


WestlawNext

Comstock v. Ramsay

Decided to Extend by Montana v. Wyoming, U.S., May 2, 2011
 Supreme Court of Colorado. June 2, 1913 55 Colo. 244 133 P. 1107 (Approx. 6 pages)

Return to list  Original image of PDF. 1107 (PDF) Search term

55 Colo. 244

Supreme Court of Colorado.

COMSTOCK, State Engineer, et al.

v.


RAMSAY.


June 2, 1913.


En Banc. Appeal from District Court, Weld County; James E. Garrigues, Judge.

Action by C. H. Ramsay against Charles W. **Comstock**, State Engineer, and others.
 Judgment for the plaintiff, and defendants appeal. Reversed and remanded with directions to dismiss.

West Headnotes (4)[Change View](#)


- 1 **Evidence**  Particular facts
 The court takes judicial notice of the fact that practically every decreed appropriation on South Platte river is dependent, and has been for years, upon the return of waste and seepage waters for its water supply.

 11 Cases that cite this headnote
- 2 **Water Law**  Waters and Water Rights Subject to Appropriation
 Seepage water may be the subject of a lawful appropriation, where such appropriation does not interfere with prior rights.

 2 Cases that cite this headnote
- 3 **Water Law**  Nature and Extent of Rights Acquired

Appropriators of water from natural stream for irrigation purposes are entitled to have the conditions upon the stream maintained substantially as they were when the appropriations were made.

8 Cases that cite this headnote

4 Water Law  Nature and Extent of Rights Acquired

Seepage waters from irrigation ditches and reservoirs on their way back to a stream, which depends largely upon such waters for a flow sufficient to supply decreed appropriations, are tributary to the stream and cannot, after being drained into the stream from the surface of the land, be thereafter diverted by the grantee of the one draining the land, to the injury of prior appropriators.

23 Cases that cite this headnote

Attorneys and Law Firms

***245**1107** Benjamin Griffith, Atty. Gen., Stephenson & Work, of Ft. Morgan, and Goudy & Twitchell, and J. H. Burkhardt, all of Denver, for appellants.

John T. Jacobs, of Greeley, for appellee.

Opinion

BAILEY, J.

The contest is over seepage waters, and the right to use the river channel as a way through which to carry them. The site of the dispute is on the South Platte River, a short distance down the stream and east of the town of La Salle, in Weld County. The land upon which these waters accumulate is a strip of river bottom, varying in width from one-half to three-fourths of a mile and comprising several hundred acres, situated in water district No. 2. The bank of the river along which this land lies has been built up by accumulations from the river of silt and débris, until it is slightly higher than the land itself immediately adjacent thereto and extending back to the mesa.

The testimony shows that at an early day, prior to any extended irrigation in that vicinity, this land was comparatively dry in low water times, but when the river was high it was frequently overflowed, the waters of the river passing over it, covering at times practically ***246** all of this land except the higher portions, along the bank and immediately next to the channel of the river; and that in wet seasons there would be water in the sloughs or depressions in the bottom, having a general drainage with the course of the river, toward a point at or near the headgate of the Highland Ditch, some two or three miles down the stream. The evidence shows that the flow of water in this course is undoubted, the slope of the land being toward the river in a diagonal direction to the northeast. About the year 1878 an irrigating ditch, known as the Lower Latham, was constructed upon the upper or second

bench lands, immediately above and south of the bottom lands referred to. A little later the Union, another irrigating ditch, was constructed south and west of the Lower Latham Ditch. In 1890 a large irrigating reservoir, known as the Lower Latham Reservoir, covering six or seven hundred acres, was constructed immediately south of these lands, some two miles away, and higher than the two ditches above described. These ditches ****1108** and the reservoir take their supply of water from the South Platte River. The testimony shows that as irrigation became general upon the mesa above from the Union and Latham ditches, seepage soon appeared upon the bottom lands and increased each year until 1890 and 1891, when the land was largely seeped and swampy, and a portion of it had grown up in cat-tails and swamp grass and was unfit for cultivation. After the Lower Latham Reservoir was constructed, seepage upon this land began to largely increase. It became very heavy and destructive. Water flowed upon the land to a depth of three or four feet in places, and covered more than two hundred acres of it. Some time in 1894, a man by the name of Joshua New purchased a portion of the land lying just above the headgate of the Highland Ditch, which is about four miles down the river from the headgate of the Lower Latham Ditch, and constructed ***247** a dike across the south end of this land to prevent the seepage water and the river overflow coming upon it, and cut a ditch or channel through the bank of the river just above the dike, so the water accumulating above it could flow through to the river. Some of the water apparently did pass through this cut for several years, but the ditch became more or less filled up and did not serve to adequately drain the accumulated surface water.

This bottom land is underlaid with the ordinary coarse river sand and gravel, and undoubtedly, as indicated by the evidence, was once a part of the regular river channel. The soil upon top of this river sand and gravel is not of great depth, varying from none at all, at points where the sand and gravel itself appears on the surface, to a depth in places of three to four feet. This land is from five to six feet higher than the surface flow of the river at normal stage.

Generally during the months of July, August and September of each year, as shown by the testimony, the South Platte River is very low, and in the use of its waters for irrigation the entire flow is diverted at the headgate of the Lower Latham Ditch, which is taken out of the river some two and one-half or three miles above this land; but notwithstanding such total diversion of the flow of the river there is sufficient return water to the stream, by seepage through the sands and gravel, to make from twenty-five to thirty-five second cubic feet of surface flow at a point immediately above the headgate of the Highland Ditch, a distance down the river from the Lower Latham headgate, as already indicated, of about four miles. This shows a return of something over six second cubic feet of water to the mile. By reason of this return flow there is and has been for many years sufficient water in the river to supply the priorities awarded to the Patterson Ditch, just above the Highland, ***248** and the Highland Ditch itself, both of which are senior to the second priority awarded to the Lower Latham Ditch; yet the Lower Latham, by reason of such return waters, has never been required, since 1883, to turn down any water from its dam to supply earlier priorities diverting water below this bottom land. All the waters of the South Platte River have been

appropriated, and the entire normal flow of the river is inadequate to supply the priorities for irrigation purposes already decreed from it. There is no natural stream flowing into the river between the headgates of the Lower Latham and Highland Ditches. All the water found at the headgate of the Highland Ditch, after the Lower Latham Ditch has diverted the entire flow of the stream, must be return, seepage and waste water, coming, undoubtedly, in a large measure, from the seeped bottom lands under consideration.

In 1907 Messrs. Gordon and Varvel, who were owners of a portion of this bottom land, completed the construction of a ditch, practically through the center of the land and paralleling the river, commonly known as the Gordon and Varvel Seepage Ditch, for the purpose of draining those lands and acquiring the right to the use for irrigation of the waters taken from them. The drainage ditch is not to exceed three-quarters of a mile from the river at its farthest point, and at other places comes within a fifth of a mile of it. These parties also procured deeds from some of the owners of lands adjoining theirs, conveying to them all their right to the seepage, drainage and percolating waters on such adjacent lands, and also rights of way across them for seepage ditches. This seepage ditch, therefore, was constructed not only on the Gordon and Varvel land, but as well on the lands of adjacent owners. It is admitted that, because of the physical condition which obtains in reference to these lands, the seepage waters in question cannot *249 be used to irrigate them, but that the only manner in which they can be applied to a beneficial use is by discharging them into the South Platte River, using the river as a carrier, and diverting them at a point down the stream, where they could be used to advantage in irrigating land which is without a proper water supply.

Below the Latham headgate the Patterson and Highland Ditches, in district No. 2, having decreed priorities, take practically all of the water of the river coming to their respective headgates. Between their headgates and the east line of water district No. 2 from fifteen to twenty feet accumulate in the South Platte River, by return and seepage water, and at such east line of water district No. 2 about twenty feet come into the South Platte from the Poudre River, which accumulates in the latter river by return and seepage water below the headgate of the Ogilvy Dam, which is the lowest ditch taking water from the Poudre River.

****1109** The ditches taking water from the South Platte River in district No. 1, immediately below district No. 2, all have priorities of such junior date that they are bound to rely, during the low water season, for their supply upon the waters coming into the river below the Highland headgate and from the Poudre River below the Ogilvy headgate, and the other accumulations to South Platte after it passes into district No. 1. This water supply is not sufficient to furnish the decreed priorities in district No. 1, and in fact the testimony shows that many of the larger ditches are closed during the low water period. It is also worthy of notice that about one hundred and fifty second cubic feet of water is required to flow out of district No. 1 and into district No. 64, the next district down the river, to supply earlier priorities in the latter district. It is, therefore, apparent that any interference with the tributaries to, or the taking of the supply of water from, the South Platte River at the point

*250 mentioned would have an injurious effect upon the appropriators of water from the river below with priorities already decreed.

Ramsay, appellee here, plaintiff below, had a tract of dry land under the Duel and Snyder Ditch, diverting water from the South Platte River at a point near Fort Morgan, in water district No. 1. This seepage water, and whatever right they had to the use of the river to carry it, together with their rights of way for the seepage ditch across the bottom land in question, was by Gordon and Varvel conveyed by deed to Ramsay, who procured an easement and license from the owners of the Duel and Snyder Ditch for the conveyance of this water, to be applied to a beneficial use on his land under that ditch. The purpose was to bring the seepage water to the Duel and Snyder Ditch by using the river as a carrier ditch. Ramsay requested the Water Commissioners of Water Districts Nos. 1 and 2, the Division Irrigation Engineer of Irrigation Division No. 1, and the State Engineer, to allow him to take from the river, at the headgate of the Duel and Snyder Ditch, the seepage water which he had discharged therein, less a proper and reasonable deduction for evaporation, which they declined to do. Thereupon this action was brought in the District Court of Weld County, to compel these officers to recognize the use of the river as a carrier for these waters, and thus permit the perfection of plaintiff's initiated right. The officers appeared and objected that certain water owners were interested and necessary parties, and, on motion, all water users on the river, with appropriations between the points where the seepage waters were discharged into the river and where purposed to be diverted, were made parties. Demurrers to the bill having been overruled, the defendants, who were appropriators and users of water between those points on the river, answered, setting up that the waters sought to be so diverted were tributary *251 to the South Platte River, and that the diversion thereof was an interference with a tributary of that stream, from which they were decreed prior appropriators and adversely affected by such interference. The fact that they were such appropriators was admitted, but plaintiff Ramsay contended that the water taken was in no sense a tributary or source of supply of or to the river. Upon this proposition the case was tried and determined. The real issue is whether the waters in question were tributary to the river, and that is the only one which we shall consider or determine, for if Ramsay has no right to divert this water, because such diversion would be an adverse interference with the rights of prior appropriators from the river, then he is entitled to no relief.

The court below found the issues for the plaintiff, and entered a decree accordingly. It is to review that decree that the case is brought here by the users and appropriators with decreed rights down the river.

1 There is no actual dispute, in any proper sense, upon the facts which are controlling in, or necessary or material to, a determination of this case. The real question arises rather upon an application of the law to the facts. The trial court, among others, made this finding:

'That in 1906 after the construction of said reservoir a large amount of seepage and percolating waters appeared on said lands, which naturally, prior to the construction of said artificial waterworks, was dry and free from surface water and used for raising farm crops,

and flooded about 200 acres of said land, said water standing permanently to a depth of from a few inches to three feet upon said land, there being no artificial, surface or subterranean channel carrying it to said river; the Court further finds that said water is derived from water escaping from said artificial sources and that it is not a tributary of said South Platte River. The Court finds that there is no interference with the water table of the South *252 Platte River and no water is diverted from said river or its underlying water table in the gravel adjacent thereto, nor is the flow of water in or to said river in any way interfered with or diminished by reason of the construction, operation and maintenance of said seepage ditch, nor by the use of said ditch, nor by the use of said river as a conduit for said seepage water, nor by the diversion of said water into the Duel and Snyder ditch hereinafter permitted.'

As throwing further light upon the manner in which the court regarded this seepage water, we quote what the trial judge said, during the progress of the hearing, respecting it, just prior to the entry of the formal findings and decree:

'Seepage water in this valley, if continued long enough and there was enough of it, **1110 some time some part of it would eventually reach the river. Can it be said for that reason, that all such water is a tributary, and no one can use it, although it is not yet flowing into the river? I think not. * * * This ditch does not interfere in any way with the body of underground water sustaining, making and holding up the water level of the river. It does not draw from that water level. The first effect of the ditch was to draw off the artificial lake, and now it collects the seepage water which made the lake. Merely because some of this water rises out of the gravel in the bottom of the ditch can make no difference. The ditch is higher than the river. The taking of this water is not a depletion of the natural waters of the stream and does not have that effect.'

It is apparent from the foregoing quoted finding, and the oral statement of the trial judge as set out above, that the conclusions of the court were based upon the fact that the seepage waters under consideration were in a sense artificial, and not natural waters of the stream; that they had been brought from the river to their present *253 position through artificial means, after once having been used by bona fide appropriators from the river, and that, therefore, they were not subject to the rights of other appropriators down the stream, and were not in fact a part of the river, for the purpose of supplying appropriations therefrom, that is, were not the natural waters of the stream and could not be called upon by decreed appropriators and users of water farther down the stream to supply their priorities. It appears from the statements of the trial judge that these waters had either already done so, or would at least eventually return to and become a part of the river; but it was held that until they had actually mingled with the waters of the stream they were subject to independent appropriation. The fact that this drainage ditch did not directly tap the river itself and withdraw water from it, or from the water table thereof, but only intercepted water in its course to the river, seems to have been decisive with the trial court that there was no interference with the river flow. That the river flow is as much affected by intercepting and diverting water, which otherwise would flow into it, as by directly withdrawing water from its

channel, seems axiomatic. A judgment based upon the theory of the court as indicated above is unsound and cannot be upheld. To do so would overthrow and nullify every fundamental principle upon which the rights of appropriators of water in the state for beneficial use rest. To maintain the doctrine of 'first in time first in right,' and protect the rights of prior appropriators from the stream, which have been fully adjudicated and recognized for years, and preserve, as vital to these rights, conditions upon our streams substantially as they were when such rights were acquired, and under which they have been maintained and perfected, as this court has consistently held must be done, requires a reversal of this judgment.

2*254 We take judicial notice of the fact that practically every decree on the South Platte River, except possibly only the very early ones, is dependent for its supply, and for years and years has been, upon return, waste and seepage waters. This is the very thing which makes an enlarged use of the waters of our streams for irrigation possible. To now permit one who has never had or claimed a right upon or from the river to come in, capture, divert and appropriate waters naturally tributary thereto, which are in fact nothing more or less than return and waste waters and upon which old decreed priorities have long depended for their supply, would be in effect to reverse the ancient doctrine, 'first in time first in right,' and to substitute in its stead, fortunately, as yet, an unrecognized one, 'last in time first in right.'

It is clearly apparent from the entire testimony adduced that water flows continuously from the seeped land in question through the coarse sand and gravel underlying it to the river, and is one, at least, of its principal sources of supply. Upon the undisputed facts, considered in connection with the physical conditions shown to be present, it is self-evident that, agreeable to natural laws, this underflow has continued for years. Manifestly, since the testimony shows practically no other source of supply to the river between the headgate of the Lower Latham Ditch and the headgate of the Highland Ditch, the flow found at the headgate of the latter, after the former has diverted the entire river supply at its headgate, must accrue from seepage, return and waste water passing under and through this bottom land to the river. That such water is not only now, but for years has been, a material and substantial source of supply to the South Platte River, upon which the users down the stream, for irrigation purposes, have long depended and yet do depend to satisfy their decreed priorities, is too plain to need elaboration or further comment. These waters are not in any *255 sense unappropriated waters; on the contrary, they have been appropriated and used over and over again.

Every appropriation of water on this stream, claimed and decreed for irrigation purposes, has been so claimed and decreed upon the theory that all waste and seepage water arising from the irrigation of land, or from the construction and maintenance of reservoirs using water from the river, and naturally returning to it, is available to supply such appropriations and decrees. To now permit independent appropriation and diversion of these waters in a way to adversely affect prior appropriations and decrees, is in direct conflict alike with the spirit of the law under which such priorities **1111 have been decreed and the practical purposes for which these appropriations have been made and recognized. It is a well

known fact that practically all appropriations down the stream are dependent on return, waste and seepage waters for their supply. If a part of these waters may be cut off, then all of them may be, with the result that the stream might thus become wholly depleted, and all appropriations and decrees, no matter how early, below the points where such waters are diverted, would be stripped of their rights and rendered useless and of no practical worth or value.

There is no law anywhere to support the contention that if these waters are naturally tributary to the river, still they may be taken by a new claimant to the damage and injury of prior appropriators upon that stream, simply because he captures and diverts them before they actually get into the river channel. If such act of capture and diversion can be upheld as lawful and proper, by the same reasoning a new claimant could divert the waters of a surface tributary, if he only be spry enough to capture and divert them before they actually reach and mingle with the waters of the main stream. When it is shown or admitted that these waters ultimately return to the river and thereby augment and replenish its flow, they are *256 part and parcel thereof, whether the limit within which this occurs be short or long. The moment they are released by a user under an appropriation from the river, which has been duly decreed, and start back in their course to the stream, they become and are as much a part thereof as when they actually reach the stream. Whenever these waters start to flow back to the river and it is apparent they will reach it, they constitute a part of the stream and are not subject to independent appropriation as new or added water, or because they have been used to serve one priority and have been thus artificially brought into that position. It is asserted by the defendant in error that at the time of the construction of the seepage ditch the water sought to be thereby appropriated had not become tributary to the river, in the sense that it had not actually reached the river channel. The fact that it might ultimately do so is declared by him to be immaterial. This contention we cannot approve, but as already indicated, we are rather of opinion that when such waters leave the control of the original appropriator, having been used either for direct irrigation or reservoir purposes, without intention of recapture or further use, by him, they immediately become a component part of the river, and cannot be lawfully diverted from their course to it by independent appropriation, to the injury of those having decreed priorities therefrom.

We do not hold that there can be no independent appropriation of seepage, return and spring waters; but on the contrary, where such appropriation does not interfere with a prior right, that it may be done upon facts and conditions which warrant it. What and all we do intend to here determine, on this particular point, is that where it appears that such waters are in fact tributary to the stream, and form a substantial and material source of its supply, upon which appropriators therefrom have long depended for water to satisfy their priorities, that *257 then, as between such bona fide appropriators and users of such waters and a new claimant, the former has the first and better right.

There is no pretense whatever that the appropriation and diversion attempted by plaintiff is based on the statute providing for the appropriation and usage of seepage, waste and

spring waters arising upon the land of the owner, and therefore, since that statute is not directly or necessarily involved, we neither consider nor discuss it.

This opinion is based upon the facts of this particular case, and is intended for application to them and to cases involving similar ones. The general doctrine announced is not to be unreasonably extended, or made to reach conditions where to apply it would be inequitable and unjust. It is rather to be looked to to bring about results fair to all, for the protection and preservation of vested rights, and the promotion of the general welfare and common good.

3 To the proposition that appropriators of water out of a natural stream for irrigation purposes, with priorities decreed, are entitled to have the conditions substantially maintained upon the stream as they were when the appropriations were made, and have existed during the continuance and perfection of such appropriations, we cite the following authorities: Handy Ditch Co. v. Loudon Irrigating Canal Co., 27 Colo. 515, 62 Pac. 847; Ft. Lyon Canal Co. v. Chew, 33 Colo. 392, 81 Pac. 37; New Cache La Poudre Irrigation Co. v. Water Supply & Storage Co., 29 Colo. 469, 68 Pac. 781; Baer Bros. Land & Cattle Co. v. Wilson, 38 Colo. 101, 88 Pac. 265; Cache La Poudre Reservoir Co. v. Water Supply & Storage Co. et al., 25 Colo. 161, 53 Pac. 331, 46 L. R. A. 175, 71 Am. St. Rep. 131; and Vogel et al. v. Minnesota Canal and Reservoir Co. et al., 47 Colo. 534, 107 Pac. 1108.

Upon the proposition that the waters under consideration, as matter of fact, are tributary to the river and *258 not subject to independent appropriation and diversion, when there is thereby an interference with the right of use by prior decreed appropriators from the stream for irrigation purposes, we cite the following: Ogilvy I. & L. Co. v. In singer, 19 Colo. App. 380, 75 Pac. 598; McClellan v. Hurdle, 3 Colo. App. 430, 33 Pac. 280; Bruening v. Dorr, 23 Colo. 195, 47 Pac. 290, 35 L. R. A. 640; Clark v. Ashley, 34 Colo. 285, 82 Pac. 588; Platte Valley Irr. Co. v. Buckers I. M. & I. Co., 25 Colo. 77, 53 Pac. 334; **1112 Buckers I. M. & I. Co. v. Farmers' Independent Ditch Co., 31 Colo. 62, 72 Pac. 49; Burkhart v. Meiberg, 37 Colo. 187, 86 Pac. 98, 6 L. R. A. (N. S.) 1104, 119 Am. St. Rep. 279; and La Jara C. & L. Ass'n v. Hansen, 35 Colo. 105, 83 Pac. 644.

The judgment is reversed and the cause remanded to the District Court of Weld County, with instructions to dismiss the bill.

HILL and GARRIGUES, JJ., not participating.

Parallel Citations

133 P. 1107

End of Document

Ralph Parshall in 1922

Return of Seepage Water to the Lower South Platte River in Colorado
Ralph Parshall (Colorado Ag. College now Colorado State University)
December, 1922.

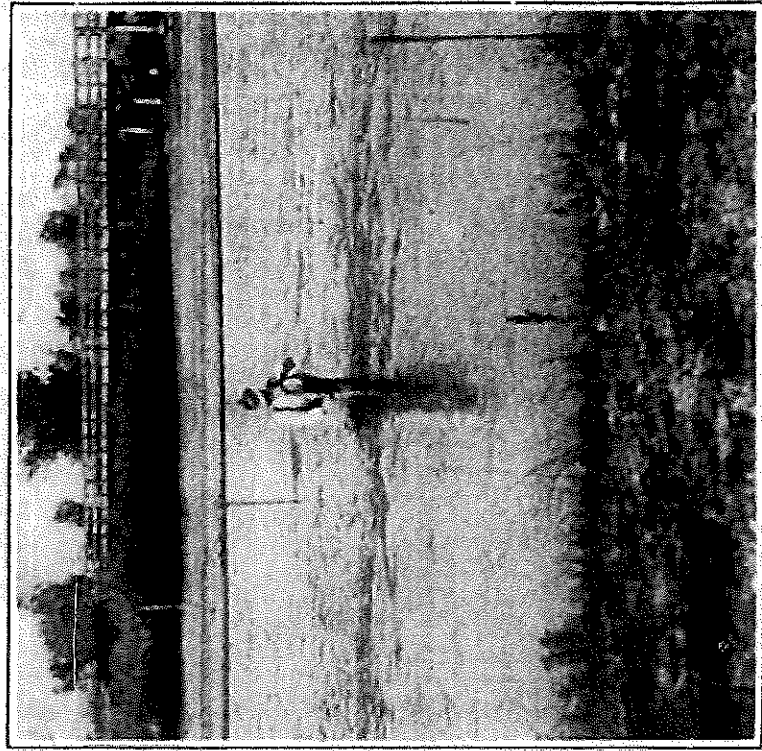


Fig. 23.—River station at Beetland showing a discharge of 300 second-feet which is all seepage or return flow to the river.

Bulletin 279

December, 1922

The Agricultural Experiment Station
OF THE
Colorado Agricultural College

RETURN OF SEEPAGE WATER TO THE LOWER SOUTH PLATTE RIVER IN COLORADO

By RALPH L. PARSHALL



COOPERATION BETWEEN THE DIVISION OF AGRICULTURAL ENGINEERING, BUREAU OF PUBLIC ROADS, U. S. DEPARTMENT OF AGRICULTURE, COLORADO AGRICULTURAL EXPERIMENT STATION, STATE ENGINEER OF COLORADO, AND THE COUNTIES OF WATER DISTRICTS NOS. 1 AND 64 OF COLORADO

PUBLISHED BY THE EXPERIMENT STATION
FORT COLLINS, COLORADO
1922

Ralph Parshall in 1922

The Phenomenon of Return Waters

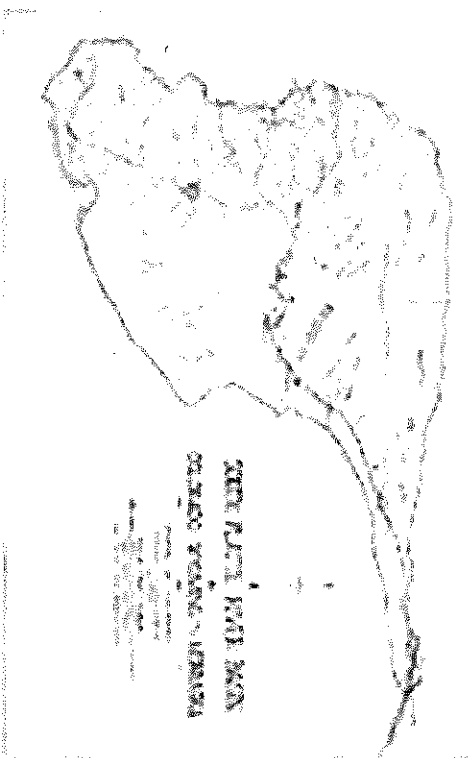
- Return flows were increasing over time and continued to increase, mostly due to the general rise of the water-table over greater areas.
- The water table has risen each year (since the early stages of irrigation development) as much as 100 feet in some areas.
- The artificial application of water to the cultivated fields, caused the ground to be filled with water, resulting in this general rise of the water-table.
- This annual rise and changing slope of the water-table creates a greater pressure on the water beneath, which, in turn, overcomes the normal resistance of the soil and finally permits the displacement of the water in adjacent areas.
- As the practice of irrigation continued and greater areas were affected, it ultimately so increased the pressure that there has resulted, due to the action of gravity, a greater flow through the underground strata; but on account of the great resistance set up by the soil particles, the rate of travel of this underground current is exceedingly slow.”

Ralph Parshall in 1922

Other Findings

- Value of return flows were huge, more than \$2,000,000 or \$3,000 per second-foot.
- Return flows varied from 2 to 8 ½ second-foot per mile and averaged 5 ¼ second-foot per mile.
- Reservoirs contribute about 20% of return flows.
- Ratio of return seepage to irrigated area is approx 1 second-foot to 275 acres.
- There is a yearly increase in seepage return.
- The diversions from the river after the spring floods have subsided are practically all from seepage or return water, and only during summer floods or freshets is the river flow increased.

Delph Carpenter in 1925 South Platte River Compact



Signed by CO and NE in 1923



Signed by CO Governor Clarence J. Morley in 1925

Nature of return flows in the South Platte

“The flow was excessive in May and June and disappeared entirely during the summer. The river frequently became dry for months of each year to points as far west as the present city of Fort Morgan.” – Prior to surface irrigation.

“The flow of return and seepage waters coming back to the river from irrigation of Colorado lands, has resulted in a constant supply at the interstate line.” – After surface irrigation development.

“This flow is increasing and will soon be sufficient to care for the full demands of Nebraska as determined by the compact, while great quantities of water annually flow to waste across the interstate line, during the flood season and winter months.....”

“ The once “disappearing” flood stream has been converted into one of constant flow making possible the development in both states.”

Delph Carpenter, 1925 letter to CO Governor

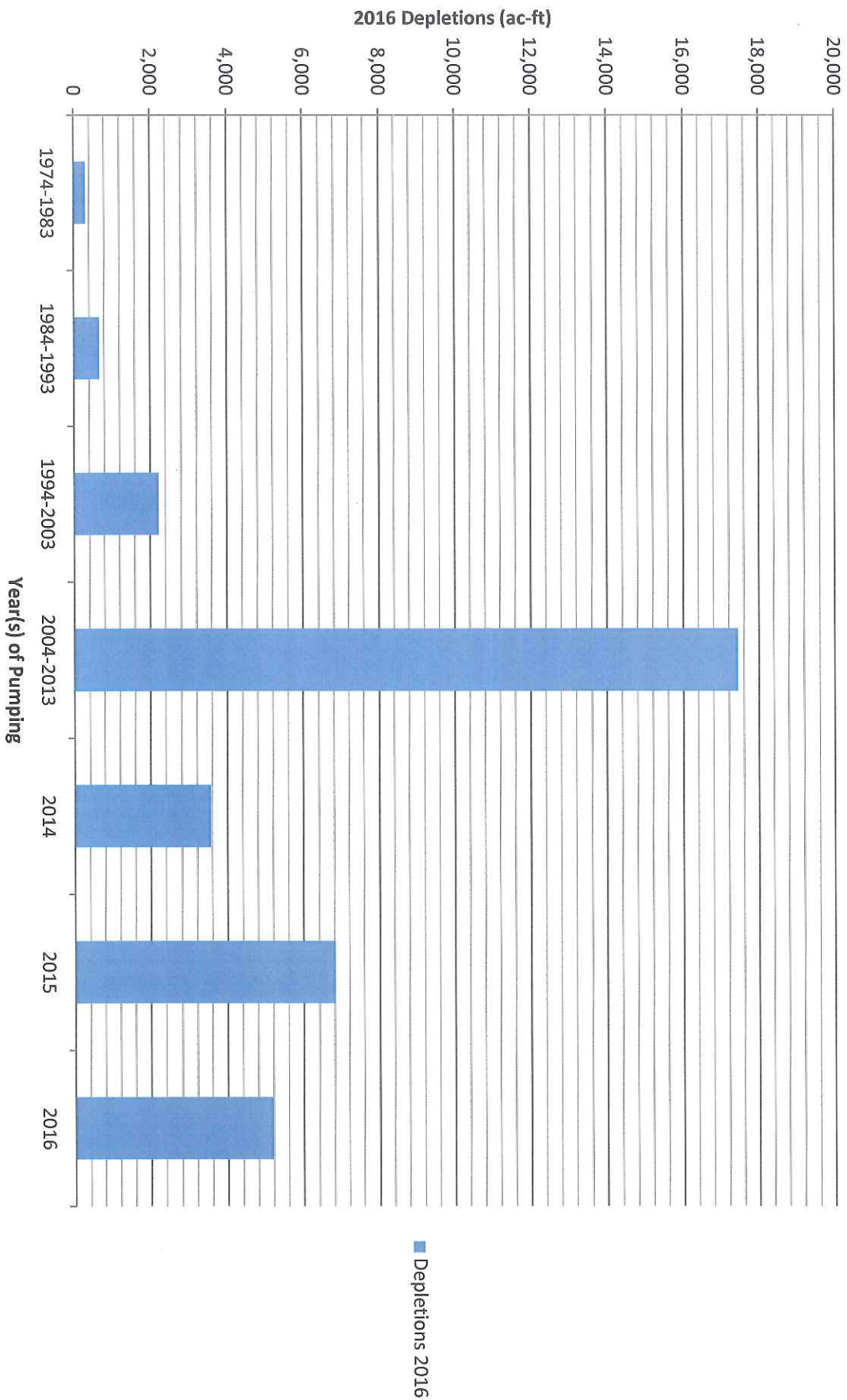
The Water Problem

Ralph Parshall's address to Ft. Collins Rotary Club

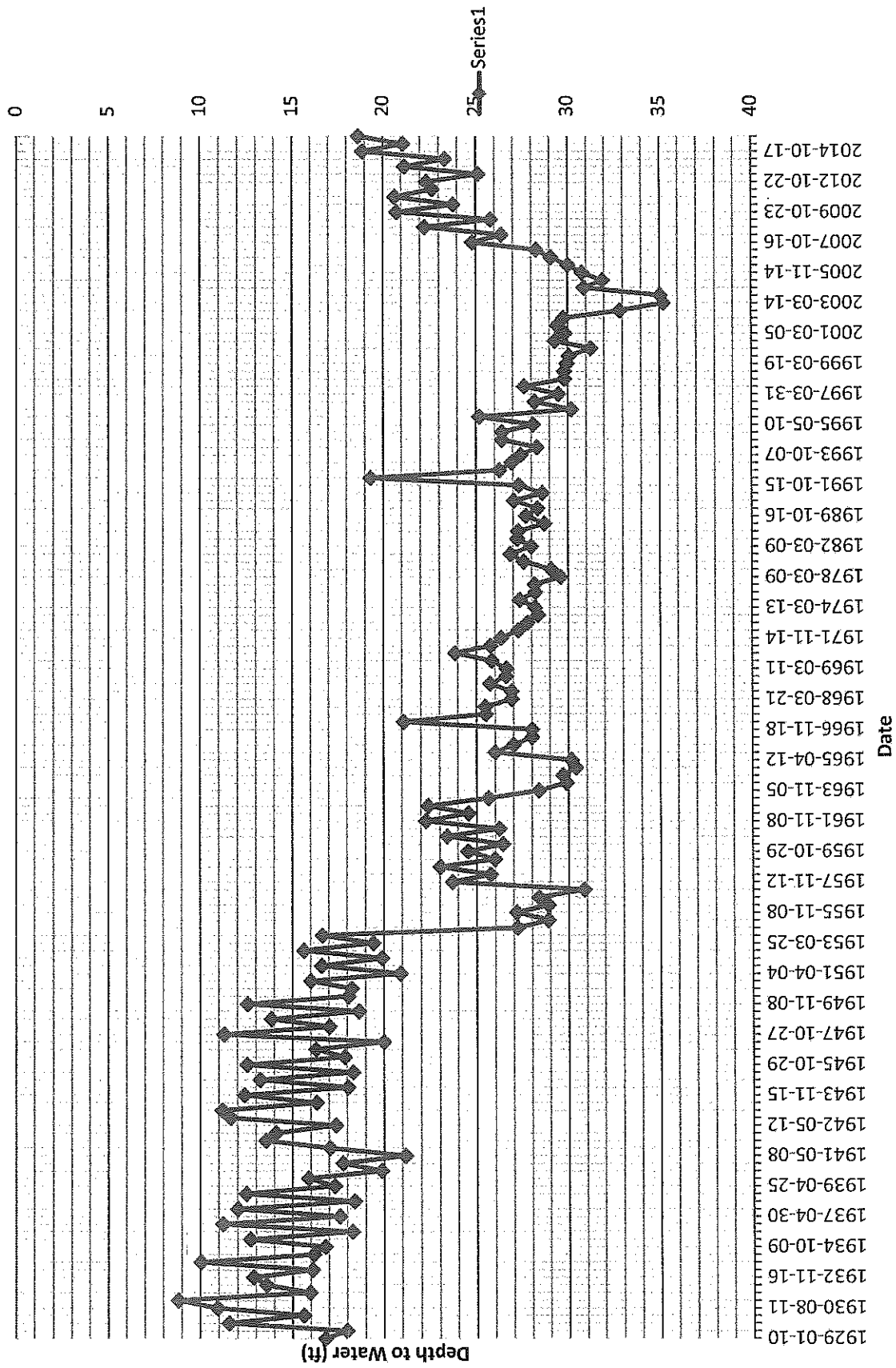
August 29th, 1956

- Several issues impacting the dwindling river and hydrologic conditions.
- Assisted Bureau of Reclamation with C-BT economic report in 1932-1933 and together concluded: that about one-third of the season use of 300,000 acre-feet (from C-BT) in direct irrigation would result in some 100,000 ac-ft in the return flow.
- Return flows have been investigated since the early 1880s and these past records strongly indicated a steady increase in the return flow to the river.
- In 1956 found that seepage return was practically nil.
- Partly due in the fact, that between Kersey and Julesburg, more than 4000 irrigation wells pumped to deliver enough water to fill Horsetooth Reservoir four times during the season of 1955 (584,000 ac-ft).
- Appeared obvious that we cannot continue depleting the underground reservoir at that rate.

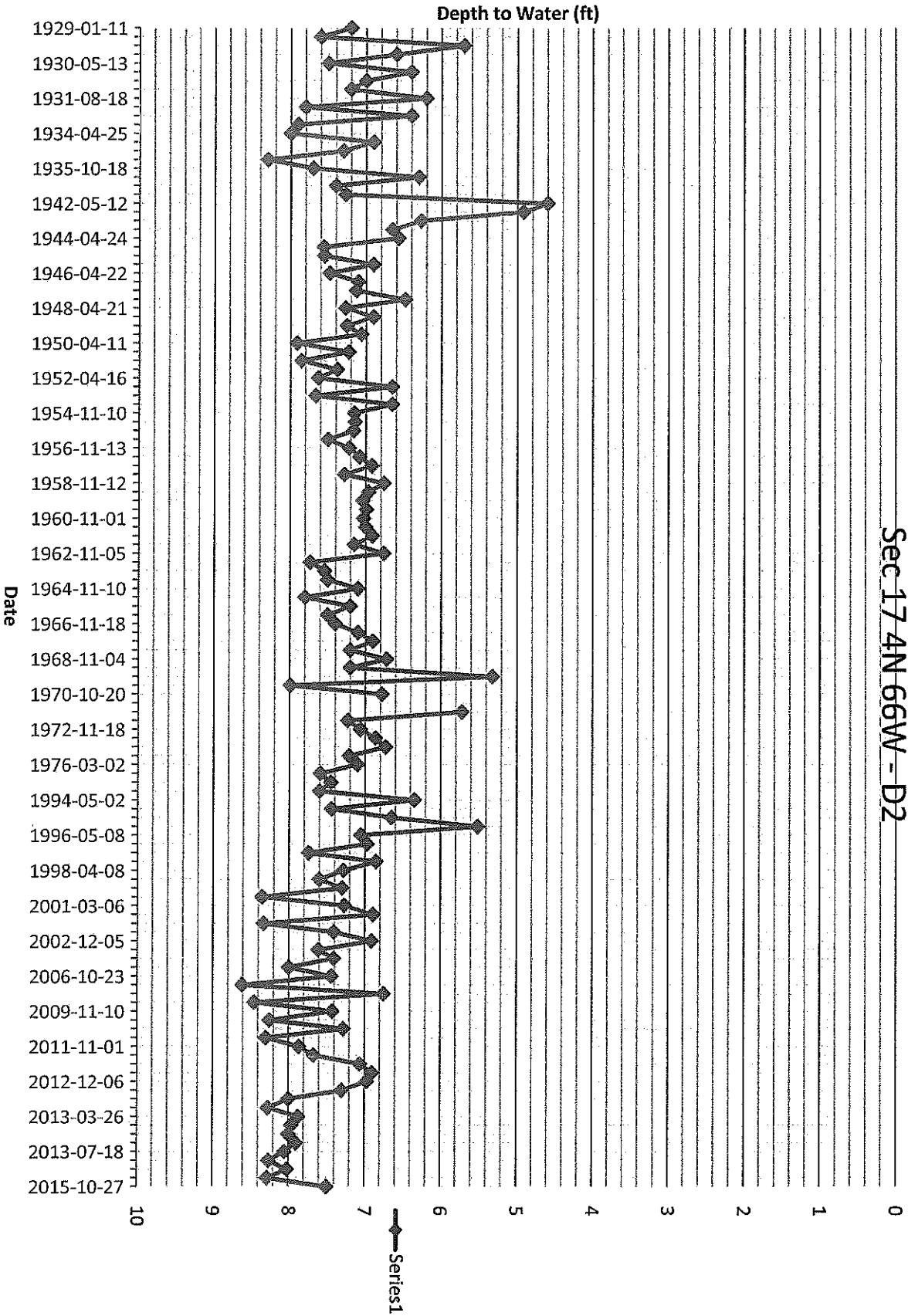
2016 Amount of Stream Depletions (Ac-Ft) from 685 (subset) wells in District 1 and District 64 According to year(s) pumped



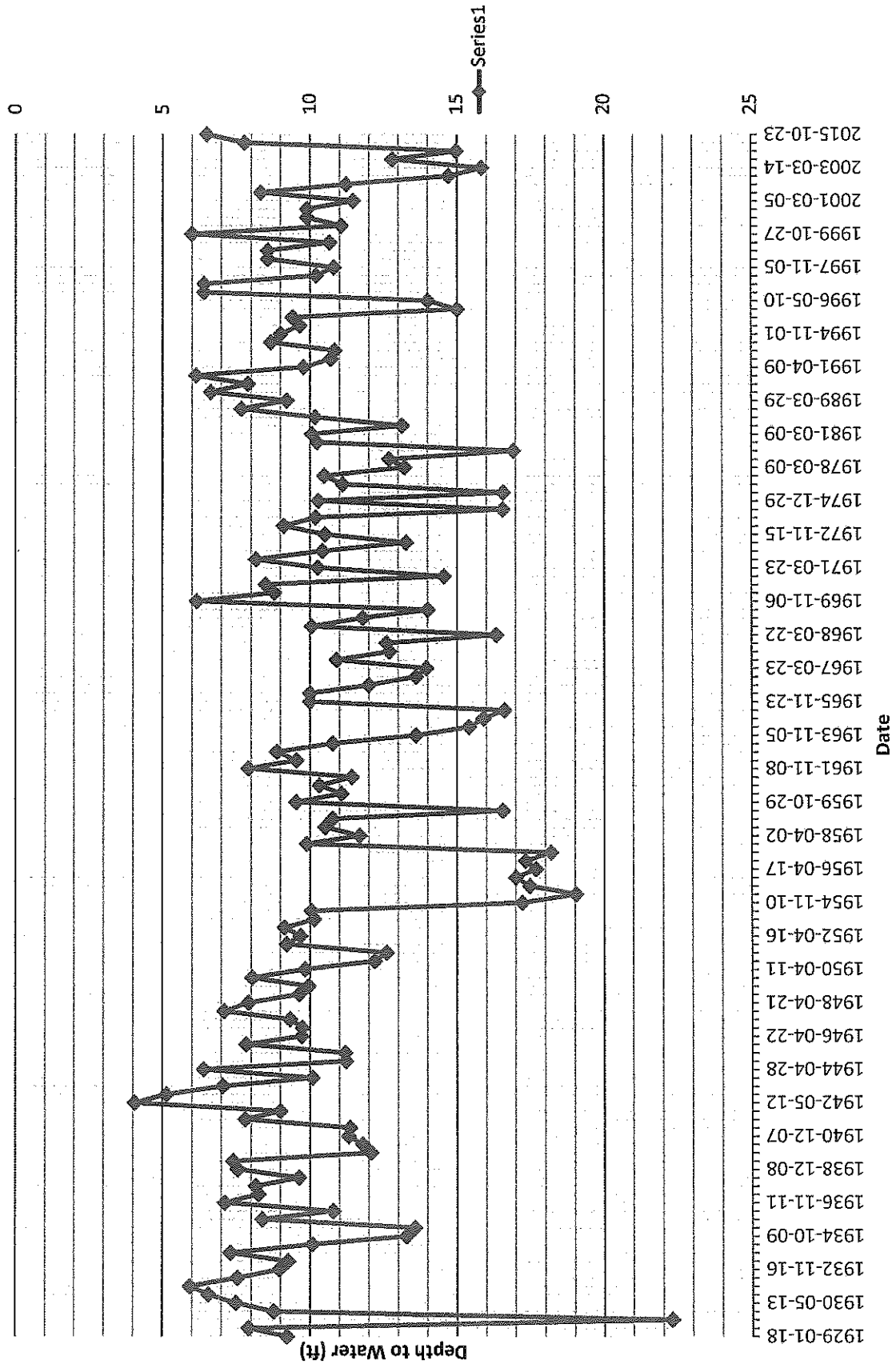
12040-R
Sec 14 4N 66W - D2



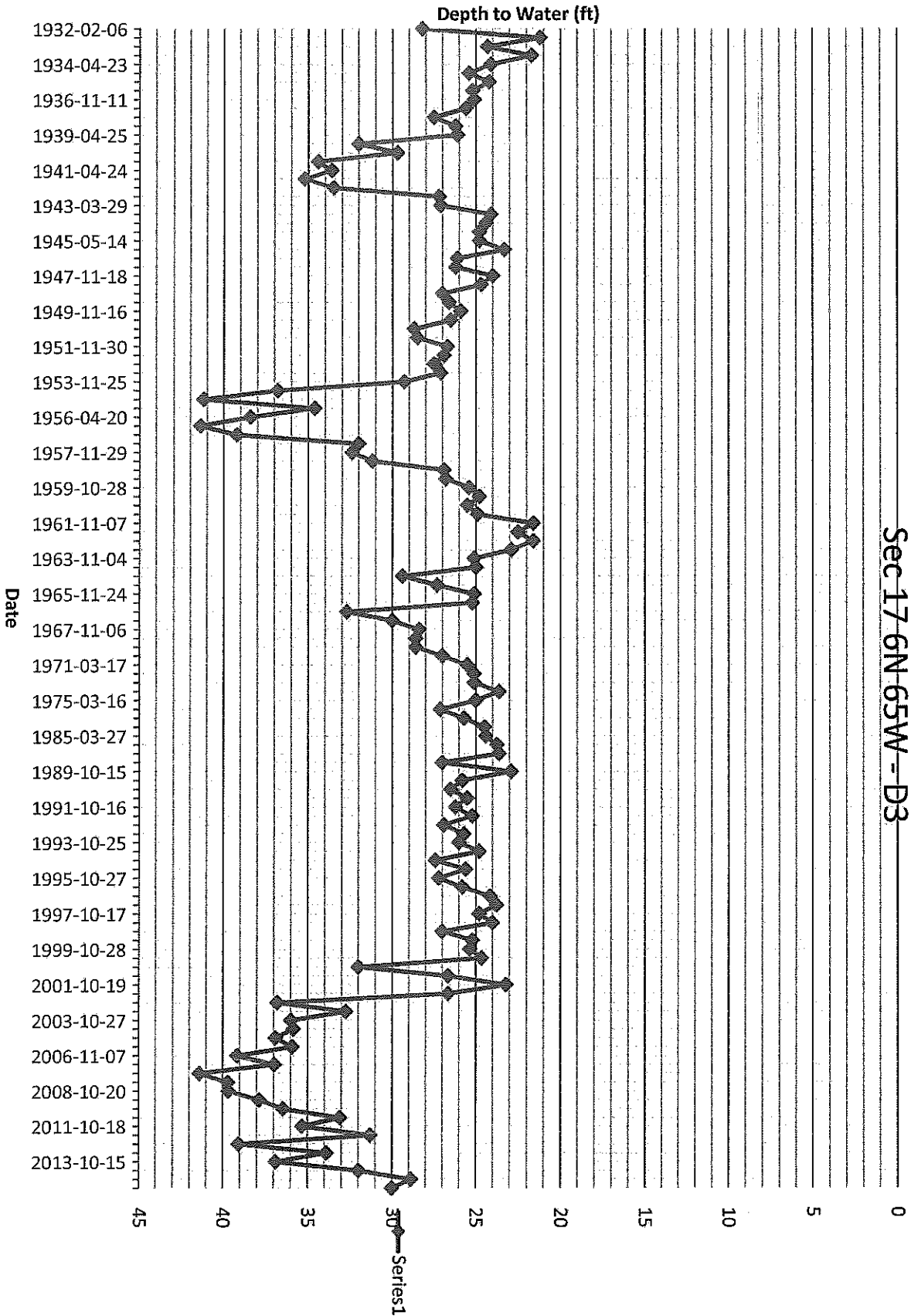
739-R
Sec 17 4N 66W - D2



14189-R
Sec 18 4N 65W - D2

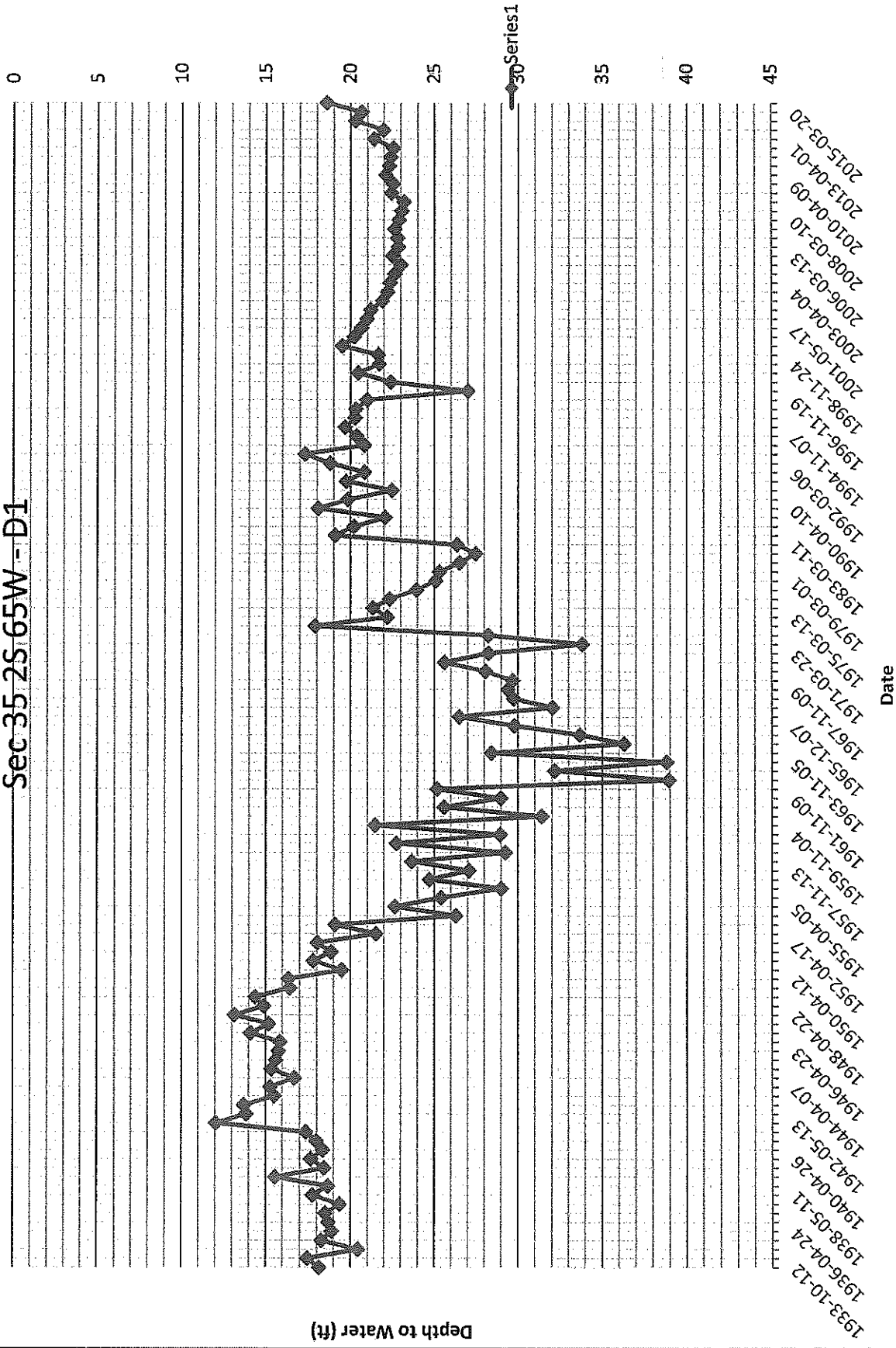


13423-R
Sec 17 6N 65W - D3



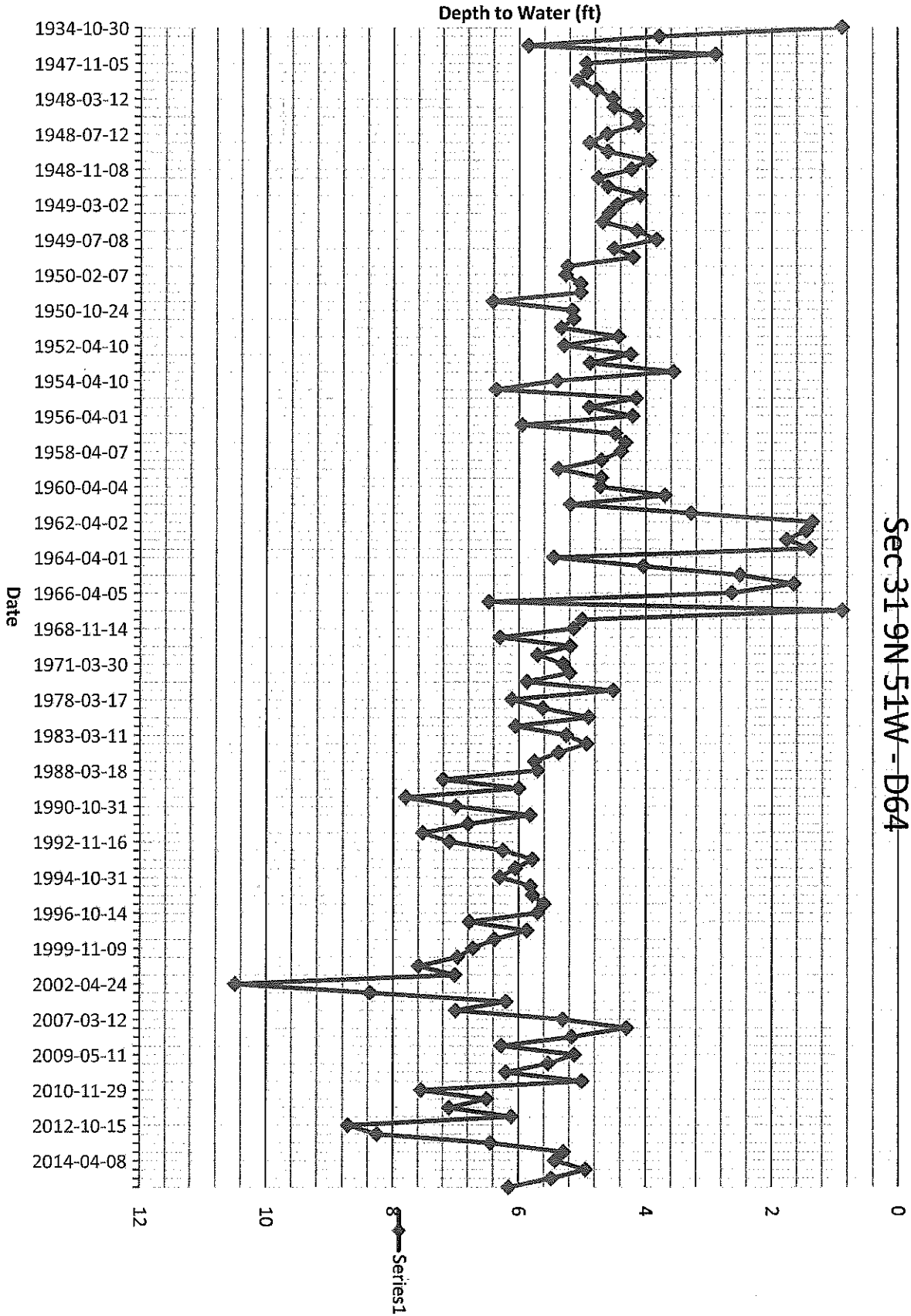
18380-R

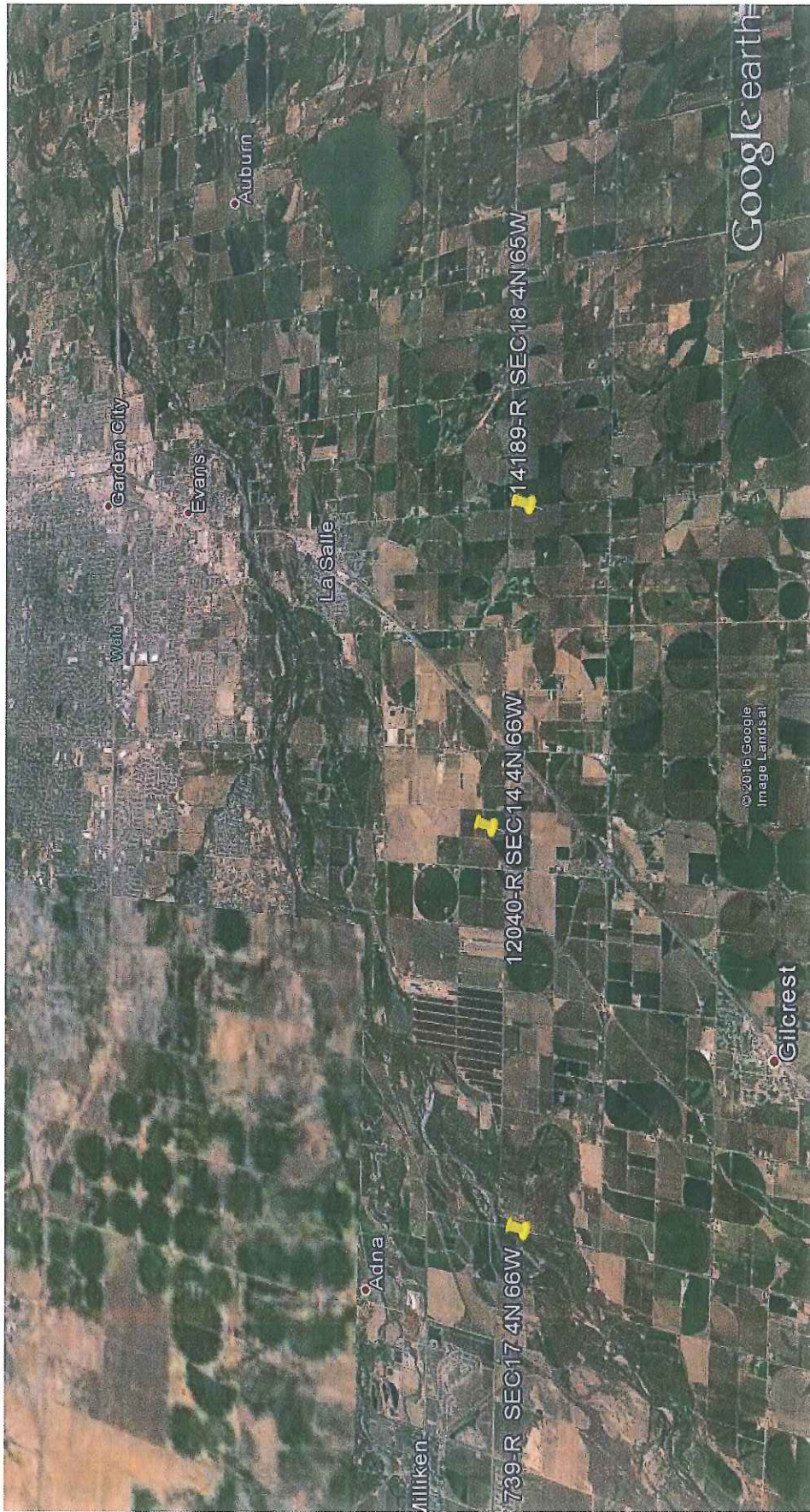
Sec 35 2S 65W - D1



9322-F

Sec 31 9N 51W - D64





Google earth

© 2015 Google
Image Landsat

Gilcrest

Auburn

Garden City

Evans

La Salle

Weld

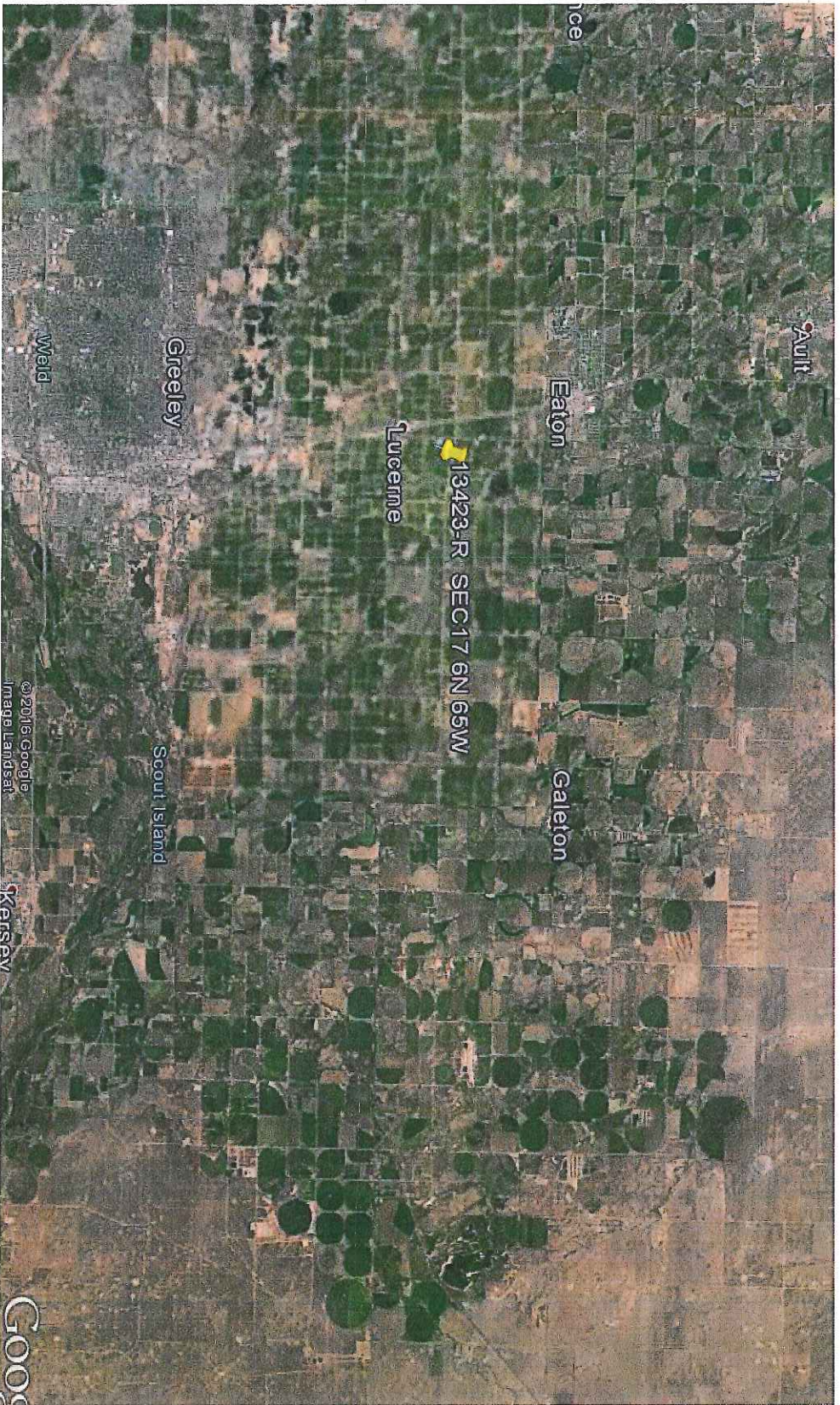
Adna

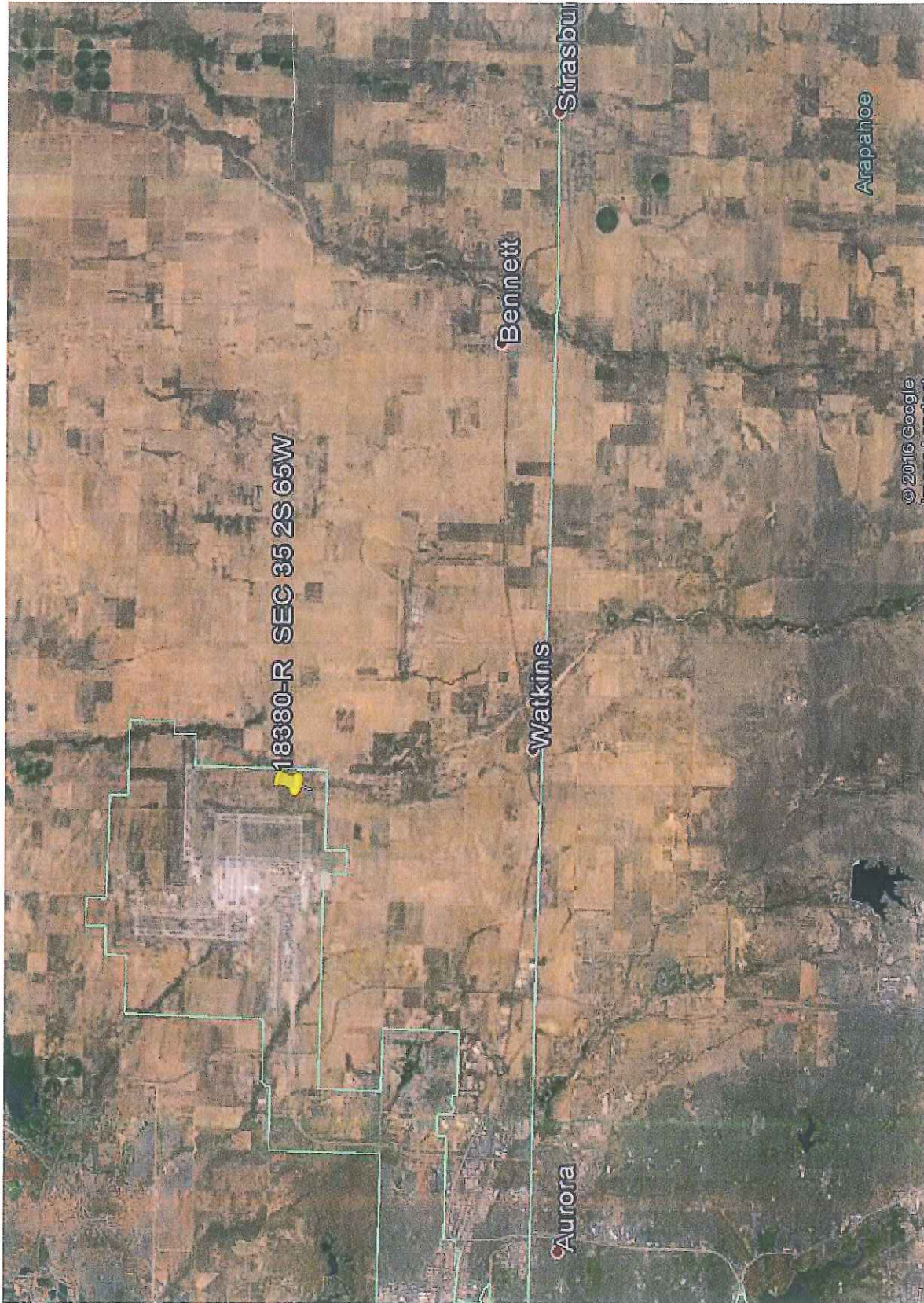
Milliken

739-R SEC17 4N 66W

12040-R SEC14 4N 66W

14189-R SEC18 4N 65W





18380-R SEC 35 2S 65W

Aurora

Watkins

Bennett

Sirasburg

Arapahoe

© 2016 Google

