem the center of the section an original corner if it was first set by a county surveyor.⁽¹⁸⁾ *Id.* The second is to defer to long-standing local reliance on boundaries as reflected by the lines of occupation. *Id.* ("If the interested landowners have always relied on the location of the center of the section, albeit incorrectly located, it becomes the center of the section and no one should tamper with it."). The final resolution, which apparently applies if no county survey has located the center and local reliance has not done so *de facto*, is to locate the center "in accordance with the federal statute" and to treat the ensuing disputes as ones of property rights, not survey law. *Id.*

Under the facts of this case, then, *Clark* would advocate treating Derrick's center as an original corner and giving it the same dignity as a corner originally set by the federal government--that is, the same controlling status as if it had been set, however erroneously, in Mercer's survey. That approach was taken by the court in *Adams v. Hoover*, 196 Mich App 646, 493 NW2d 280 (1993), which is factually on point and highly persuasive in its reasoning.

In *Adams*, the federal government had surveyed the exterior boundaries and corners of a land grant in 1904. But, "[a]s was the custom," the center of the section was left to be set by local surveyors, and the county surveyor located it and marked it with a post in 1950. *Id.* at 648, 493 NW2d at 281. In doing so, the county surveyor took the same kind of shortcut that Derrick took in this case--that is, he did not locate the intersection of the two center lines, but instead marked the center at the midpoint of one of them. Later surveys of the area relied on the center as marked by the 1950 survey, despite the survey's flawed methodology. Then, in the mid-1970s, another surveyor working in the area discovered that the 1950 survey had not followed the statutorily prescribed methodology for locating the center. Because it did not, that surveyor located and marked the "actual geographic center" of the section consistently with the intersection method that was legally prescribed. *Id.* at 649, 493 NW2d at 281-82. The question for the

Michigan court was which survey--the flawed 1950 survey that first set the center of the section or the later one that did so correctly--should legally control.

The court held that the 1950 survey should legally control, despite the error in it. The court began its analysis by stating that "[p]ublic policy clearly favors consistency in ascertaining boundary lines, especially where, as here, a multitude of boundaries have been established in reliance upon the [center post set in the 1950 survey]." *Id.* at 651, 493 NW2d at 282-83. It then quoted the generally recognized principle that "[t]he original survey in all cases must, whenever possible, be retraced, since it cannot be disregarded or needlessly altered after property rights have been acquired in reliance upon it." *Id.* at 652, 493 NW2d at 283 (quoting *Boundaries*, 12 Am Jur 2d 462-63 § 57 (1997)) (emphasis omitted). The court effectively regarded the county's survey, as the first to locate the center of the section, to be an original survey and the post marking the center to be an original monument. Consequently, to locate the center of the section, the same rule applied that would apply to relocating a "lost" monument: "[T]he question is not how an entirely accurate survey would have located the lots, but how the original survey stakes located them." *Id.* at 652, 493 NW2d at 283 (citation omitted). Citing the "public's need for finality and uniformity of boundaries and land titles" and observing that any other approach "could unsettle boundaries throughout the entire Section[,] the court held that the 1950 survey "should be left in repose" and given legal effect. *Id.* at 652-55, 493 NW2d at 283-84.

We conclude that is the appropriate rule to apply in this case. The center of section 12 was not located and marked by Mercer. If it had been, Derrick would have been obligated to walk in Mercer's steps, to find Mercer's center as he located it, and to leave it where Mercer put it. Instead, as the federal government's survey procedures expressly anticipated, the county surveyor--Derrick--was the first to go into the interior of the section and perform the survey necessary for the actual subdivision of the section. When Derrick did so, he was performing a legally contemplated, customary, and ultimately necessary official function. He did so pursuant to his statutory duties as the county surveyor, even if at private request and expense (as were all such Oregon surveys of the day).

No evidence suggests that Derrick's survey was called into question for nearly 100 years. To the contrary, the record amply persuades us that the local reliance on Derrick's center has been extensive and long-standing. As Nyhus put it, "chaos" could ensue throughout this area of section 12 if Derrick's center were disregarded and the center of section 12 were located based on the correct methodology and modern survey techniques. Beginning in 1926, deed after deed has made calls to the center of the section. Property has been subdivided, homes have been built, the county road has been established, and lots have been conveyed and reconveyed in reliance on a section center that was monumented by Derrick and that has remained a known and identifiable point on the ground for local residents. Among other problems, if the center of the section were moved based on Denison's survey, the county road would be in the wrong place, a house would sit where the county road should be, and the lines of occupation in the area would not match the boundaries dictated by such a displacement of the center.

The flaw that infected Derrick's work, or other flaws like it, may infect many, if not most, of the first interior surveys of what were originally public lands all over the state. As Justice Cooley cautioned, few of the early surveys of public lands can stand the test of "a careful and accurate survey without disclosing errors." *Diehl*, 39 Mich at 605. For the same reasons that a federal government survey of a section's exterior boundaries is given legal effect despite its errors, an original county survey of a section's interior boundaries should be as well. We therefore agree with *Clark* and the court in *Adams* that an original county survey marking the center of a section, despite a flawed methodology, should be deemed an original survey, one that is "left in repose" and given legal effect. Derrick's center, as physically marked on the ground, is therefore controlling in this case, even if incorrectly placed. Consequently, the trial court correctly dismissed plaintiffs' claim for ejectment and quieted title to the disputed property in defendant.

Affirmed on appeal and cross-appeal.

1. Defendant also raised adverse possession and acquiescence claims, which the trial court rejected. Those claims have not been pursued on appeal.

2. As we later explain in more detail, a "section" is an official unit of land under the Public Land Survey System and is used in the description of lands originally granted by the federal government to settlers in Oregon. The correct full reference for the particular section involved in this case is Section 12, Township 11 South, Range 11 West, Willamette Meridian, in Lincoln County (section 12).

3. The descriptive portion of the deed reads as follows:

"Beginning at the center of said Section 12; Thence west along the east and west center line 350 feet more or less to the center of the County Road; Thence S 38° 00' W along said road 100 feet; thence S 50° 00' W 33 feet; thence east parallel to the east and west center line of said Section 12 437 feet more or less to the north and south center line of said Section 12; thence north 100 feet to the point of beginning."

4. The background information presented throughout this section is distilled from the following sources: Walter G. Robillard & Lane J. Bouman, *Clark on Surveying and Boundaries* chs 4, 6, and 8 (7th ed 1997); Joyce Palomar, 1 *Patton and Palomar on Land Titles* § 116 (3d ed 2002); and C. Albert White, *A History of the Rectangular Survey System* (1983). For ease of reading, and because much of the information from the sources has been blended, we do not provide particular citations, except for quoted material and for the description of the relationship of federal government and county surveyors, which we consider uniquely pertinent to the dispute in this case.

5. The "rectangular survey system" provided a systematic way not only of measuring and dividing land, but also describing it accurately for purposes of conveying it into private hands. For example, the southwest quarter of section 12, where the disputed boundary in this case lies, would be referenced as SW 1/4, S12, T11S, R11W, WM (*i.e.*, Southwest Quarter, Section 12, Township 11 South, Range 11 West, Willamette Meridian).

6. As described on the Cadastral Survey website for the Bureau of Land Management:

"The rectangular survey system, which was first proposed by Thomas Jefferson and enacted into law by the Land Ordinance of 1785, forms the backbone of the Nation's land surveys. As a young nation, we faced the daunting task of surveying over 1.8 billion acres of public domain lands acquired through the Louisiana Purchase, the Alaska Purchase, and other acquisition actions. Contract surveyors chosen through competitive bidding were eventually replaced with today's professional cadre of Cadastral Surveyors.

"Over the past two centuries, almost 1.5 billion acres have been surveyed into townships and sections and monumented. This impressive accomplishment represents the greatest land surveying project ever undertaken: there are about 2.6 million section corners throughout the United States, each one located about a mile apart. Placing these corners required a vast expenditure of human energy in carrying heavy surveying equipment, dragging chains, cutting trails, climbing mountains, placing monuments, digging pits, and blazing 'witness' trees."

Bureau of Land Management, Cadastral History, at <http://www.blm.gov/cadastral/Tools/Multimedia/History/history.html>.

7. The notes are sketchy and difficult to read, especially because the copy in the record is not a clear reproduction of them. The name that Derrick noted includes a middle initial. We cannot tell what it is. It most resembles a "W" or an "E" or an "A." But the expert testimony was that Derrick would have--and did--perform the survey at the request of a landowner, presumably one in the section. We therefore

feel confident in inferring that the survey was performed at David H. Williams's request.

8. The expert testimony in this case establishes that the practice of "stubbing in" was common for both federal and county surveyors. Treatises likewise reflect that the practice was prevalent. See *Clark on Surveying* § 10.02 at 263.

9. Not all of the grants are a matter of record. Included in the record, however, is an 1899 grant of a 40-acre parcel in the northeast quarter that was made only months after the Derrick survey. Also, the record includes a 1924 grant of an 80-acre parcel in the northeast quarter.

10. See, e.g., *Wilder v. Nicolaus*, 50 Cal App 776, 778, 195 P 1068, 1070 (1920) (reciting language of 1865 deed that referred to the "geographical center of section 14").

11. In addition to not being legally warranted, such a presumption would also strain common sense, at least in the context of a case like this one. We would have to assume that, for about 70 years, local residents and the county used "the center of section 12" as a reference point for boundaries, easements, fences, and so on without feeling a need to know where the center actually was. The legal presumption that plaintiffs urge would preclude us from asking and answering the questions: What did the parties have in mind when they referred to the "center of section 12"? Was it a known and identifiable place on the ground? Or did they intend it to be the center of the section as a survey some day would later establish it to be?

12. ORS 93.310(1) provides that, when the description of the property being conveyed by a deed leaves the construction doubtful,

"[w]here there are certain definite and ascertained particulars in the description, the addition of others, which are indefinite, unknown or false, does not frustrate the conveyance, but it is to be construed by such particulars, if they constitute a sufficient description to ascertain its application."

13. Because the instructions have changed little over the years, we cite to and rely on the most recent and easily accessible editions of them.

14. Nor is it clear by what authority Congress could exercise such power. The general rule is that questions involving ownership of land are determined under state law, even when the federal government is a party. *Mason v. United States*, 260 US 545, 558, 43 S Ct 200, 67 L Ed 396 (1923).

15. Substantially the same requirement is now in ORS 209.070(4), which provides that the county surveyor of each county is to "[m]ake all surveys of legal subdivisions with reference to the current United States Manual of Surveying Instructions."

16. If anything, *Talbot* could be understood to suggest implicitly that, notwithstanding the error in the county's survey, if that survey had been made before the deed was drawn and if the deed's description had been intended to rely on a monument set by that survey, the survey would be given effect for purposes of determining the boundaries set by the conveyance.

17. Although plaintiffs draw from authorities in other jurisdictions, none are helpful to us. For example, they rely heavily on *Vaught v. McClymond*, 116 Mont 542, 155 P2d 612 (1945). That case concerned whether either of two surveys sufficiently established the center line of a section. In *Vaught*, however, neither of the surveys used the quarter-section corners established in the original federal government survey to locate the section's center line. *Id.* at 550, 155 P2d at 617. That failure to follow the section's exterior boundaries and monuments as set on the ground by the original government survey differs from the problem that this case presents. Here,

the evidence establishes to our satisfaction that Derrick did accurately retrace the original Mercer survey of the section's exterior boundaries and monuments. His only error was in measuring to the center of the section, which was an interior measurement that Mercer never made.

18. The center of a section is often termed the "center corner" because it marks the interior corner of each of the four quarter sections.