Appendix L

Groundwater Conditions in the Vicinity of Planned Wetpit Mining Operations

Shifler Property

February 2016

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

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GROUNDWATER RESOURCES
HYDROLOGY · DEVELOPMENT · MANAGEMENT

February 8, 2016
File No. 10-1-074

Mr. Jason Smith
A.Teichert & Sons, Inc.
3500 American River Drive
P.O.Box 15002
Sacramento, CA 95851

SUBJECT: GROUNDWATER CONDITIONS IN THE VICINITY OF PLANNED WETPIT MINING OPERATIONS SHIFLER PROPERTY

Dear Mr. Smith:

Per your request, we have prepared a report of groundwater conditions in the vicinity of the Shifler Property for inclusion with Teichert Aggregates' wetpit aggregate mining and reclamation application for the property. The report includes a description of groundwater conditions, in particular relative to Teichert's planned aggregate mining operations and reclamation, and provides an evaluation of potential impacts to groundwater from the proposed project. Also included are recommendations for groundwater monitoring at the Shifler property.

Please contact us with any questions you may have regarding the report.

Sincerely,

LUHDORFF AND SCALMANINI CONSULTING ENGINEERS

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Groundwater Conditions in the Vicinity of Planned Wetpit Mining Operations

Shifler Property

Prepared for
Teichert Aggregates

Luhdorff and Scalmanini
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Woodland, California

February 2016

LSCE 10-1-074

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1. Introduction

In 1986, as part of its planning associated with aggregate production, management, and reclamation, Teichert Aggregates retained Luhdorff and Scalmanini, Consulting Engineers to investigate shallow groundwater elevations in the alluvial aggregate materials beneath and immediately adjacent to Cache Creek in the vicinity of its Woodland plant. The plant and adjacent mining properties, including the Shifler property, are shown in a map of the area of investigation (Figure 1). The monitored reach of the creek for that investigation, which has continued to the present, extends approximately two miles upstream and downstream of the Stevens Bridge at Road 94B. The area of investigation includes four properties originally planned and permitted for off-channel mining and reclamation (Coors, Muller, Storz, and Haller), the Schwarzgruber property permitted in fall 2012 for mining and reclamation, and the Shifler property currently proposed for off-channel mining and reclamation by Teichert Aggregates. All six Teichert Woodland properties are generally located adjacent to Cache Creek and extend up to one-half mile north and one mile south of the Creek.

As background, a group of piezometers had been installed in 1979 to monitor the Coors property for its previous owner. The piezometers were subsequently incorporated into the Teichert monitoring network, and an additional group of dedicated shallow monitoring wells was installed throughout the study area in June 1986 through 1987 to monitor the Teichert Woodland plant and surrounding properties. Additional dedicated shallow monitoring wells were installed during November 1992 to better define groundwater conditions beneath the Coors and Haller properties, and replacement monitoring wells have been installed around the Storz property as recently as 2009. All monitoring wells are located adjacent to the creek and completed in the shallow aquifer, which locally is composed of unconsolidated aggregate materials. The monitoring wells were to allow the regular measurement of shallow groundwater levels in order that seasonal fluctuations or other variations could be measured and recorded with time.

In addition to the shallow monitoring wells, three shallow water supply wells were included in the Teichert monitoring network (Schwarzgruber, Yolo Fliers Club West, and Stephens wells). Further, to complement the shallow monitoring wells, numerous water supply wells completed in the deep portion of the aquifer, which locally is composed of moderately consolidated alluvium, were included in the monitoring network. The groundwater level data collected from the monitoring network allows for comparisons between the shallow and deep aquifer system. Since the shallow aquifer is generally in direct hydraulic continuity with Cache Creek, whereas the deep aquifer is primarily pumped for agricultural and other irrigation water supply, the monitoring program was conceived to have three general objectives:

- provide local data on which to assess the impacts of historical aggregate mining that occurred in the creek channel;
- provide ongoing local data on which to base planning for off-channel mining and reclamation; and
- provide specific groundwater data from both the shallow and deep portions of the aquifer

system as a basis for differentiating between any direct effects of aggregate mining and other impacts on groundwater conditions.

Following completion of the monitoring wells in June 1986, groundwater levels were measured in the network of monitoring and water supply wells on a monthly basis until 1997, when the measuring frequency became quarterly. These data, as well as groundwater level data from area water supply wells monitored by the Yolo County Flood Control and Water Conservation District (YCFCWCD), are summarized in this report to highlight four areas of interest: 1) the variations in shallow and deep groundwater levels versus time; 2) the differences between shallow and deep groundwater levels; 3) groundwater elevations and the associated direction of groundwater movement beneath and adjacent to the creek at selected times; and 4) the relationship between shallow groundwater levels, the adjacent theoretical thalweg of Cache Creek, and aggregate materials relative to potential off-channel aggregate mining and reclamation. The groundwater level data have also been used in combination with aquifer characteristics and well yields to analyze the potential impacts of planned mining and reclamation projects on groundwater levels in nearby private water supply wells.

This report has been prepared to describe the historical groundwater conditions in the vicinity of the Shifler property and Teichert's other Woodland properties, based on the monitoring data described above, and provide an assessment of the potential impacts to groundwater levels and quality that might arise from the proposed mining and reclamation of the Shifler property. Following an Executive Summary (Chapter 2) of this investigation's key findings, the report provides a description of the following:

- the groundwater and pond water monitoring program used in the analysis (Chapter 3);
- hydrographs depicting groundwater levels in individual wells through time (Chapter 4);
- contour maps of equal groundwater elevation for selected periods (Chapter 4);
- the available information and data regarding water quality in the vicinity of Cache Creek and the six Teichert Woodland properties (Chapter 4);
- the relationship between shallow groundwater levels and off-channel aggregate materials toward reclamation planning for the Shifler property (Chapter 5);
- the predicted impacts on groundwater levels in the vicinity of the Shifler property that may derive from Teichert's proposed mining and reclamation plan (Chapter 6);
- recommendations for future groundwater monitoring (Chapter 7); and
- references utilized in the investigation (Chapter 8).

2. Executive Summary

Conclusions drawn from the groundwater level data obtained during the last several decades of monitoring in the vicinity of Teichert's Woodland properties can be summarized in the following findings:

- Groundwater elevations are partly influenced by the Plainfield Ridge in the vicinity of Road 94B. The Plainfield Ridge affects groundwater levels in a manner similar to a dam, with resultant groundwater levels west of the ridge (Coors property and the southern portion of the Haller property) generally higher in elevation and more stable than levels immediately to the east (beneath the Storz, Shifler, Muller, and Schwarzgruber properties and Teichert Woodland plant).

- Seasonal and long-term fluctuations in shallow groundwater levels have been observed across the area of investigation, likely in response to variations in climatic conditions, which in turn affect streamflow conditions, including recharge to the aquifer system, and groundwater pumping for irrigation supply.

- Deep groundwater levels vary greatly in response to seasonal pumping and are not directly indicative of groundwater conditions as affected by Cache Creek streamflow or local land use activities. Deep groundwater levels remain continuously separate from, and deeper than, groundwater levels in the shallow aquifer.

Groundwater quality on the Teichert Woodland properties has been monitored in accordance with mining permit conditions, with results indicating that general mineral and inorganic constituent concentrations do not limit the beneficial use of groundwater. Groundwater quality monitoring of organic compounds, including petroleum hydrocarbons and agricultural pesticides, has also been conducted under the permit conditions, with results indicating no impairment of groundwater quality. The results of sampling mining ponds on the Muller, Coors, and Storz properties have similarly indicated no impairment of groundwater quality.

Consideration was given to Teichert's expressed desire to develop a wetpit mining plan and reclamation plan for the Shifler property. Upon review of historical groundwater level hydrographs, contour maps, and lithologic logs of wells and borings for the property and surrounding area, it was determined that there are good data on which to describe groundwater levels and their relationship to aggregate materials beneath the Shifler property as input to wetpit mining and reclamation planning. In regard to the latter, the proposed reclamation is to below-grade agricultural land on the western and eastern portions of the property and a seasonal pond in the central portion. Input to Teichert's reclamation planning can be based on the prediction that groundwater levels and, thus, the seasonal pond water levels, will vary seasonally and annually depending on hydrologic conditions over time.

Regarding the predicted reclaimed seasonal pond water levels, during stable hydrologic periods, those pond water elevations can be expected to fluctuate seasonally about ten feet, between approximately

47 and 57 feet, NAVD88, during the fall and spring, respectively. During wet hydrologic periods, spring high pond water elevations would be expected to reach approximately 66 feet, NAVD88; and in the event of prolonged wet conditions, spring high elevations could reach 70 feet NAVD88. During dry hydrologic conditions, pond water levels will likely exhibit a progressive annual decline with fall low elevations of about 42 feet NAVD88; and in the event of prolonged dry conditions, fall low elevations would be expected to decline further to about 37 feet NAVD88.

Regarding the predicted local groundwater levels following reclamation, an analysis was conducted to evaluate the potential impacts from the proposed reclamation to groundwater levels, specifically in the area encompassing water supply wells located within 1,000 feet of the mining boundary. This analysis is in accordance with the Yolo County Surface Mining Reclamation Ordinance (SMRO), specifically Section 10-5.503 (Yolo County Board of Supervisors, 1996). The results of the analysis, which were derived from a calibrated numerical groundwater flow model utilizing MODFLOW, indicate that post-reclamation groundwater levels would be expected to be higher west of the Shifler property and lower east of the property compared to non-project (baseline) levels. This prediction reflects the localized impedance of groundwater flow that is expected through the backfilled material of the reclaimed agricultural field areas. For water supply wells along the western boundary of the Shifler property, such as along County Road 94B, post-reclamation water levels would be expected to be as much as five feet higher; in water supply wells along the east and southeast boundary of the property, such as along County Road 22, post-reclamation water levels would be expected to be unaffected to as much as three feet lower. As such, based on the predicted groundwater levels, the proposed mining and reclamation is not expected to have adverse effects on the operation or performance of the nearby water supply wells, and the proposed setback distance between the wells and reclaimed seasonal pond is considered sufficiently protective of groundwater supply (levels).

An additional Yolo County requirement is to assess potential groundwater quality impacts from proposed aggregate mining projects, specifically to conduct a capture zone analysis for all domestic wells within 500 feet of the mining pond boundary. This requirement derives from the Yolo County Off-Channel Surface Mining Ordinance (OCSMO), specifically Section 10-4.427 (Yolo County Board of Supervisors, 1996). However, the capture zone analysis was not completed as part of this study due to the lack of any such wells within that proximity. Such a capture zone analysis, which would have been coupled with a particle tracking program, would have predicted the likelihood of individual domestic well pumping inducing the flow of water directly from the nearby mining pond to each well. In order to address water quality concerns, assessment was made of past and proposed mining and reclamation activities at the Teichert off-channel mining properties (including the proposed Shifler property), as well as the historical water quality monitoring results for the Teichert mining properties. This assessment indicates that mining and reclamation activities are protective of water quality; in fact, that no impacts to mining pond, reclaimed seasonal pond, or groundwater quality have been observed historically. Further, the proposed project will include groundwater level and quality monitoring, as well as mining pond and reclaimed seasonal pond water quality monitoring, at the Shifler property, in accordance with Yolo County OCSMO requirements, specifically Section 10-4.417. Thus, with past monitoring results as an indication of potential water quality impacts from the proposed Shifler project, and the planned water level and quality monitoring program, the proposed setback distance between nearby domestic water supply wells and the reclaimed seasonal pond is considered sufficient for protection of groundwater supply (quality).

3. Groundwater and Pond Monitoring Program

3.1 Well Monitoring

The groundwater monitoring network across the Teichert Woodland properties currently consists of over 26 monitoring wells and 13 water supply wells monitored by Teichert. In addition, numerous water supply wells near the Teichert Woodland properties are monitored by the YCFCWCD. The locations of these wells are shown in Figure 1, and the well characteristics and periods of record for water level and quality monitoring are listed in Table A1 of the Appendix.

On the **Haller** property (north of Shifler), four monitoring wells (TA-10, -11, -12, and -24) are completed in the shallow unconfined aquifer and have been monitored for groundwater levels.

On the **Muller** property (north of Shifler), three monitoring wells (TA-13, -13A, and -14) are completed in the shallow unconfined aquifer; a fourth well, Muller, is an agricultural well completed in the lower confined portion of the aquifer. All these wells have been monitored for groundwater levels, and wells TA-13A and TA-14 have been utilized for groundwater quality monitoring.

On the **Coors** property (west of Shifler), eight monitoring wells (TA-1A, -3A, -4, -5, -5A, -6, -22, and -23) are completed in the shallow unconfined aquifer; three water supply wells (Coors North, Teichert Domestic, and Muller #2) are completed in the lower confined portion of the aquifer. All these wells have been monitored for groundwater levels, and wells TA-1A, TA-3A, and TA-5A have been utilized for groundwater quality monitoring.

On or near the **Storz** property (west of Shifler), three monitoring wells (TA-8, -25, and -9R) and two water supply wells (Yolo Fliers Club West and the same Stephens well) are completed in the shallow unconfined aquifer; two other water supply wells (Yolo Fliers Club East and Storz) are completed in the lower confined (or semi-confined) portion of the aquifer. All these wells have been monitored for groundwater levels, and wells TA-9R and TA-25 and the Stephens well have been utilized for groundwater quality monitoring.

On the **Schwarzgruber** property (northeast of Shifler), one monitoring well (TA-18) and one water supply well (Schwarzgruber) are completed in the shallow unconfined aquifer; a third well (Schwarzgruber #2) is an industrial water supply well completed in the lower confined portion of the aquifer. All these wells have been monitored for groundwater levels, and well TA-18 and the Schwarzgruber well have been utilized for groundwater quality monitoring.

On the **Shifler** property itself, the Stephens water supply well is completed in the shallow unconfined aquifer and has been monitored for groundwater levels and quality.

At the **Teichert Woodland plant** (northeast of Shifler), three monitoring wells (TA-15, -16, and -17) are completed in the shallow unconfined aquifer; two water supply wells (Teichert Plant and Teichert Plant Domestic) are completed in lower confined portions of the aquifer. All these wells have been monitored for groundwater levels, and well TA-17 and the Teichert Plant Domestic well have been utilized for groundwater quality monitoring.

At each well in the Teichert monitoring network, the elevations of the ground surface and well heads were surveyed to an accuracy of 0.01 foot and horizontal control was determined by GPS survey. For most YCFCWCD wells, reference point elevations have been estimated to an accuracy of several feet and horizontal control determined by aerial photographs and GPS survey. All water level measurements made by Teichert are made to one-hundredth of a foot, while those made by the YCFCWCD are to one-tenth of a foot.

Regarding the period of record and frequency of measuring water levels in the Teichert monitoring program wells, measurement of these wells commenced as early as 1986 on a monthly basis until 1997, when the frequency was reduced to a quarterly basis. The YCFCWCD wells have data records as early as the 1940s and are measured on a semi-annual basis (spring and fall).

Regarding the water quality sampling of the Teichert monitoring program wells, selected up-gradient and down-gradient shallow wells for each property are sampled during the first two years of active mining on a semi-annual basis. During subsequent mining and active reclamation of the property, the wells are sampled annually. Following reclamation of a property, the sampling frequency is reduced to a biennial basis. Groundwater quality sampling commenced at least six months prior to the removal of overburden at each Teichert property, from 1997 (Muller), 2005 (Coors), and 2009 (Storz). In addition, although mining has yet to be commenced by Teichert at the Schwarzgruber property, groundwater quality sampling for the property began in 2012. The number, depth, and location of wells for sampling, as well as the commencement and progression of sampling frequency described above, is per Yolo County OCSMO requirements, specifically Section 10-4.417.

The groundwater quality analyses include a full suite of chemical constituents, specifically general minerals and inorganics (per Title 22 requirements); total petroleum hydrocarbons as diesel and motor oil (TPH-diesel/motor oil); the aromatic hydrocarbons benzene, toluene, ethyl benzene, and xylenes (BTEX); organophosphorus pesticides and organochlorine herbicides; and total coliform with E. coli confirmation. Following completion of reclamation of the properties, the analyses change to a reduced suite of constituents, including pH, temperature, nutrients (phosphorus and nitrogen), total dissolved solids (TDS), total coliform (with E. coli confirmation), and biological oxygen demand (BOD). The chemical constituent analyses listed above are also per Yolo County OCSMO requirements, Section 10-4.417.

3.2 Pond Monitoring

Since 2005, the progressive wetpit mining on the Muller, Coors, and Storz properties of aggregate materials, which comprised portions of the shallow aquifer, created ponds on each property with pond water levels that reflected the local shallow groundwater levels. According to the Yolo County OCSMO, Section 10-4.417, during active wetpit mining, and as mining progressed to active reclamation of the ponds, water quality sampling and analyses have been conducted on a semi-annual basis. The pond sampling periods of record commence in 2005 (Muller), 2007 (Coors), and 2011 (Storz). Since completing reclamation of the Muller property to agricultural field and seasonal pond in 2010, the pond continues to be sampled on a biennial basis. Following complete reclamation of the Coors property to agricultural field in 2015, no pond remained to be sampled. With the future transition of active mining to active reclamation at the Storz property, the existing mining pond continues to be sampled on a semi-annual basis. The water quality sampling conducted in the Muller, Coors, and Storz ponds have been on a schedule in accordance with the Yolo County OCSMO, Section 10-4.417.

Also according to OCSMO Section 10-4.417, the mining pond and reclaimed seasonal pond water quality analyses conducted in the Muller, Coors, and Storz ponds have been the same as for the groundwater quality monitoring described above, with a full suite of chemical constituent analyses during active mining and reclamation, and a reduced suite following reclamation.

4. Groundwater and Pond Water Conditions

Historical groundwater level data on and in the vicinity of the Shifler property were analyzed to provide input to Teichert's off-channel mining planning for the property. Toward this objective, hydrographs of groundwater levels in selected shallow and deep wells were prepared and are presented in this Section, as are contour maps of equal groundwater elevation for selected periods of time. Hydrographs of general mineral constituent concentrations in selected wells on the Teichert Woodland properties are also included in this Section. Groundwater level hydrographs for all Teichert monitoring network wells and nearby YCFCWCD wells are provided in the Appendix; additionally, all available groundwater level and quality data from the Teichert monitoring network wells are provided in Tables A2 and A3, respectively, of the Appendix (LSCE, 2015).

4.1 Shallow Groundwater Levels

In the study area encompassing the Shifler property, groundwater conditions have varied with the Teichert Woodland properties. Shallow groundwater levels beneath the Shifler property have been observed to fluctuate seasonally and over the long-term since monitoring on the property began in 1987. Groundwater levels in the Stephens water supply well, which is completed in the uppermost aggregate materials proposed for mining, were lowest during the 1987-92 drought and highest during the 1993-98 wet period and in 2006. Seasonal fluctuations varied from about 10 feet during the comparatively-stable hydrologic conditions observed since 1998, to as much as 15 feet during the 1993-98 wet period and as little as four feet during the prolonged dry conditions in the early 1990s. The historical groundwater levels in the Stephens well are shown in a hydrograph (Figure 2).

Beneath the nearby Muller, Storz, Haller, and Schwarzgruber properties, which are located east of the Plainfield Ridge, similar groundwater level fluctuations have been observed, both seasonally and over the long-term. Shallow monitoring and/or water supply wells on these properties completed in the uppermost aggregate materials have been monitored since as early as 1986, and those groundwater elevation data are shown in composite hydrographs by property (Figures 3, 4, 5, and 6). Groundwater levels beneath the Muller and Storz properties, as seen in Figures 3 and 4, respectively, fluctuate such that the most shallow wells (Muller TA-11 and -13, Storz TA-7 and -8) repeatedly go dry during drought, shorter dry periods, and following each spring. The deeper monitoring well TA-13A shows long-term and seasonal groundwater level fluctuations similar to those beneath the Shifler property (as seen in the Stephens water supply well). Groundwater levels at the Haller and Schwarzgruber properties, as seen in Figures 5 and 6, respectively, also fluctuate in a manner similar to those at the Shifler property.

Further upstream and west of the Plainfield Ridge, the Coors property has had groundwater levels instead show a long-term stability with minor seasonal fluctuation (typically less than three feet), as illustrated in a composite groundwater elevation hydrograph for the Coors monitoring wells (Figure 7). As will be discussed later in this Section, groundwater generally flows from west-northwest to east-southeast, and groundwater beneath the Coors property is directed toward Cache Creek by the adjacent Dunnigan Hills and partially dammed behind the Plainfield Ridge. In fact, as shown in

Figure 5, this effect on groundwater levels extends as far east as the western-most portion of the Haller property at monitoring well TA-10, in which seasonal water level fluctuations are typically less than two feet.

The variation in long-term and seasonal groundwater level fluctuations across the area of investigation can be seen in a map of the Shifler property and vicinity with groundwater level hydrographs from selected area shallow wells (Figure 8). In particular, it is apparent that water level fluctuations beneath the Shifler property are similar to those in the surrounding areas where wells have been monitored by the YCFCWCD as far back as the 1950s.

4.2 Deep Groundwater Levels

Groundwater levels in the deep water supply wells exhibit a similar pattern of seasonal fluctuations in response to summer pumping for irrigation and subsequent winter recovery. Further, they show similarities in long-term fluctuations with declines in drought or dry periods, apparently due to increased dependence on groundwater, and partial or full recovery during wet periods, likely due to greater availability of surface water deliveries from the YCFCWCD. Seasonal and long-term groundwater level fluctuations can be seen in a map of the area of investigation with groundwater level hydrographs from selected area deep wells (Figure 9). Groundwater elevations in the deep wells are also typically lower than those in shallow wells, and with greater seasonal fluctuation, as can be seen for example in the composite groundwater level hydrograph for the shallow Stephens well, which is 75 feet deep, and the deep Storz well, which is 168 feet deep (Figure 10).

Of significance at this point, with particular regard to the matter of aggregate extraction from the shallow aquifer, is the fact that deep groundwater levels are significantly influenced by seasonal pumping conditions and not directly indicative of shallow groundwater conditions. Instead, shallow groundwater conditions are directly related to and affected by the direct recharge of streamflow and other surface waters, as well as the percolation of agricultural return flows, to the shallow aquifer. While the deep aquifer experiences significant seasonal water level fluctuations, on the order of 25 to 40 feet in some deep wells, the shallow aquifer levels have remained relatively stable, as its water levels generally respond quickly to streamflow and other surface activities but not directly to deep pumping.

4.3 Groundwater Elevation Contour Map Analysis

Based on an assessment of groundwater level hydrographs and hydrogeologic information from the area of investigation, a series of maps showing contours of equal groundwater elevation at selected time periods was developed. Specifically, the contour maps were developed for those periods when groundwater levels were at either long-term highs or lows: spring 1986, fall 1992, spring 1998, spring 2006, and fall 2008 (Figures 11 through 15).

The contours of equal groundwater elevation for spring 1986 seen in Figure 11 indicate groundwater flowed generally in an east-southeasterly direction with some steepening of the gradient across the Plainfield Ridge area. By fall 1992, which comprised the sixth and last consecutive year of a prolonged drought period in the area, groundwater continued to flow in an east-southeasterly direction; however, groundwater elevations had declined in the western part of the area and were substantially lower in the eastern portion, including beneath the Shifler property, as seen in Figure 12. Following several years of above-average rainfall generally from 1993 through 1998, groundwater levels by spring 1998 had recovered to those observed in spring 1986, as shown in Figure 13 (area of coverage truncated due to limited access to wells in saturated fields, which in turn limited groundwater level data collection).

Groundwater levels in spring 2006, another long-term high, were similar and even slightly higher than in spring 1998, as illustrated in Figure 14; groundwater flowed generally in an east-southeasterly direction with some steepening of the gradient across the Plainfield Ridge area. More recently, and following below-average rainfall during years 2007 and 2008, groundwater elevations by fall 2008 had declined substantially, including beneath the Shifler property. As seen in Figure 15, however, groundwater continued to flow in an east-southeasterly direction and groundwater levels did not decline to the degree observed in fall 1992.

4.4 Groundwater and Pond Water Quality

Since the initial permitting of and commencement of mining on the Teichert Woodland properties, groundwater quality monitoring has been conducted on at least a semi-annual basis in selected shallow monitoring wells located up- and down-gradient from the Muller, Coors, Storz, Shifler (up-gradient only), and, most recently, Schwarzgruber properties. All wells sampled are immediately adjacent to, and well within 500 feet of, their respective mining properties, thus providing for the earliest detection of any groundwater quality impacts from mining (see Figure 1). Groundwater samples are analyzed for general mineral and inorganic constituents, aromatic and petroleum hydrocarbons, pesticides, and coliform bacteria, as specified in the Yolo County OCSMO, Section 10-4.417, and implemented through Teichert's mining permit conditions.

The results of general mineral analyses indicate that shallow groundwater in the area is of a magnesium/calcium bicarbonate quality, as can be seen in a graph of general mineral constituent concentrations in the Stephens well (Figure 16). Since monitoring in this well began in 2009, the water quality in the well, which is located up-gradient of the Shifler property and down-gradient from the Storz property, has been stable with bicarbonate concentrations between 300 and 410 mg/L and all other main constituent concentrations between 40 and 110 mg/L.

Examination of the monitoring results from all network wells indicates that general mineral concentrations in groundwater are well below drinking water standards, with the exception of total dissolved solids (TDS) and electrical conductivity (EC) in some wells. The standards for TDS and EC are secondary standards (for taste/odor) at 500 mg/L and 900 uS/cm, respectively. As can be seen in a graph of TDS values in area wells (Figure 17a), the lowest values are beneath the Muller and Schwarzgruber properties adjacent to Cache Creek, generally less than 400 mg/L. Groundwater beneath the Coors, Storz, and Shifler properties has ranged in value more broadly, between 450 and 800 mg/L.

Nitrate (reported as NO3-NO3) is the most notable chemical constituent present in groundwater across the area because the water quality standard, 45 mg/L, is health based. Nitrate concentrations are generally less than 30 mg/L across the area and typically below 15 mg/L in most wells. The lowest concentrations are beneath the Muller, Coors, and Schwarzgruber properties, generally between non-detect (less than 2 mg/L) and 15 mg/L. Groundwater samples from the Stephens well, which is located down-gradient from the Storz property, show the highest concentrations that approach the standard with values between 2 and 40 mg/L. The range of nitrate concentrations observed across the area is illustrated in a graph of nitrate concentrations in area wells (Figure 17b).

In all network wells, the results of inorganics analyses are typically non-detect or well below drinking water standards, including the metals arsenic, chromium, copper, zinc, and lead; the metals selenium, cadmium, and mercury have consistently been non-detect since monitoring began in 1995. Likewise, aromatic hydrocarbons (BTEX) have never been detected in groundwater samples. Total petroleum hydrocarbons as diesel/motor oil and pesticides (organophosphorus pesticides and chlorinated herbicides) have only very rarely been detected in samples at the Coors, Muller, and Storz properties; however, the results of confirmation and all subsequent samplings were non-detect or indicated a chromatographic pattern uncharacteristic of petroleum compounds, indicating possible mis-identification of naturally occurring organic compounds of similar molecular weights. Coliform bacteria, which are ubiquitous in the environment, have sporadically been detected in wells that have not undergone disinfection, and these bacteria are typically limited to the well structure alone (Kranowski et.al., 1990).

The general mineral and inorganics constituents in each property pond are generally similar to those observed in the groundwater sampled from adjacent shallow wells. The overall measures of salinity, including TDS and EC, are slightly lower in value in pond waters, as are nitrate concentrations. The range of TDS and nitrate concentrations in the property ponds is illustrated in two water quality graphs (Figures 18a and 18b). .Further, pH values are somewhat higher in the pond waters, to the point where concentrations of bicarbonate and carbonate are lower and higher, respectively, in pond waters. Pond water quality reflects both the inflow of groundwater to fill and flow through the ponds (thus, similar mineral and inorganics constituents), as well as the capture of precipitation (thus, lowered salinity and nitrate concentrations) and exposure to the atmosphere (thus, raising pH, lowering bicarbonate concentrations, and raising carbonate concentrations).

Aromatic hydrocarbons have never been detected in pond samples, with the sole exception of the Storz Pond in fall 2014, when toluene was reported at a concentration just above the reporting limit and followup sampling indicated BTEX (including toluene) concentrations were non-detect. Pesticides and herbicides have not been detected in pond samples, with one exception of the Coors Pond in fall 2008, when a single herbicide, Dichloroprop, was detected at a concentration close to the reporting limit. In both cases, BTEX and herbicide constituents have not been detected since. Total petroleum hydrocarbons as diesel/motor oil have only very rarely been detected in samples at the Coors, Muller, and Storz properties; however, the results of confirmation and all subsequent samplings were non-detect or indicated mis-identification of naturally occurring organic compounds of similar molecular weights. Coliform bacteria, including fecal coliform bacteria (which include E. Coli), are regularly reported in all pond samples. The occurrence of these bacteria can be expected in any open body of water like the property ponds.

Thus, the groundwater and pond water quality results indicate that general mineral and inorganic constituent concentrations do not limit the beneficial use of water; further, the results of analyses for organic compounds (aromatic and petroleum hydrocarbons, pesticides) indicate no impairment of water quality.

It is important to note that Teichert's mining and reclamation procedures to date have implemented the best management practice of collecting and diverting surface water runoff away from mining areas. Teichert mining and reclamation permits issued by Yolo County have included conditions requiring such practice with the objective of protecting water quality, specifically by precluding the introduction of chemical compounds, both naturally occurring and man-made, to mining areas.

Further, overall groundwater quality protection is derived from the natural "filtering" effects of surficial soils and aggregate materials on water percolating through them, as described herein by addressing four categories of water quality parameters:

- General mineral constituents move conservatively through porous media, with the exception of some cations (calcium and magnesium versus sodium) which can exchange in the soil profile. In general, it can be expected that general mineral constituents in percolating water will ultimately mix with those already dissolved in groundwater.

- Any heavy metals in percolating water can generally be expected to adsorb near the soil/water interface and not penetrate deeply into the aquifer. Certainly, such adsorption is affected by both the geochemical environment in the immediate subsurface and the relative solubility of specific metals in the water.

- Organic chemicals are much greater in number and type than general mineral and metal constituents; they are also quite variable in their movement through porous media. In general, the movement of organics is affected by the solubility of each specific constituent and by the organic matter in the soil matrix; some organics move easily (e.g., solvents), while others can be readily adsorbed in the soil (e.g., organochlorine pesticides). Undoubtedly, the best management of organics is to control their introduction to land areas rather than to expect the soil profile to prevent their deep percolation to groundwater.

- Bacteriological constituents are generally recognized to have limited movement in all types of porous media, as possibly best illustrated by the requirement for sanitary sealing of domestic water wells. Bacterial "problems" in groundwater are typically associated with and limited to well structures, which can be disinfected and thus controlled, rather than the aquifer.

Thus, collectively, Teichert's management practices and the natural soil mechanisms appear to have provided groundwater and pond water quality protection in the Teichert Woodland Plant area.

5. Groundwater and Pond Levels and Potential Off-Channel Mining

Based on analysis of historical groundwater level and climatological data, in conjunction with lithologic information from well and boring logs, from the Teichert Woodland plant area, consideration is given to potential aggregate mining and reclamation alternatives for the Shifler property. Specifically, Teichert has expressed its intent to develop a wetpit mining plan for the property with reclamation to two areas of below-grade agricultural land with a central seasonal pond, and this Section of the report provides groundwater-related input to those plans.

Groundwater level data specific to the Shifler property from the Stephens well are available from 1987 through the present on a monthly to quarterly basis. Examination of these data indicates that groundwater levels fluctuate seasonally from 10 to more than 15 feet, as illustrated by the groundwater level hydrograph for the well (Figure 19). Further, long-term water level fluctuations reflect the regional climatological conditions, as can be seen when comparing Figure 19 to a graph of historical precipitation in the Sacramento area, specifically the cumulative departure from mean precipitation curve (Figure 20), and a graph of historical stream discharge in Cache Creek (Figure 21). Groundwater levels declined on the Shifler property to near historical lows during the prolonged drought from 1987 through 1992, then recovered to near historical highs during a subsequent prolonged wet period through 1998 on the order of 25 feet, to an elevation reaching almost 75 feet, NAVD88. Subsequently, water levels beneath the property mostly showed minor individual-year fluctuations but overall relative stability at elevations well within the range of drought and wet year extremes, reflecting the pattern of local climatological conditions. This included a sharp rise to the historical high in groundwater levels during 2006 that corresponded to higher than average rainfall that year. Most recently, beginning in 2011, groundwater levels declined sharply to the historical low by fall 2014 with only minor recovery during 2015.

As seen in Figure 8, groundwater levels in numerous area wells show long-term fluctuations similar to those observed in the Shifler property well, including declines during the 1987-92 drought, recovery during the 1993-98 wet period, relative stability during 1999 through 2008, and the sharp decline through 2014. Over the long term, groundwater levels in the Teichert Woodland plant area have reflected regional climatogical conditions, though not in direct response to incident precipitation. Rather, precipitation records are useful as a broad indicator of climatogical conditions because the regional distribution of precipitation historically affects the amount and availability of water for storage and release from Clear Lake and Indian Valley Reservoir, both of which feed Cache Creek through the adjacent Capay Valley and across the Sacramento Valley. This in turn affects the availability of water for recharge from the creek to the aquifer system and for diversion by YCFCWCD from the creek to area farmers for irrigation purposes. The latter affects the amount of groundwater pumping required to meet remaining irrigation requirements, and the overall amounts of water recharged to and pumped from the aquifer system affect area groundwater levels in any given year and on a long-term basis.

Based on this understanding of historical groundwater level and climatological conditions in the area, and as input to Teichert's mining planning efforts for the Shifler property, estimations were made of the groundwater levels that may reasonably be expected during mining. These include contour maps of equal groundwater elevation under "average" or typical fall low and spring high groundwater conditions (Figures 22 and 23, respectively), as well as during recent historical low and high groundwater conditions (Figures 24 and 25, respectively). Estimations were also made of the pond levels that may reasonably be expected during mining, including during stable, drier, and wetter climatological periods.

The estimated groundwater and pond levels during mining incorporate Teichert's proposed operations:

- mining is to be conducted to bottom elevations ranging from –5 to 65 feet, NAVD88;
- surface runoff will be diverted away from the mined area and pond; and
- water usage would be expected to increase to accommodate the increase in aggregate extraction proposed for the Shifler project, from as much as 1.2 MTY to as much as 2.2 MTY under the current mining permits and the proposed Shifler project, respectively.

During wetpit mining, groundwater and pond levels can be expected to fluctuate depending on climatological conditions as follows:

a) During stable hydrologic periods, when annual precipitation varies only moderately from the long-term average, pond levels will likely fluctuate seasonally about 8 feet. Based on groundwater level data from the most recent stable hydrologic period (from water years 1999 through 2011, see Figures 8, 19 and 20), groundwater levels would decrease from the northwest to eastern portions of the property and, as mining progresses, a pond would form with pond elevations expected to fluctuate between approximately 52 and 60 feet, NAVD88, in fall and spring, respectively (see Figures 22 and 23).

b) During drier climatological periods, when annual precipitation is substantially below the long-term average for several consecutive years, pond levels will likely fluctuate seasonally from 4 to 8 feet with a progressive annual decline. Based on groundwater level data from a recent dry period (1987 through 1992), groundwater levels would be lower with a steeper gradient than during average conditions, and fall low pond elevations would be expected to decline to approximately 50 feet, NAVD88. In the event of prolonged dry conditions, fall pond levels could decline to 45 feet, NAVD88 (Figure 24).

c) During wetter climatological periods, when annual precipitation substantially exceeds the long-term average for several consecutive years, pond levels will likely fluctuate seasonally from 12 to 15 feet. Based on groundwater level data from the most recent wet period (1995 through 1998) and in 2006, groundwater levels would be higher with a more shallow gradient than during average conditions, and spring high pond elevations would be expected to reach approximately 65 feet, NAVD88. In the event of prolonged wet conditions, seasonal pond level fluctuations could exceed 15 feet with spring high elevations reaching 70 feet, NAVD88 (Figure 25).

Implicit to this prediction is that seasonal and long-term fluctuations in area groundwater levels, and thus pond levels, are expected to primarily reflect variations in precipitation, discharge in and diversions from Cache Creek, and area groundwater pumping for agricultural and industrial water supply. It is also based on the assumption that no substantial change in land use (and associated water demand and supply) will occur on properties immediately surrounding the Shifler property. To a much smaller extent, pond levels may be affected by precipitation captured at and evaporation from the pond surface.

Evaluation of the aggregate materials at the Shifler property in relation to the groundwater level conditions described above indicates that the relative sections of unsaturated and saturated aggregate can be expected to vary greatly during the proposed mining. In the event that groundwater levels rose to those observed during the recent spring high levels of 2006, the lowermost portions of the aggregate would become saturated in the northwest and central parts of property, approximately the basal 22 feet in the northwest and the basal 30 feet in the central part. The aggregate materials beneath the eastern part are more shallow and would remain fully unsaturated. Alternatively, if groundwater levels declined to those observed during the recent fall low levels of 1992 (or 2009), almost the entire thickness of aggregate would be unsaturated. However, under some typical or average conditions, portions of the basal aggregate deposits in the northwest and central parts of the property would be expected to remain saturated, approximately 10 feet during the fall and 15 (northwest) to 20 feet (central) during the spring.

6. Potential Wetpit Mining Impacts

Teichert's proposed wetpit aggregate mining of the Shifler property is to be conducted to base elevations ranging from 65 feet to possibly as deep as -5 feet, NAVD88. Reclamation is proposed to be to below-grade agricultural land on the western- and eastern-most portions of the property, with a seasonal pond in the remaining central portion. The reclaimed seasonal pond will have the same bottom elevation as the central portion of the mining pond but with backfilled sideslopes. Reclamation to agricultural land and a seasonal pond will be completed utilizing finer materials washed from the desired aggregate materials at the Teichert Woodland Plant. During and following reclamation of the Shifler pond, surface runoff will be diverted away from the pond, and discharge to and pumping from the pond will be conducted by Teichert as needed. Depending on Teichert's future mining operations, water usage during and following reclamation may be expected to range from the demand associated with Teichert's mining permits to none at plant closure.

The potential impacts on groundwater levels and quality from the proposed reclamation of the Shifler property were analyzed as part of this study. According to the Yolo County SMRO (Section 10-5.503) and OCSMO (Section 10-4.427) requirements, the following analyses are to be completed as input to the reclamation planning for proposed wetpit mining projects:

- Water Supply Well Identification: Identify and determine characteristics of active off-site wells within 1,000 feet of the proposed wetpit mining boundary and domestic wells within 500 feet of the pit boundary (OCSMO Sec. 10-4.427);

- Potential Groundwater Level Impacts: Demonstrate using MODFLOW that the proposed wetpit mining project, in this case the reclamation of the mining pond to agricultural land and a seasonal pond, will not adversely impact active off-site wells within 1,000 feet of the pond boundary (SMRO Sec. 10-5.503); and

- Potential Groundwater Quality Impacts: Conduct a capture zone analysis for domestic wells within 500 feet of the pond boundary (OCSMO Sec. 10-4.427).

The first two of these analyses were completed as part of this investigation, with the results described below. The third requirement regarding capture zone analysis (OCSMO Sec. 10-4.427) was not applicable as no domestic water supply wells are located within the specified boundary (within 500 feet) around the pond. However, in order to address water quality concerns, assessment was made of mining and reclamation activities at the Teichert off-channel mining properties, as well as of the historical water quality conditions at those properties, in Section 4.4 of this report. Additional discussion of this assessment is provided below.

6.1 Water Supply Well Identification

Teichert's approach to these analyses is conservative in including active off-site water supply wells located within 1,000 feet of the proposed mining boundary. This is in contrast to the Yolo County SMRO (Section 10-5.503) requirement to include wells within 1,000 feet of the future mining pond boundary, which would encompass a smaller area and exclude many of the wells included in these analyses.

As such, there are potentially as many as 21 active off-site water supply wells within 1,000 feet of the proposed mining boundary. During 2015, Teichert contacted and requested water supply well information from neighboring landowners within 1,000 feet of the proposed mining boundary by way of original and followup letters. The well and water usage information provided by the neighbors responding to Teichert's request were incorporated into these analyses of potential impacts. It was then necessary to estimate the location, characteristics, and usage of additional water supply wells within the mining boundary for incorporation into these analyses. Publically available Yolo County parcel maps and aerial photos were utilized to estimate the location of additional wells, with the assumption that each individual parcel had a water supply well. Well depth and water usage for the additional wells were estimated based on known information about similar water supply wells in the area. Pertinent information about the off-site water supply wells included for these analyses is provided in Table 1, including well depth, aquifer production zones (MODFLOW model layers), and pumping rates.

6.2 Potential Groundwater and Seasonal Pond Water Level Impacts

As specified by the Yolo County SMRO (Section 10-5.503), the required method of investigating potential impacts on groundwater from the backfilling of mined parcels includes using a MODFLOW model to simulate those impacts. In addition, setback distances between ponds and nearby off-site domestic wells can be 500 feet or sufficient to avoid coincidence of the Shifler pond and the capture zones of those wells. For the Shifler property, changes in groundwater levels due to the proposed backfilling associated with the reclamation of the mining pond to agricultural land and a seasonal pond were simulated, in particular at the active off-site water supply well locations.

A steady-state numerical model was developed based on a previous model (LSCE, 2011) to conduct the groundwater level simulations. The model is a three-dimensional groundwater flow model, which uses a finite-difference modeling code called MODFLOW (McDonald and Harbaugh, 1988) written by the U.S. Geological Survey. MODFLOW uses a collection of subroutines called "packages" to simulate different groundwater flow components such as aquifer characteristics, well pumping, and recharge/discharge such as from/to streams.

The model area is approximately 14 square miles in size and encompasses the southern portion of the Dunnigan Hills, the northern portion of the Plainfield Ridge, and an approximately 4.5-mile length of Cache Creek in the vicinity of Highway 16 and County Road 94B. Previous reports identify a shallow, unconfined aquifer beneath the area composed of highly permeable alluvial material, which is underlain by a semi-confined to confined aquifer comprised of moderately consolidated alluvium. The thickness of the shallow alluvium, which includes the aggregate materials proposed for mining, varies in the area due to the Dunnigan Hills and Plainfield Ridge, which are comprised of upwarped sections of the moderately consolidated alluvium. The aquifer system, comprised of the shallow alluvial material and two upper portions of the moderately consolidated alluvium (to approximate depths of 250 and 580 feet), were simulated in the model as layers 1, 2, and 3, respectively.

Groundwater flow into the model area occurs from the west-northwest from the alluvial deposits. Three maps showing contours of equal groundwater elevation in September 2008 in the three model layers illustrate the groundwater flow directions, the differences in groundwater elevations, and the model calibration well locations within the model grid area (Figures 26a, b, and c).

The dimensions of the model are 17,500 feet by 22,000 feet, and it consists of three layers of uniform thicknesses divided into 70 rows and 88 columns. The model contains 18,480 active cells that are 250 feet by 250 feet. Model boundary conditions consist of a general-head boundary along each edge of the model in each layer, and general-head cell elevations were based on contours of measured heads for September 2008. Flow into the model occurs primarily from the general-head cells along the model's west and north edges, and from deep percolation (recharge) of a portion of applied irrigation. Flow out of the model occurs through the general-head cells along the model's east and south edges, and from the pumping of groundwater for agricultural, industrial, and domestic uses. In the scenario simulating the effects of the Shifler property reclamation, groundwater flow through the backfilled agricultural lands is simulated by low hydraulic conductivity values in those model cells, and flow through the pond is simulated by extremely low and high hydraulic conductivity values representing the backfilled sides and pond, respectively, specified in layer 1. Inflow to and outflow from the model both occur across the river cells in layer 1 representing Cache Creek.

Input parameters for the model included aquifer (layer) top and bottom elevations, starting heads, hydraulic conductivity, leakance, river bed conductance, recharge, and well pumping. The parameters are summarized in Table 2 and discussed briefly below.

- **Aquifer Top and Bottom -** The top of layer 1 is represented by the water table, which fluctuates depending on hydrologic conditions because the aquifer is unconfined. The bottom of layer 1 was estimated as 110 feet below ground surface, the bottom of layer 2 was specified as 140 feet below the bottom of layer 1, and the bottom of layer 3 was specified as 330 feet below the bottom of layer 2. The model was structured as such based on aggregate materials thicknesses beneath the area, derived from Teichert's field determined lithology reports, and typical well depths in the area, derived from Teichert and Yolo County well databases and landowner well records. This model structure is also based on Teichert's mining plan for the Shifler property, to possibly mine to the base of aggregate. As a result, the model layering facilitates simulating the proposed mining and reclamation within layer 1 as well as the groundwater pumping from layers 2 and 3.

- **Starting Heads -** The starting heads were primarily designated based on contoured groundwater elevations measured in Teichert's existing monitoring network wells and in the YCFCWCD water supply well network during September 2008. This time period represents the "average, historic low groundwater levels" specified in the Yolo County SMRO (Section 10-5.503). Input of the stage along Cache Creek was estimated as one foot to 2-1/2 feet above the fixed theoretical thalweg elevations in order to represent the minimal flow in the Creek during September 2008.

- **Hydraulic Conductivity -** Values of hydraulic conductivity were calculated from aquifer transmissivity values derived from well tests conducted on two Teichert Woodland plant area water supply wells (deeper wells completed in layer 2) and four Teichert Esparto plant area water supply wells (completed in aquifer materials similar to layer 1). Additionally, well test data from the Rodgers Domestic and Rodgers Domestic New wells were utilized to calculate hydraulic conductivity values for layer 2. Hydraulic conductivities of 200 and 400 feet/day were initially selected for the broad model area and the Cache Creek aggregate deposits, respectively, of layer 1; a value of 26.7 feet/day was initially selected for the entire model area in layers 2 and 3. However, hydraulic conductivity values in layer 1 were varied during model calibration, with the Cache Creek aggregate deposits at 150 feet/day and the remaining model area at 100 feet/day. Hydraulic conductivity in layers 2 and 3 remained homogeneous. For simulation of the Shifler mining/reclamation scenario, values of 2.67 feet/day and 40,000 feet/day were used to simulate the backfilled pit side slopes and pond, respectively.

- **Leakance -** A value of $1x10^{-4}$ day^{-1} was initially selected for the leakance between layers, then lowered to $1x10^{-3}$ day^{-1} during calibration procedures, but ultimately kept at the initial value of $1x10^{-4}$ day^{-1} throughout the model area.

- **River Bed Conductance -** A conductance value for the bed of Cache Creek of 6,250 $feet^2$/day was calculated from a conductivity of 1 foot/day, a length and width in each river cell of 250 feet and 50 feet, respectively, and a bed thickness of 2 feet. The conductivity value was originally derived from a calibrated model encompassing Putah Creek, to the south of Cache Creek.

- **Recharge -** An areal recharge value of $1.7x10^{-3}$ feet/day was estimated as one-quarter of the average applied water for crops grown in the model area, and represented deep percolation of applied water beyond the consumptive use of the crops (agricultural return flows).

- **Pumping –** The average flow rates in 37 water supply wells were simulated in the model, ranging from approximately 10 gpm to 450 gpm, with a cumulative pumping rate of about 2,700 gpm, which reflects average water use (accommodating typical operating times per day and week) in the model area for domestic, irrigation, and industrial purposes. The water use estimates were based on landowner reports and review of current land use in the area and are summarized in Table 3.

Calibration of the model was performed by varying the initial input parameters, specifically the hydraulic conductivity of all layers (active cells), the conductance values of all layers (general head cells), the leakances between layers, and the conductance of the Cache Creek streambed. This was done until simulated heads matched the measured water levels as closely as possible. The accuracy of model calibration is shown in Table 4 and was determined by comparing the simulated and measured head in 24 wells located on and around the Teichert Woodland plant area. Comparison of a map showing contours of equal simulated groundwater elevations in layer 1 (Figure 26a) with the

September 2008 measured groundwater elevation contours in Figure 15 also illustrates the degree of model calibration. Maps showing contours of equal simulated groundwater elevations in layers 2 and 3 are also provided (see Figures 26b and 26c, respectively). The calibration error shown in Table 4, specifically for model layer 1, ranges from -11.6 feet at well TA-1A (simulated head lower than measured head) to 17.6 feet at well TA-13A (simulated head higher than measured head). The model more often simulated the groundwater levels in layer 1 below the observed groundwater levels, and the overall mean head difference was about -3.5 feet. In contrast, the model simulated the groundwater levels in layers 2 and 3 well above the observed groundwater levels. However, given the objectives of the model of simulating the effects of the proposed Shifler mining and reclamation project (in model layer 1) on groundwater levels, the calibration errors are considered acceptable,.

The calibrated model was used to simulate the effect of the proposed Shifler reclamation on groundwater levels beneath the Teichert Woodland plant area. With respect to the model design, the mining and reclamation of the Shifler property would occur in layer 1 only. The bottom of the reclaimed agricultural land and seasonal pond would be near the base of layer 1, and layer 2 would remain undisturbed by mining. One scenario was simulated with the model, specifically the full reclamation of the Shifler mining pond as described above.

The potential mining impacts predicted for the reclamation scenario can be seen in the contour maps of equal simulated head in layer 1 (Figure 27) and of simulated contours of equal groundwater level change for layers 1, 2, and 3 (Figures 28a, b, and c, respectively). The model results indicate that groundwater flow will be slightly impeded by the backfilled agricultural land and seasonal pond side slopes in layer 1, causing a groundwater level rise in the upgradient direction (west) and a minor decline in the downgradient direction (east). The change in groundwater levels, which is measured by comparing the simulated heads from the reclamation scenario to the calibrated (baseline) model heads in the 21 off-site water supply wells near the Shifler property (those listed in Table 1), is summarized in Table 5.

The simulated impact of mining and reclaiming the Shifler property includes groundwater level declines extending downgradient (southeast) approximately one mile from the pit and groundwater increases extending an equal distance in the upgradient direction (northwest). The magnitude of the simulated maximum change in groundwater levels in layer 1 is on the order of 5 feet of increase and 4 feet of decline immediately upgradient and downgradient, respectively, of the Shifler property. The predicted impact on groundwater levels in layer 2 is smaller than in layer 1, with a maximum decline of approximately 2.5 feet. The predicted impact on groundwater levels in layer 3 is smaller yet, with a maximum decline of approximately 2 foot. Layer 3 represents the portion of the moderately consolidated alluvium in which all but one of the 21 off-site water supply wells near the Shifler property (see Table 5) are thought to be primarily completed. Importantly, the simulated water level change in those 21 wells ranges from a rise of 4.1 feet upgradient from the property (Storz well, completed in model layer 2 only) to a decline of 2.0 to 2.5 feet downgradient from the property (well APN 025-200-18, thought to be completed in layers 2 and 3). Changes such as these are not expected to have any adverse effects on well operations or performance.

While the model simulations described above predict the type, magnitude, and location of groundwater level changes that might be expected to result from the proposed mining and reclamation, an additional use of the model was to predict the average spring high groundwater levels beneath the Shifler property following its reclamation. A map of the contours of predicted groundwater elevation, average spring high conditions, post-reclamation (Figure 29) was prepared in order to provide input to Teichert's reclamation planning, particularly toward the agricultural lands reclamation. The map shows the steepening of groundwater levels on both sides of the reclaimed Shifler property, rising in the upgradient direction and declining in the downgradient direction, and the flat water surface of the central seasonal pond. The predicted groundwater elevations are similar to (although steeper than) those observed in spring 1986 (see Figure 11).

In addition, estimations were made of the reclaimed seasonal pond water levels that may reasonably be expected during, including during stable, drier, and wetter climatological periods.

The estimated pond water levels following project reclamation incorporate Teichert's proposed operations:

- reclamation is to be to below-grade agriculture on the western- and eastern-most portions of the property, with seasonal pond on the remaining central portion;
- the reclaimed seasonal pond will have the same bottom elevation as the central portion of the mining pond (possibly -5 to 20 feet) but with backfilled sideslopes; and
- surface runoff will be diverted away from the reclaimed seasonal pond.

Following reclamation to the seasonal pond, pond level fluctuations can be expected to depend on climatological conditions as follows:

a) During stable hydrologic periods, pond elevations will likely fluctuate seasonally between approximately 47 and 57 feet, NAVD88, in fall and spring, respectively.

b) During wetter hydrologic periods, spring high pond elevations would be expected to reach approximately 66 feet, NAVD88; and in the event of prolonged wet conditions, spring high elevations could reach 70 feet NAVD88.

c) During drier hydrologic periods, pond levels will likely exhibit a progressive annual decline with fall low elevations of about 42 feet, NAVD88; and in the event of prolonged dry conditions, fall pond elevations would be expected to decline further to 37 feet, NAVD88.

It is important to note that these predictions are based on the assumption that no substantial change in land use (and associated water demand and supply) will occur on properties immediately surrounding the Shifler property. Further, pond level fluctuations in the reclaimed seasonal pond may be delayed relative to groundwater level fluctuations due to planned backfilling of the mined sideslopes with fine materials that can be expected to impede groundwater flow to a certain extent.

6.3 Potential Groundwater Quality Impacts

As described in Section 4.4 of this report, assessment made of the historical groundwater and pond water quality record for the Teichert Woodland properties indicates no limitations in the beneficial use of water or impairment of water quality. Teichert's mining and reclamation procedures have implemented the best management practice of collecting and diverting surface water runoff away from mining areas, per Yolo County permit conditions, with the objective of precluding the introduction of chemical compounds to those areas and, thus, protecting water quality. Further, consideration was made of the natural mechanisms protecting water quality, specifically the filtering effects of surficial soil and aggregate material on water as it percolates through them. Collectively, Teichert's management practices and the natural soil mechanisms appear to have provided groundwater and pond water quality protection in the Teichert Woodland Plant area.

For the proposed Shifler project, Teichert's mining and reclamation plans include the same best management practice of collecting/diverting surface water runoff away from the mining area. Further, soil and aggregate materials at the Shifler property are similar to those across the Teichert Woodland properties. Thus, it can reasonably be expected that the proposed Shifler project will be sufficiently protective of water quality, without resulting limitations in the beneficial use of water or impairment of water quality. A groundwater and pond water monitoring program required for the Shifler property under the Yolo County OCSMO, Section 10-4.417, as described in the following section, will facilitate assessment of the water quality conditions during mining and reclamation activities.

6.4 Summary

In summary, the potential impacts from the proposed project on groundwater levels, as predicted by the numerical groundwater flow model, are small, ranging from a rise of about four feet to a decline of about two feet in the 21 off-site water supply wells near the Shifler property. Thus, in accordance with the Yolo County SMRO (Section 10-5.503), the planned setback distances between these wells and the Shifler project are sufficient to protect groundwater levels, well operations, and well performance. No impacts to pond or groundwater quality have been observed historically at the Teichert Woodland mining properties, and the proposed Shifler project includes the same best management plans for protecting water quality during mining and reclamation. Thus, the planned project management practices can be considered sufficient to protect water quality.

7. Recommended Monitoring Program

The Yolo County OCSMO, Section 10-4.417, requires the development and maintenance of a groundwater monitoring program for planned wetpit mining projects. For the Shifler project, the monitoring program would include, at a minimum, five monitoring wells around the Shifler property: one upgradient and four on side-gradient or downgradient portions of the property. The wells are to be monitored for water levels on a quarterly basis; in addition, three of the five wells (one upgradient and two downgradient) are to be monitored for water quality initially on a semi-annual basis and subsequently on an annual basis. Corresponding monitoring of the pond water quality will be conducted according to Yolo County OCSMO (Sec. 10-4.417). The following is a discussion of the groundwater monitoring program proposed for the Shifler property, including the proposed wells, water quality analyses, and frequencies.

7.1 Monitoring Network

As has been described previously in this report, a groundwater monitoring network of wells for water level measurements has been in place across the Teichert Woodland properties since 1986. The network consists of 26 monitoring wells and 13 water supply wells monitored by Teichert, as shown on Figure 1. Most of the monitoring wells are of a shallow depth (20 - 75 feet), and this includes on the Shifler property the Stephens water supply well, which is recommended to serve as the required upgradient well. A second well just north of the Shifler property, monitoring well TA-15, is recommended to serve as one of the other four required wells (side-gradient, for water levels only). Beyond these however, no known shallow wells exist around other portions of the property, so it is necessarily recommended that three additional shallow monitoring wells be installed on the eastern and southeastern portions of the Shifler property (one side-gradient for water levels and two downgradient for water levels and quality). Since the complete section of aggregate deposits in the easternmost part of the property are unsaturated most of the time, it may be necessary to deepen those monitoring wells to include some of the underlying moderately consolidated alluvium. The recommended monitoring well installation can be coordinated with Teichert's mining and reclamation planning such that the wells are available for monitoring purposes at least six months prior to the commencement of overburden removal on the Shifler property.

7.2 Groundwater Level and Quality Monitoring

Upon completion of the Shifler property monitoring well network, it is recommended that groundwater level monitoring commence on a quarterly basis (five wells), and that water quality monitoring be initially implemented on a semi-annual basis (three wells), in accordance with the Yolo County OCSMO (Section 10-4.417). The recommended water quality constituents are general minerals and inorganics (Title 22; includes nitrate); aromatic hydrocarbons benzene, toluene, ethylbenzene, and xylenes (BTEX); total petroleum hydrocarbons (TPH) as diesel and motor oil; two pesticide scans, organophosphorus pesticides and organochlorine herbicides (EPA Methods 8140 and 8150, respectively); and total coliform (with fecal coliform and E. Coli confirmation). The wells proposed for water quality monitoring are the existing Shifler water supply well (upgradient) and two new monitoring wells to be installed downgradient from the mining area.

8. References

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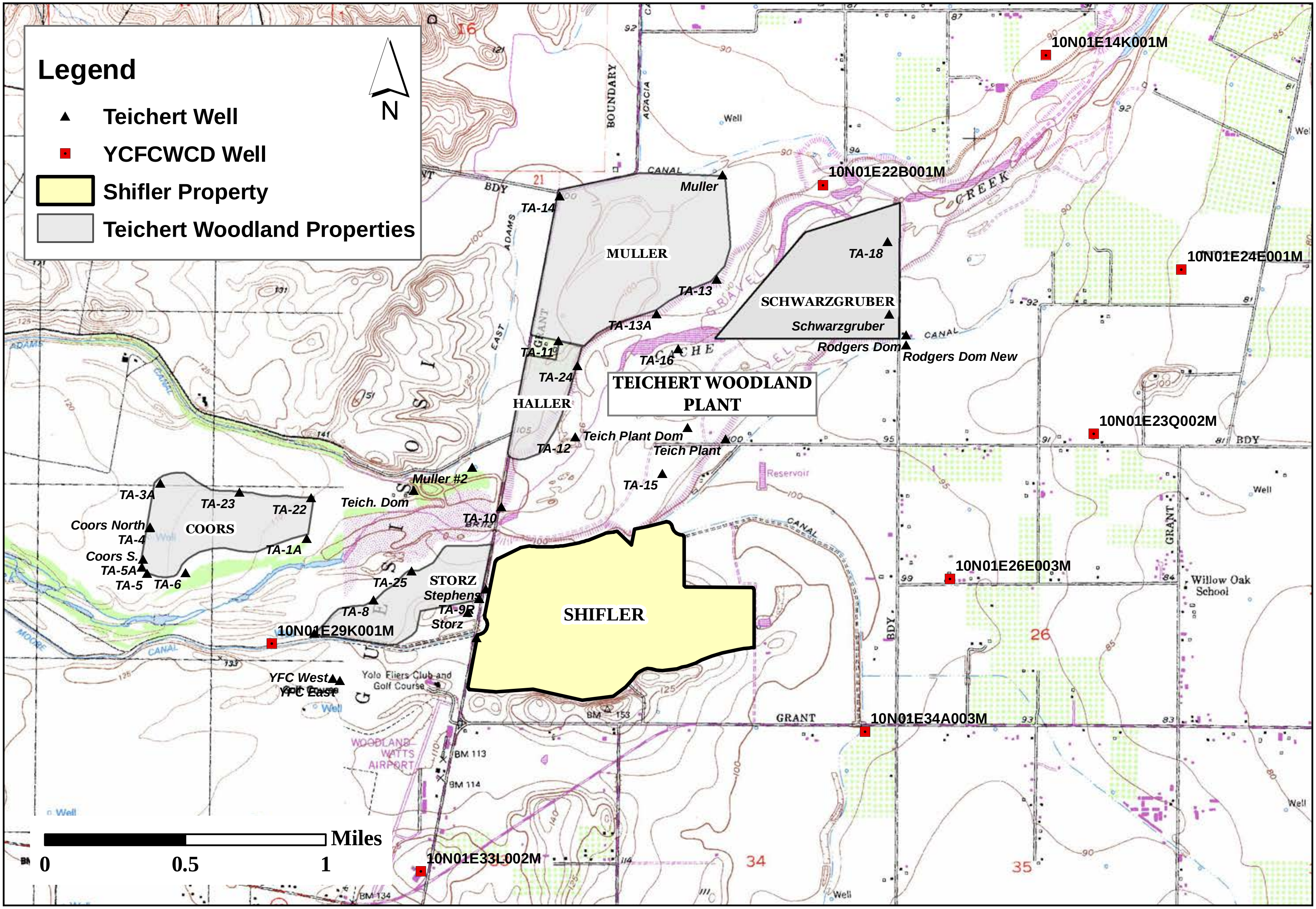

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Figure 1
Shifler Property and Monitoring Network Wells
Teichert Woodland Plant Area

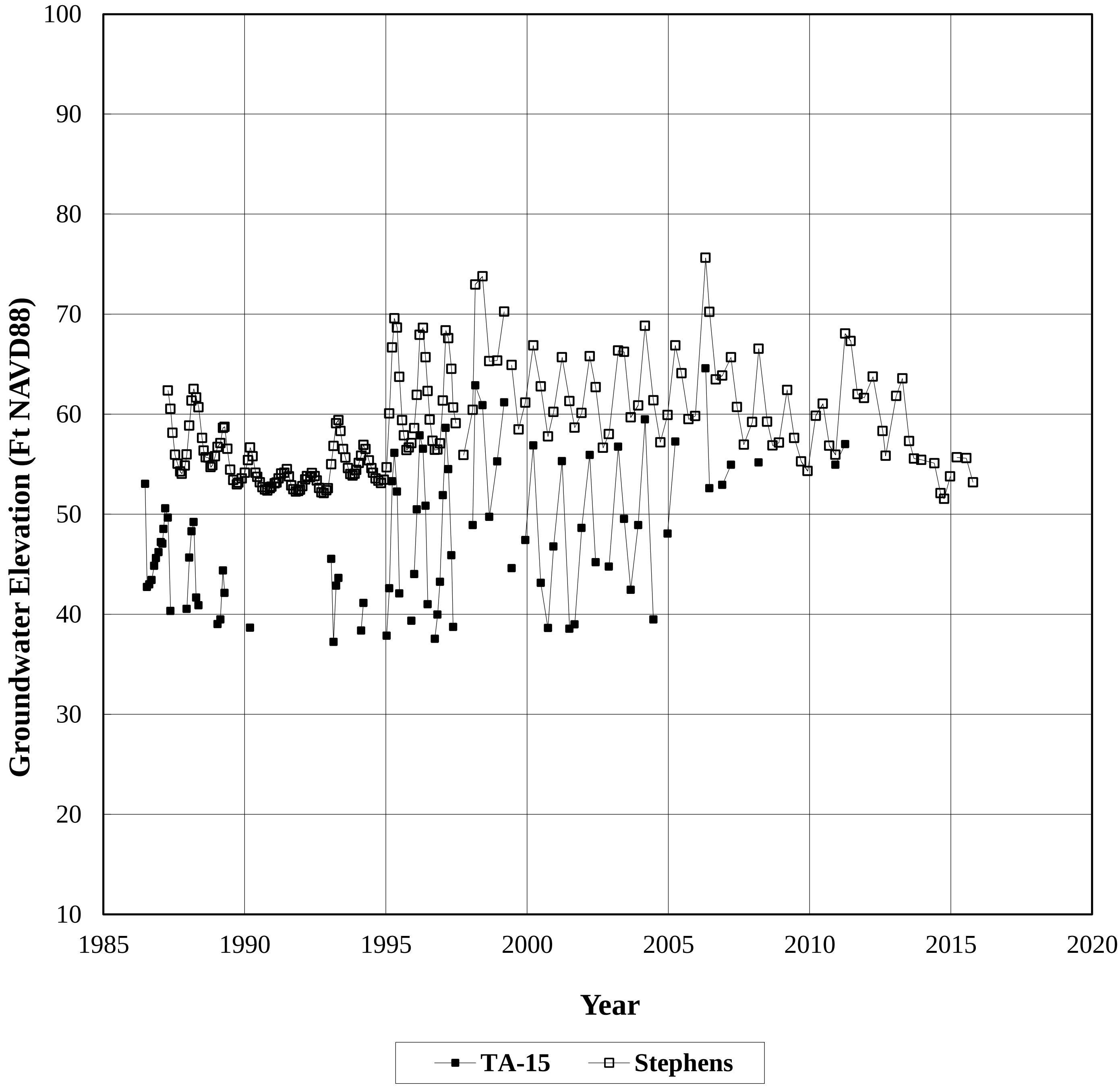

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Figure 2
Groundwater Elevations, Shifler Property
Teichert Woodland Plant Area

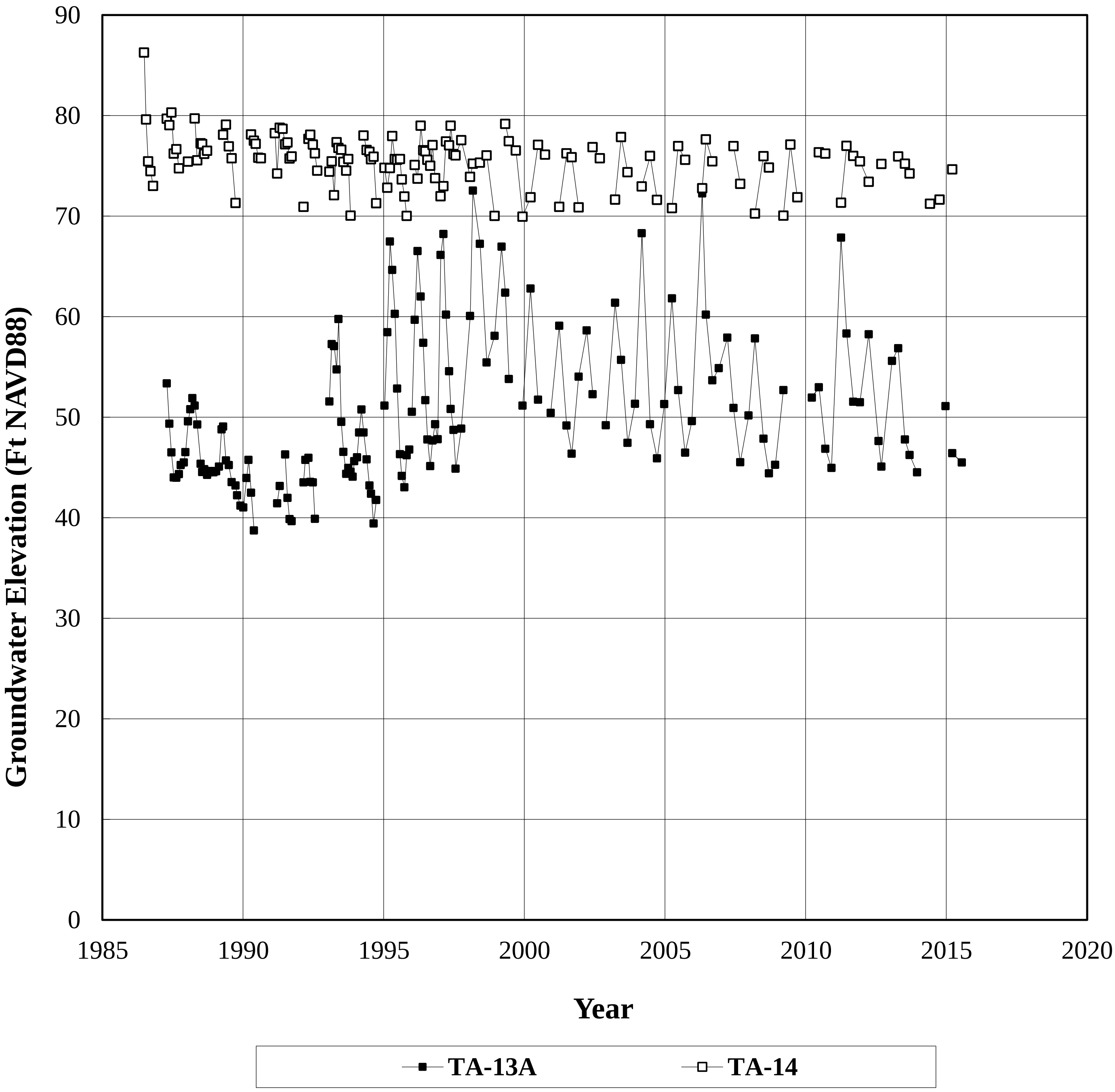

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Figure 3
Groundwater Elevations, Muller Property
Teichert Woodland Plant Area

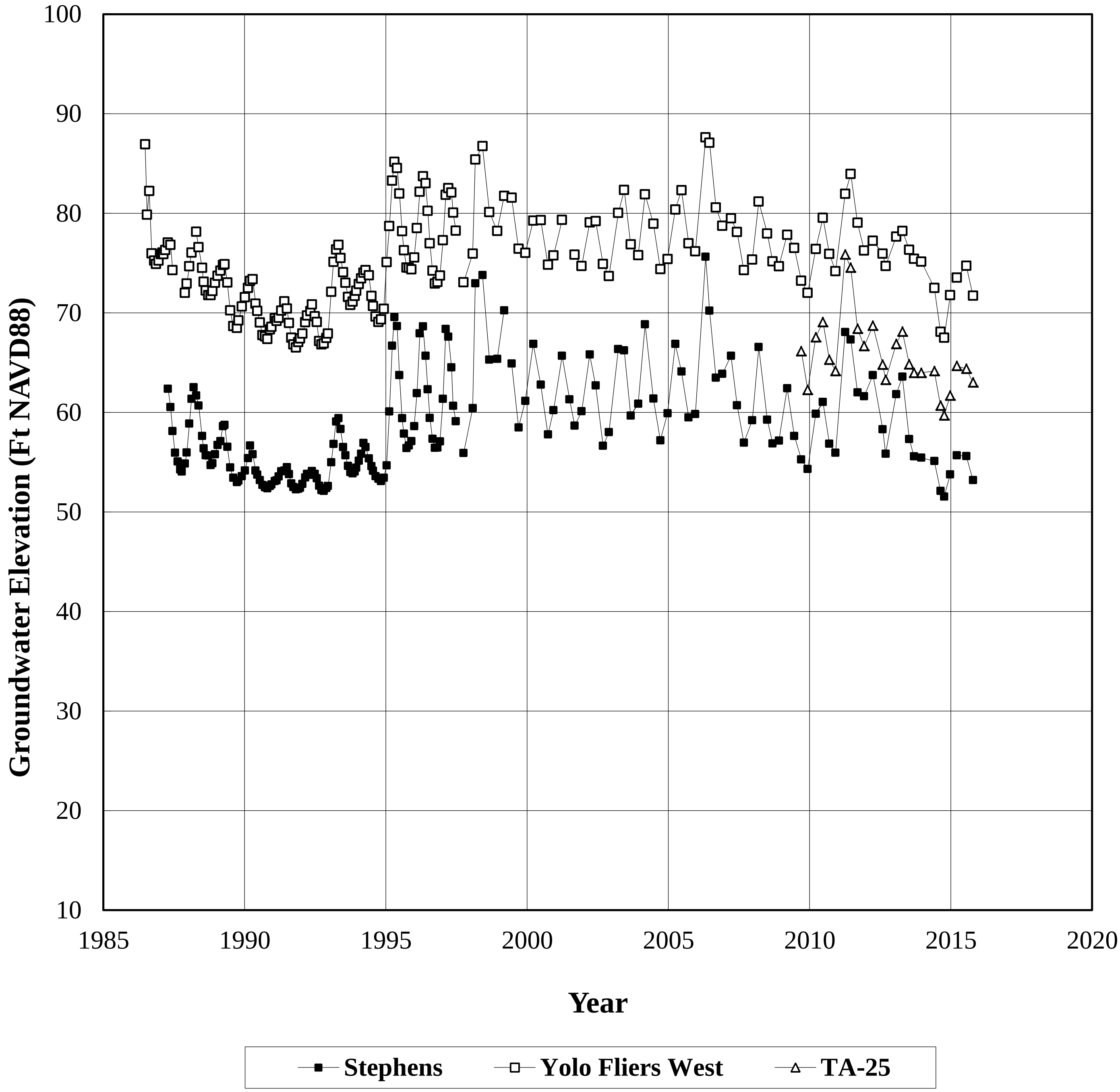

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Figure 4
Groundwater Elevations, Storz Property
Teichert Woodland Plant Area

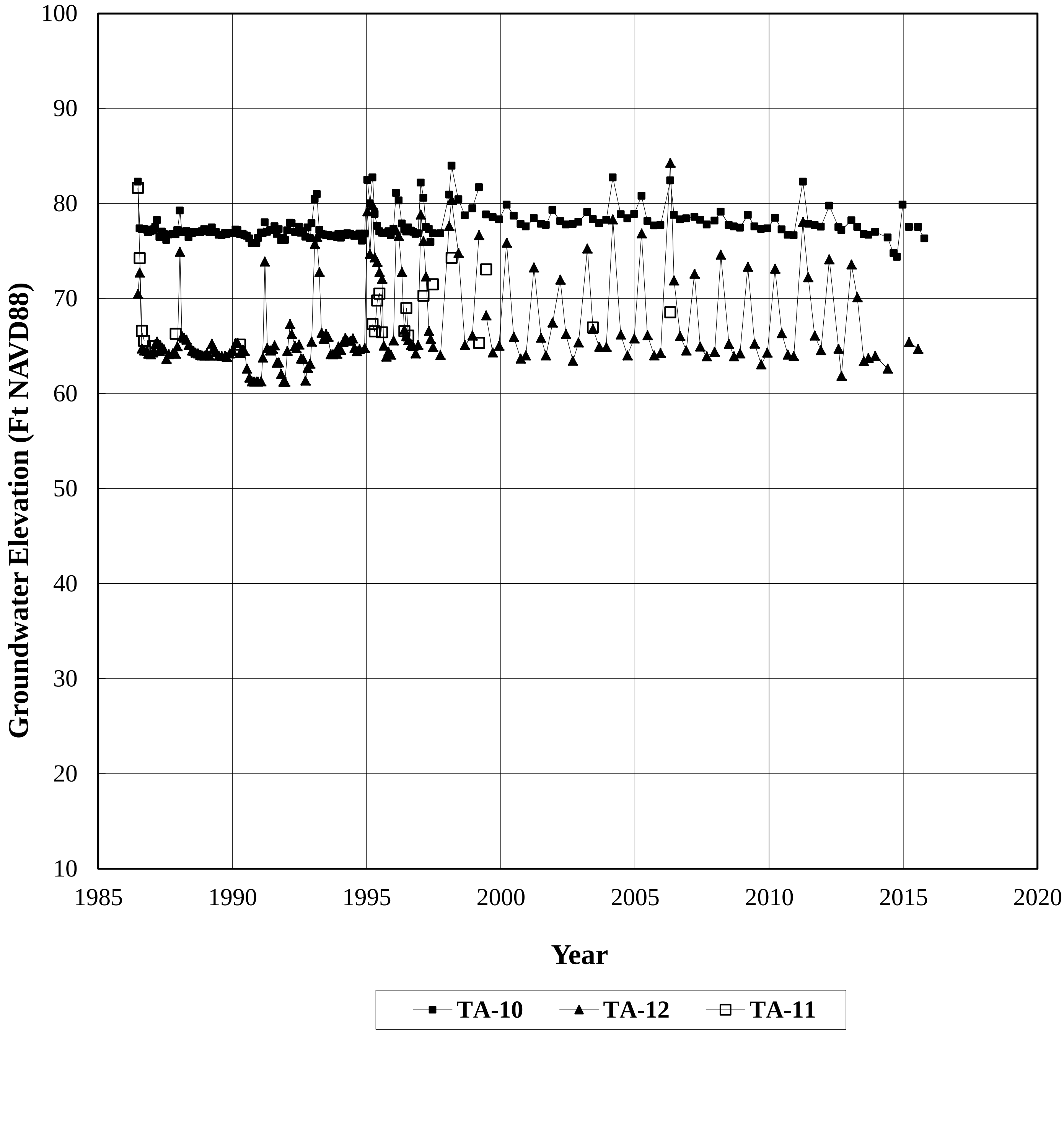

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Figure 5
Groundwater Elevations, Haller Property
Teichert Woodland Plant Area

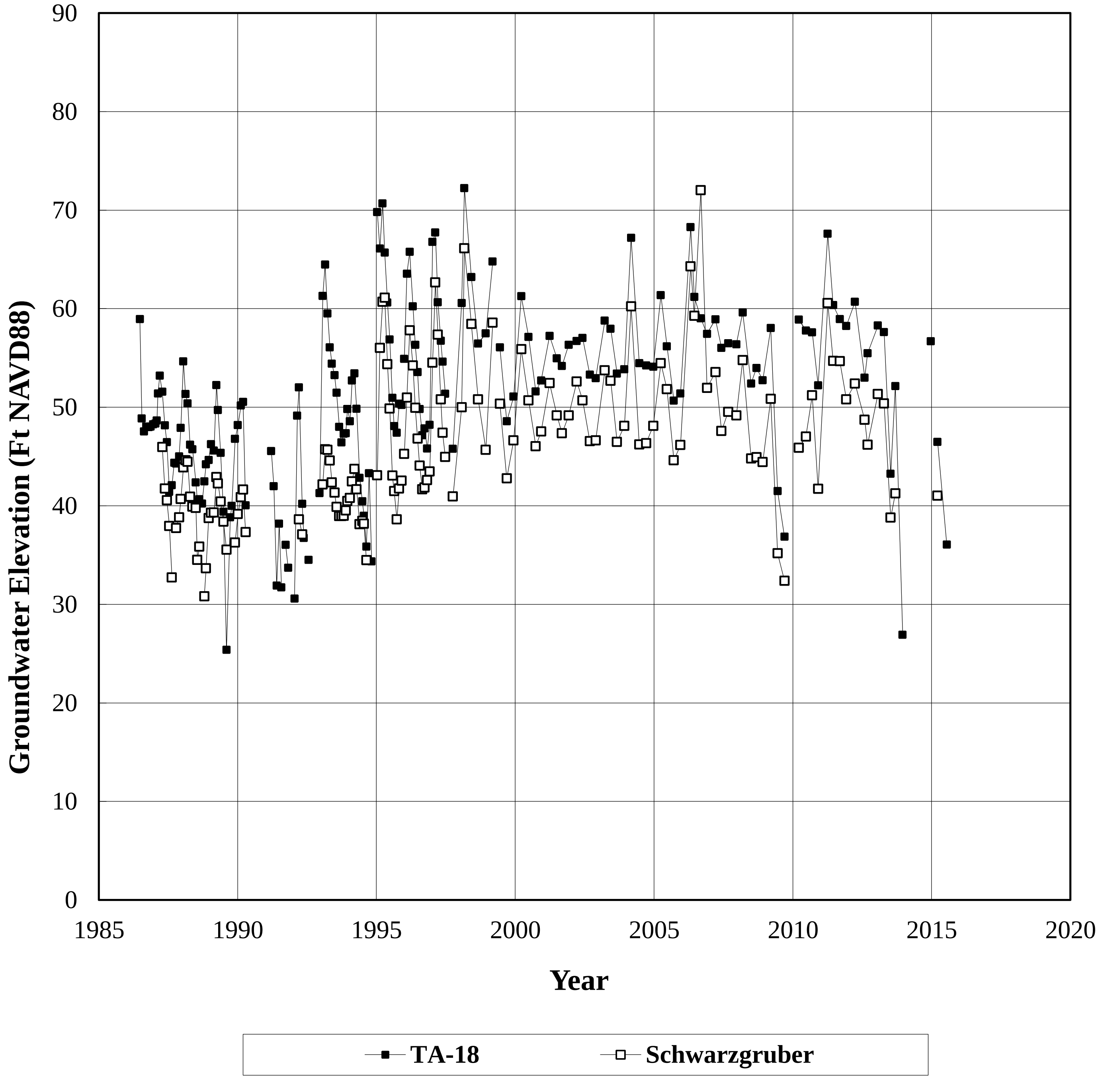

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Figure 6
Groundwater Elevations, Schwarzgruber Property
Teichert Woodland Plant Area

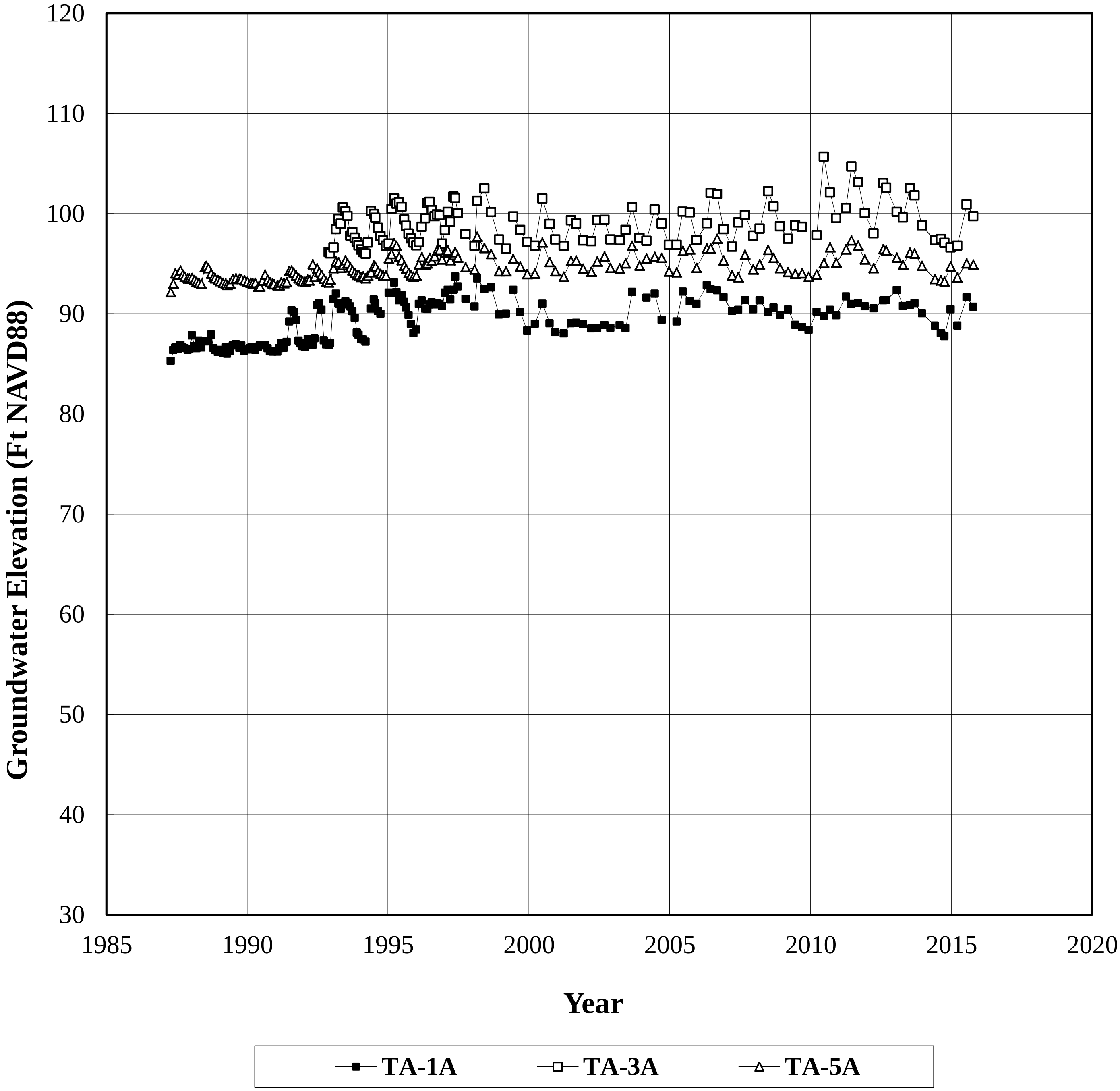

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Figure 7
Groundwater Elevations, Coors Property
Teichert Woodland Plant Area

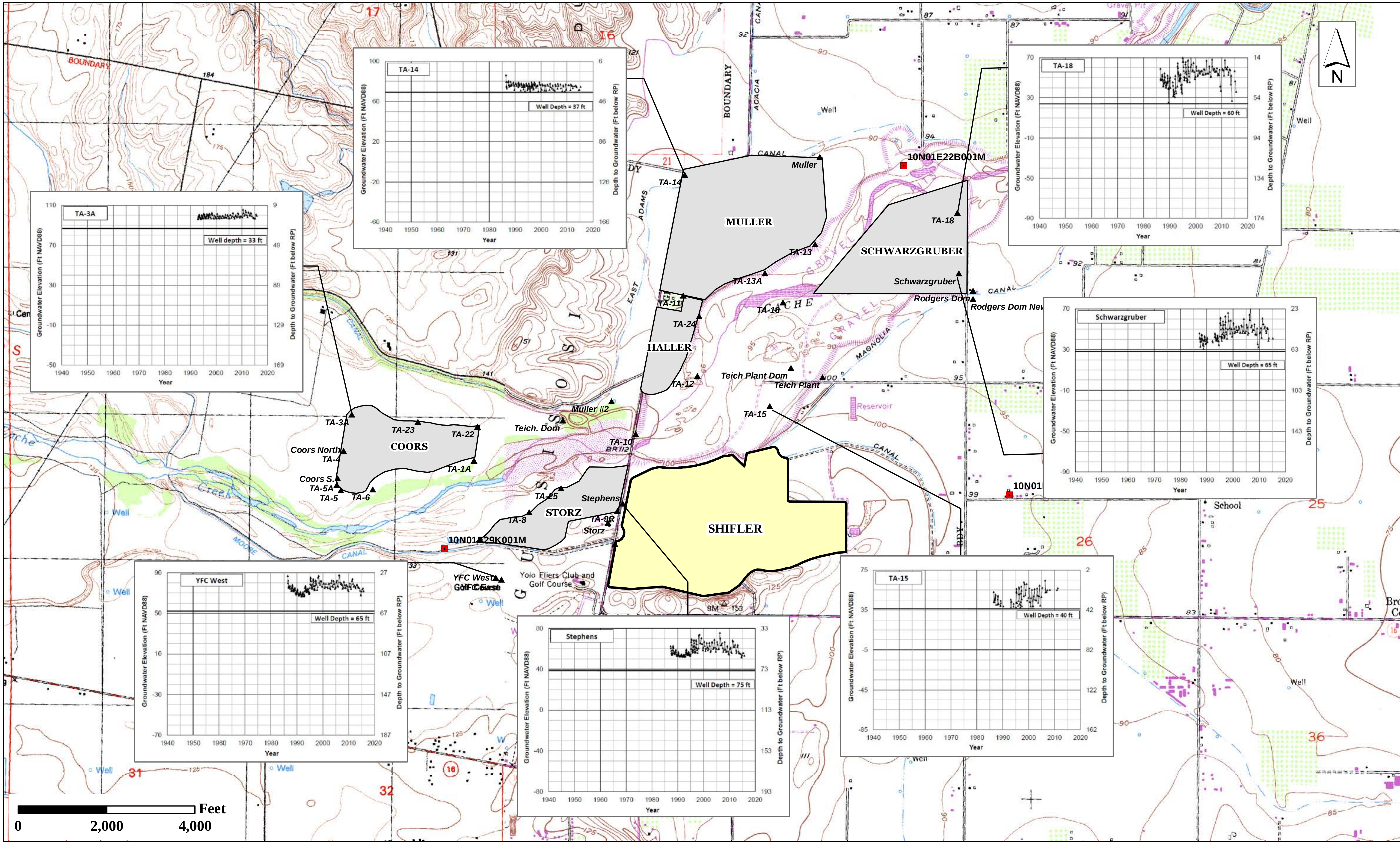

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Figure 8
Historical Groundwater Levels, Shallow Wells
Teichert Woodland Plant Area

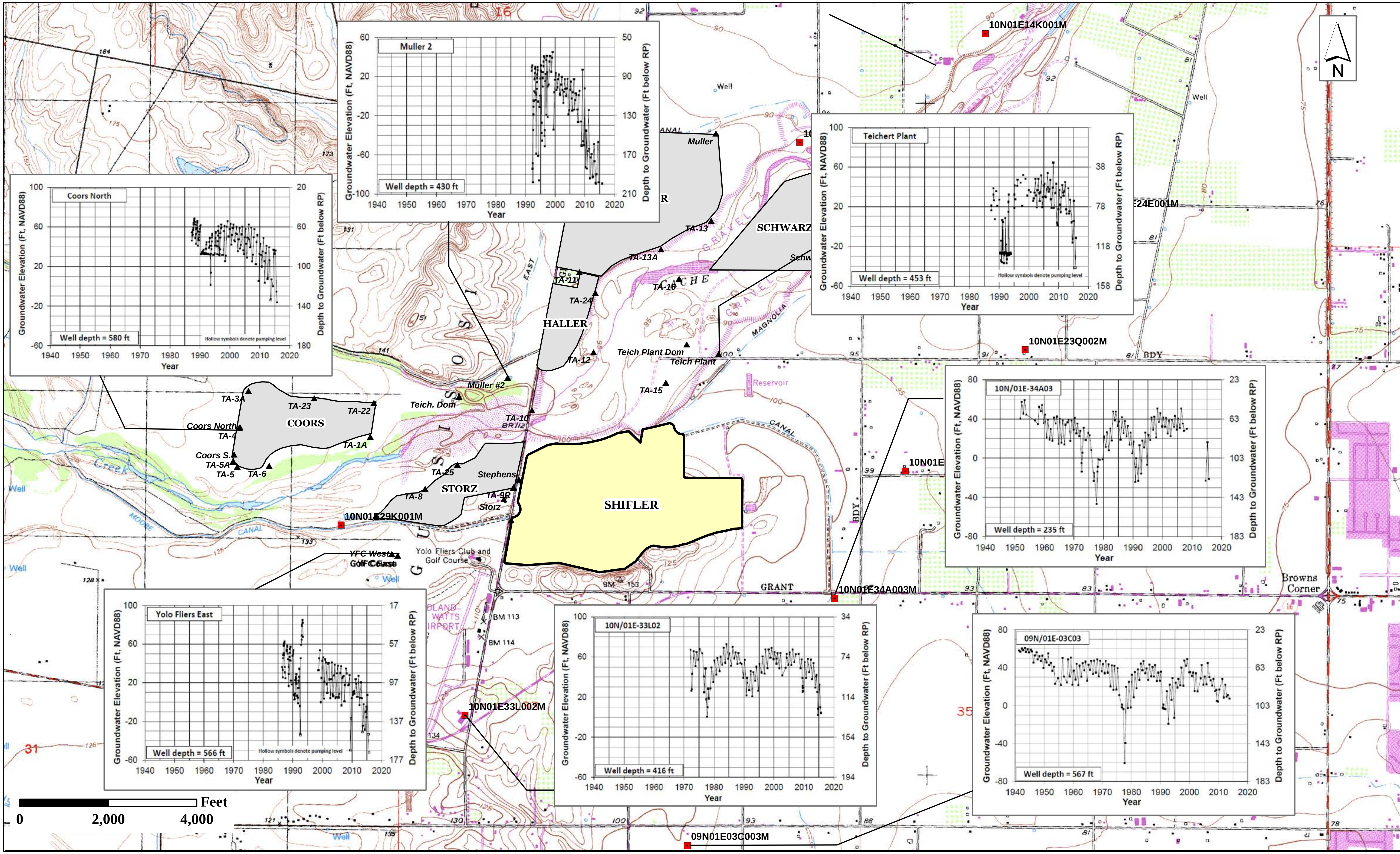

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Figure 9
Historical Groundwater Levels, Deep Wells
Teichert Woodland Plant Area

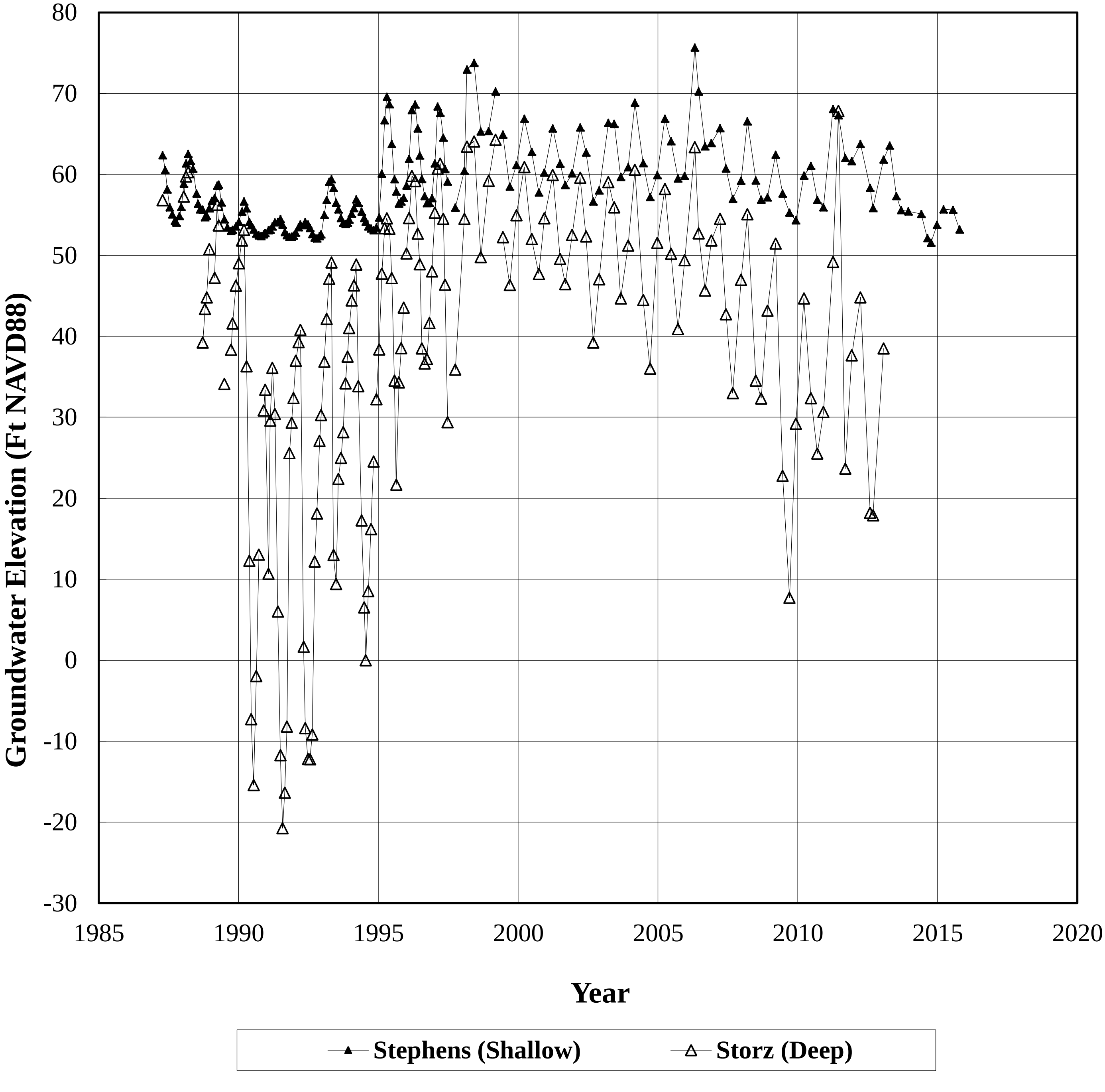

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Figure 10
Groundwater Levels, Shallow and Deep, Shifler Property
Teichert Woodland Plant Area

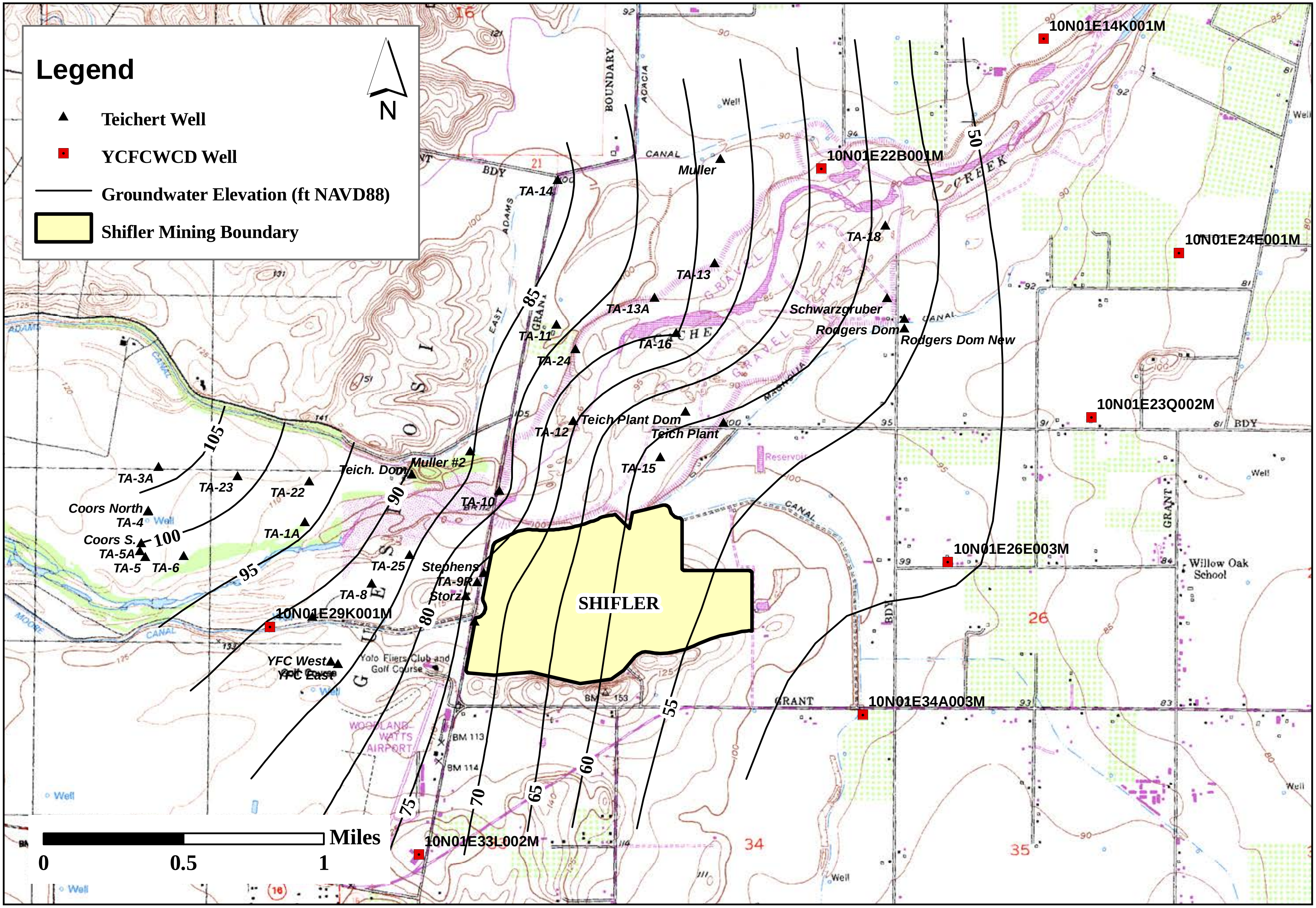

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Figure 11
Contours of Equal Groundwater Elevation, Spring 1986
Teichert Woodland Plant Area

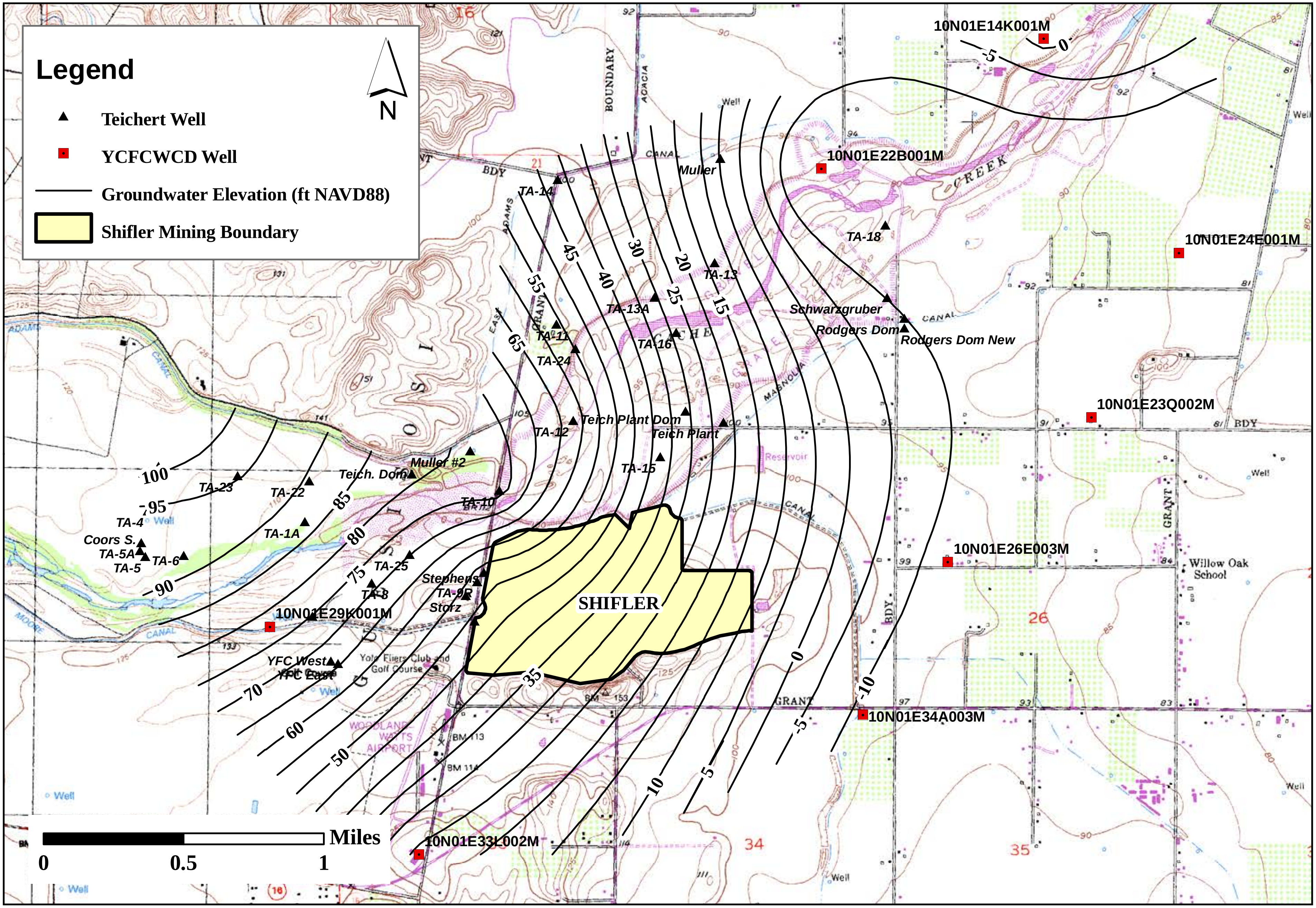

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Figure 12
Contours of Equal Groundwater Elevation, Fall 1992
Teichert Woodland Plant Area

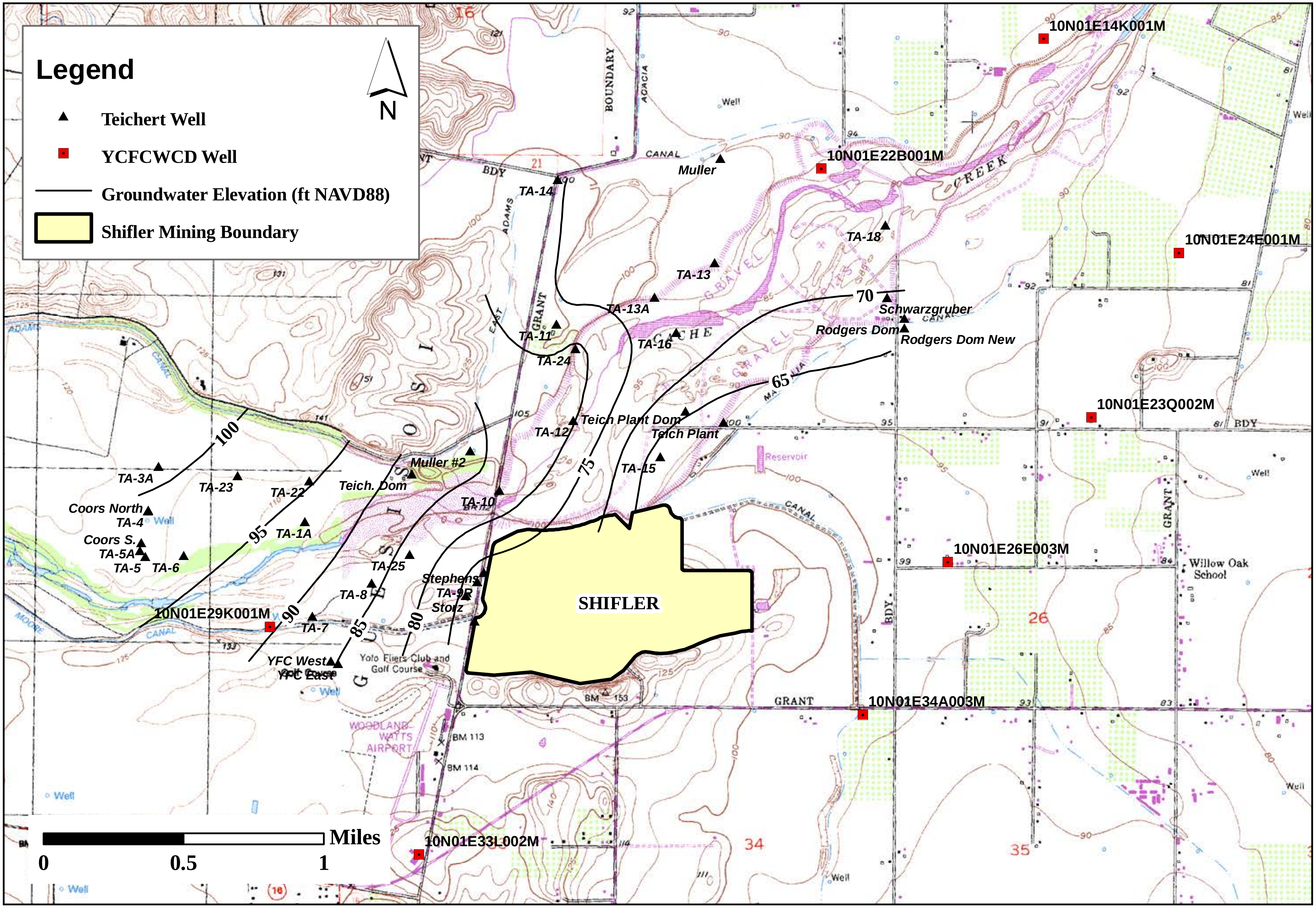

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Figure 13
Contours of Equal Groundwater Elevation, Spring 1998
Teichert Woodland Plant Area

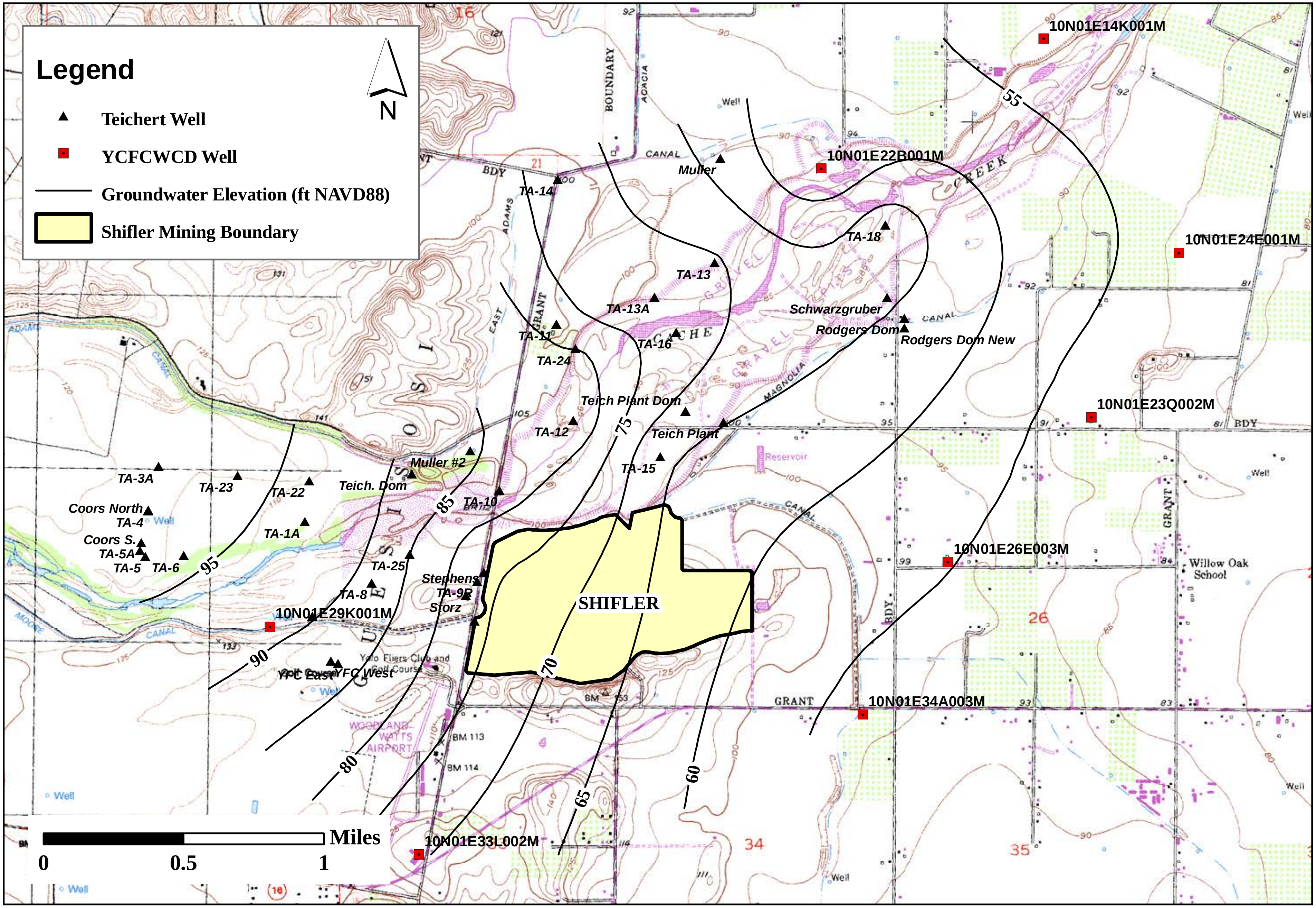

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Figure 14
Contours of Equal Groundwater Elevation, Spring 2006
Teichert Woodland Plant Area

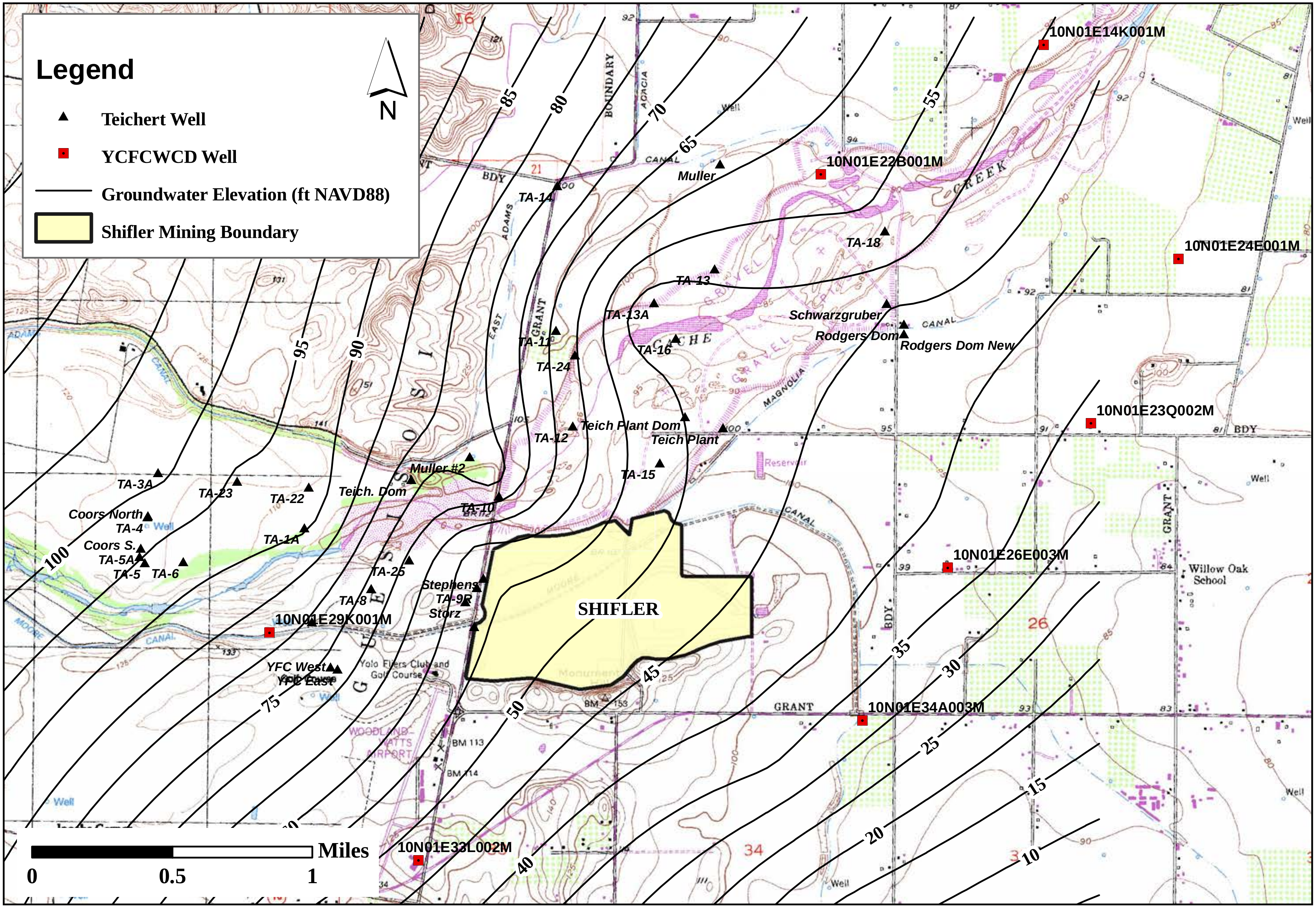

Figure 15
Contours of Equal Groundwater Elevation, Fall 2008
Teichert Woodland Plant Area

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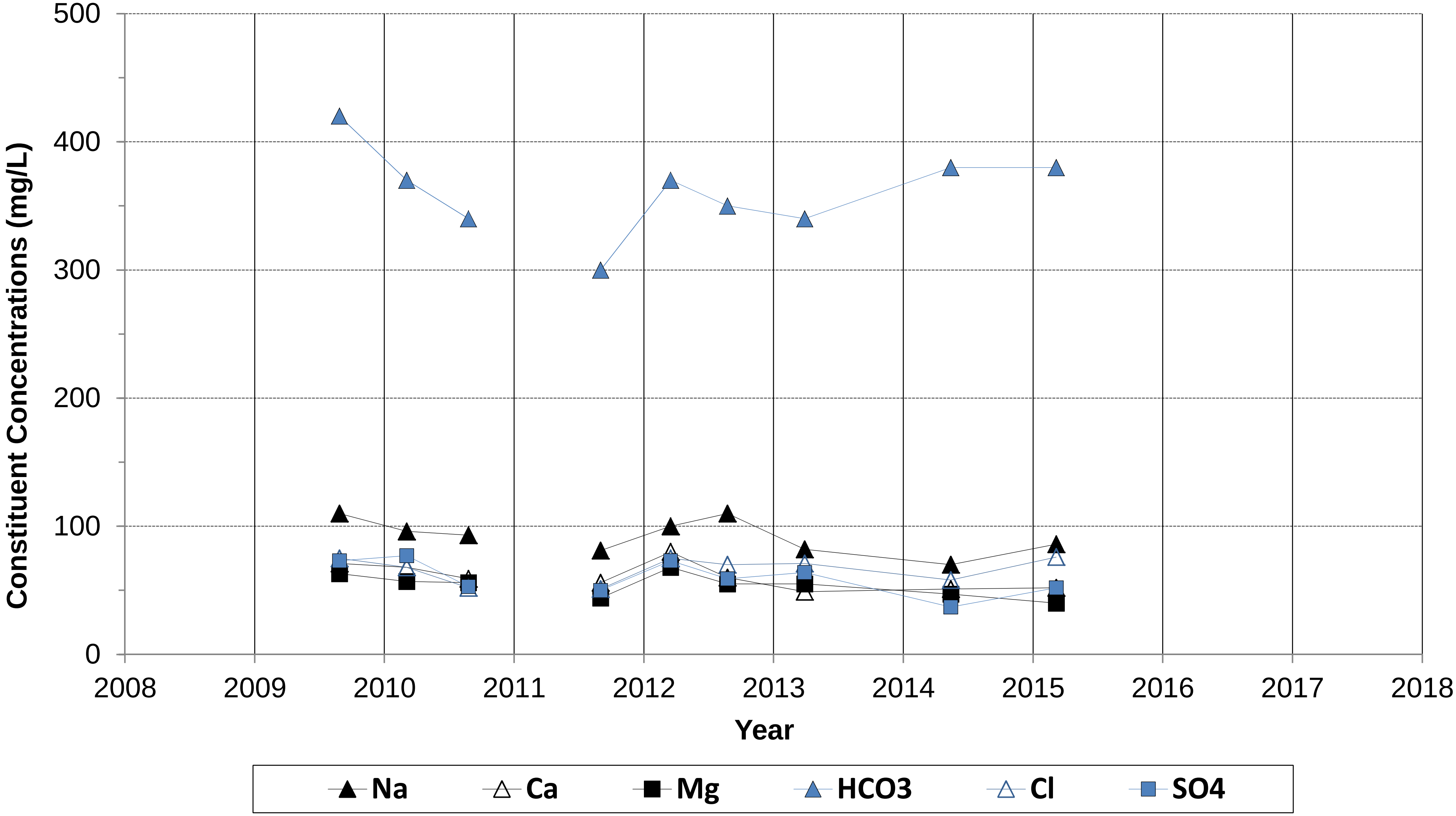

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Figure 16
General Mineral Concentrations, Stephens Well
Teichert Woodland Plant Area

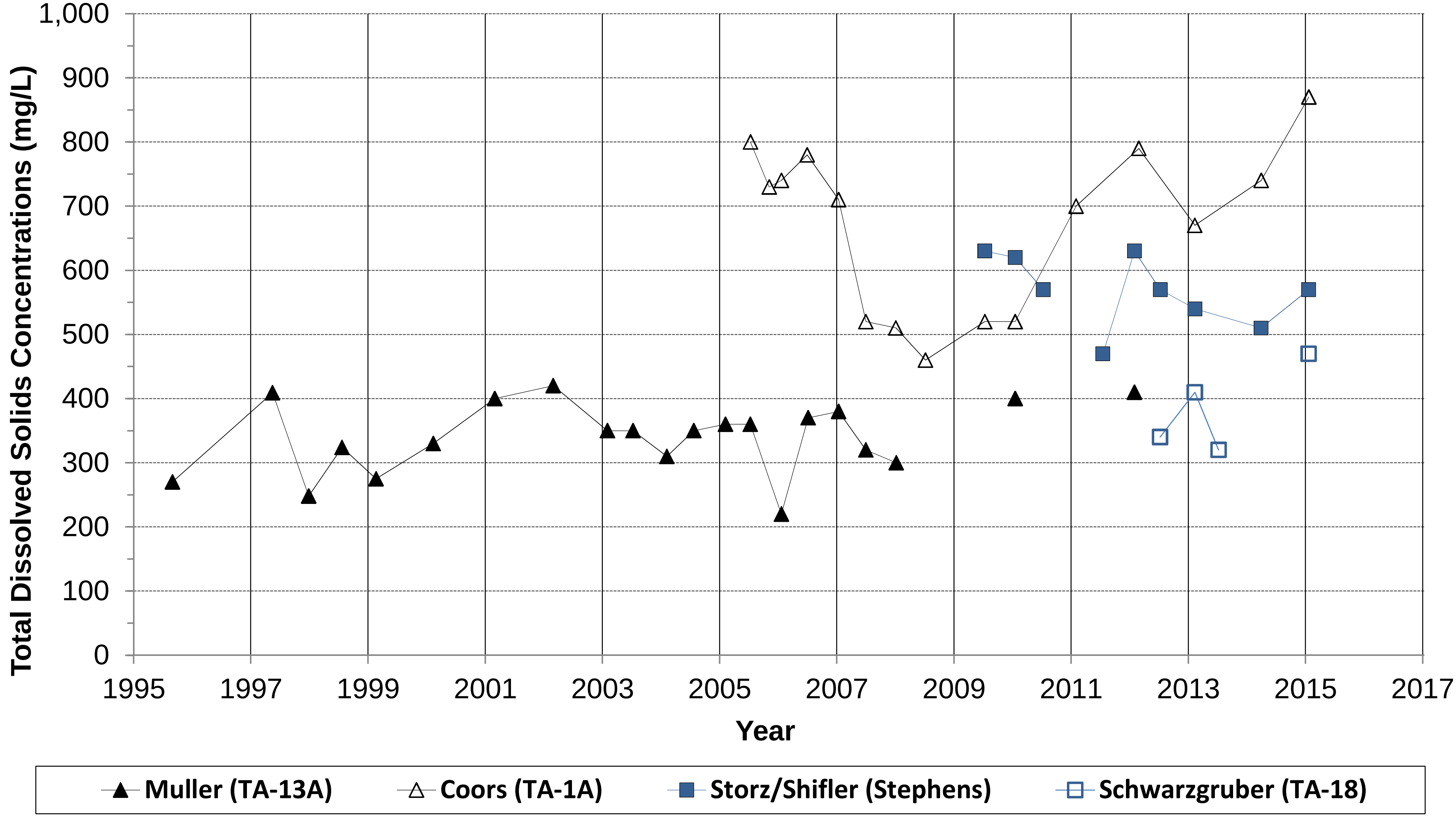

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Figure 17a
Total Dissolved Solids Concentrations in Groundwater
Teichert Woodland Plant Area

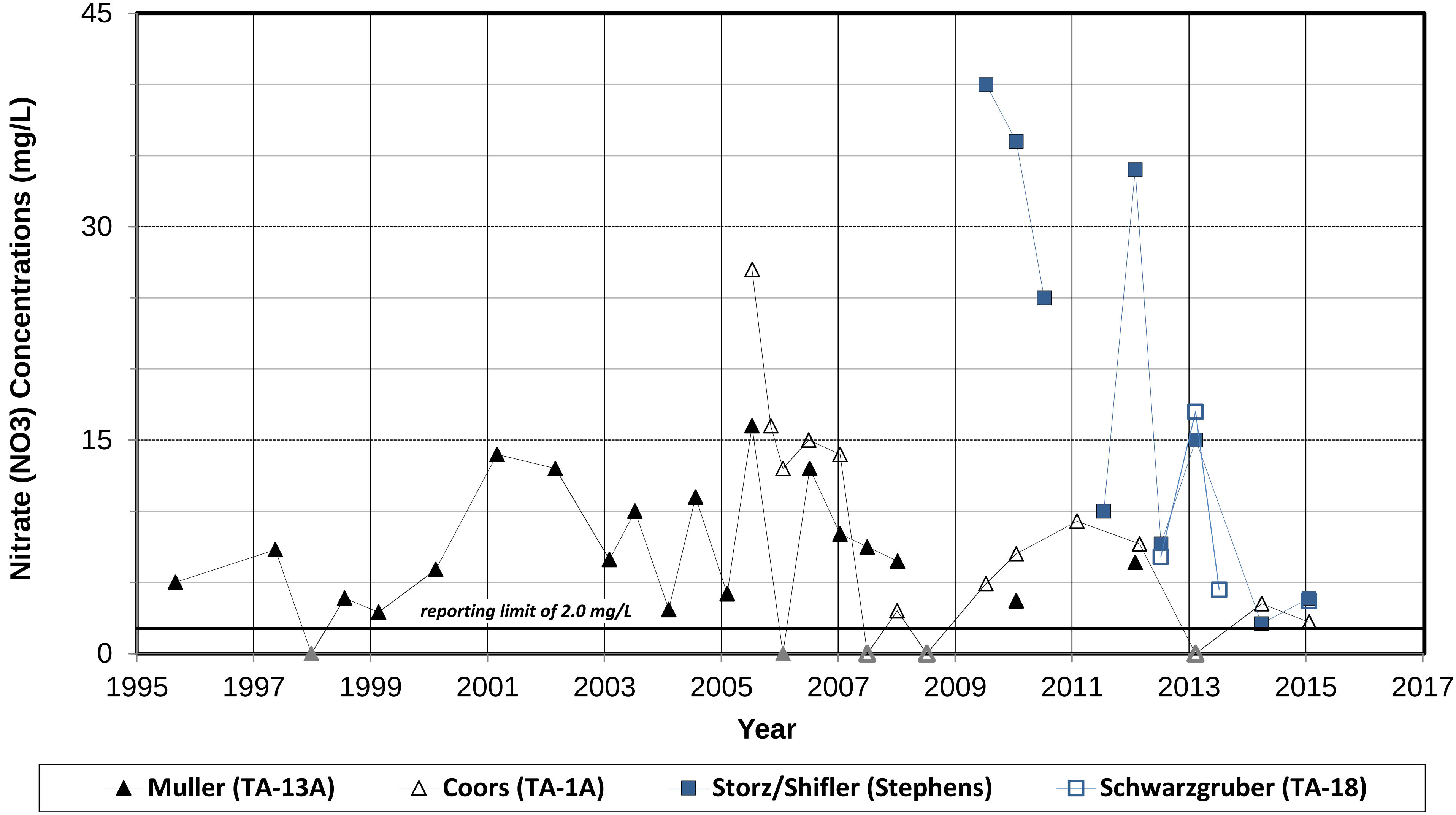

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Figure 17b
Nitrate Concentrations in Groundwater
Teichert Woodland Plant Area

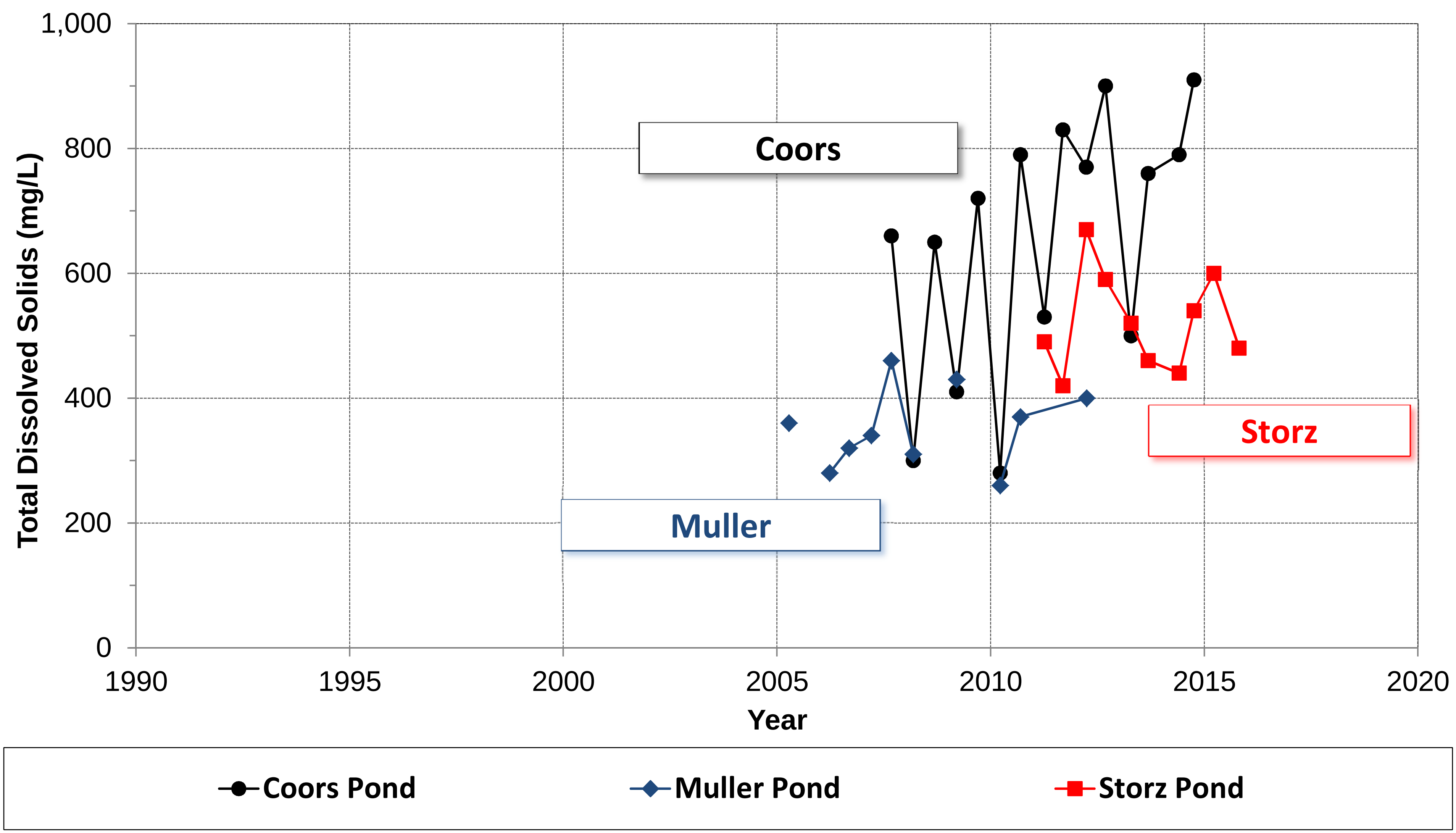

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Figure 18a
Total Dissolved Solids Concentrations in Pond Water
Teichert Woodland Plant Area

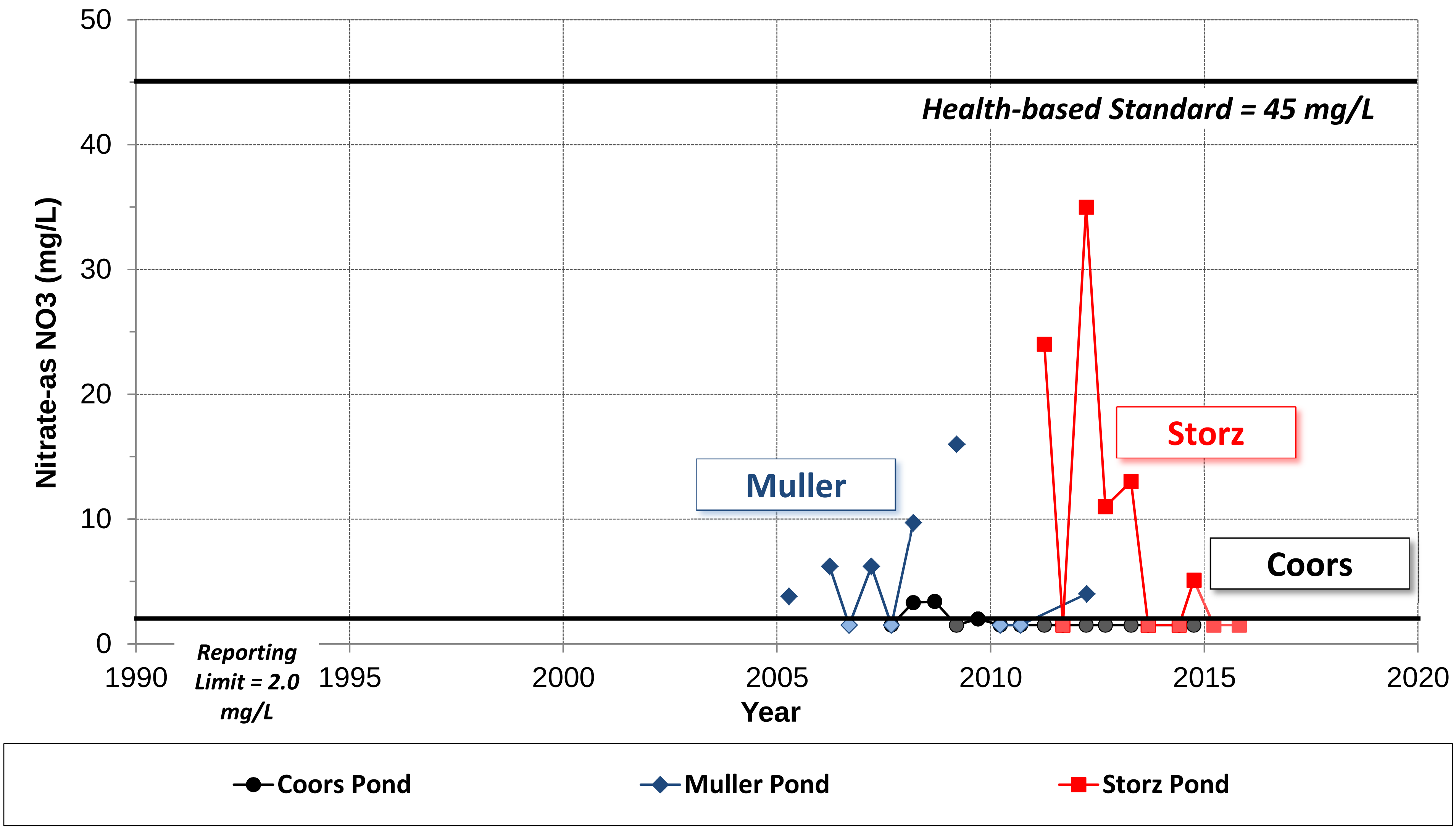

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Figure 18b
Nitrate Concentrations in Pond Water
Teichert Woodland Plant Area

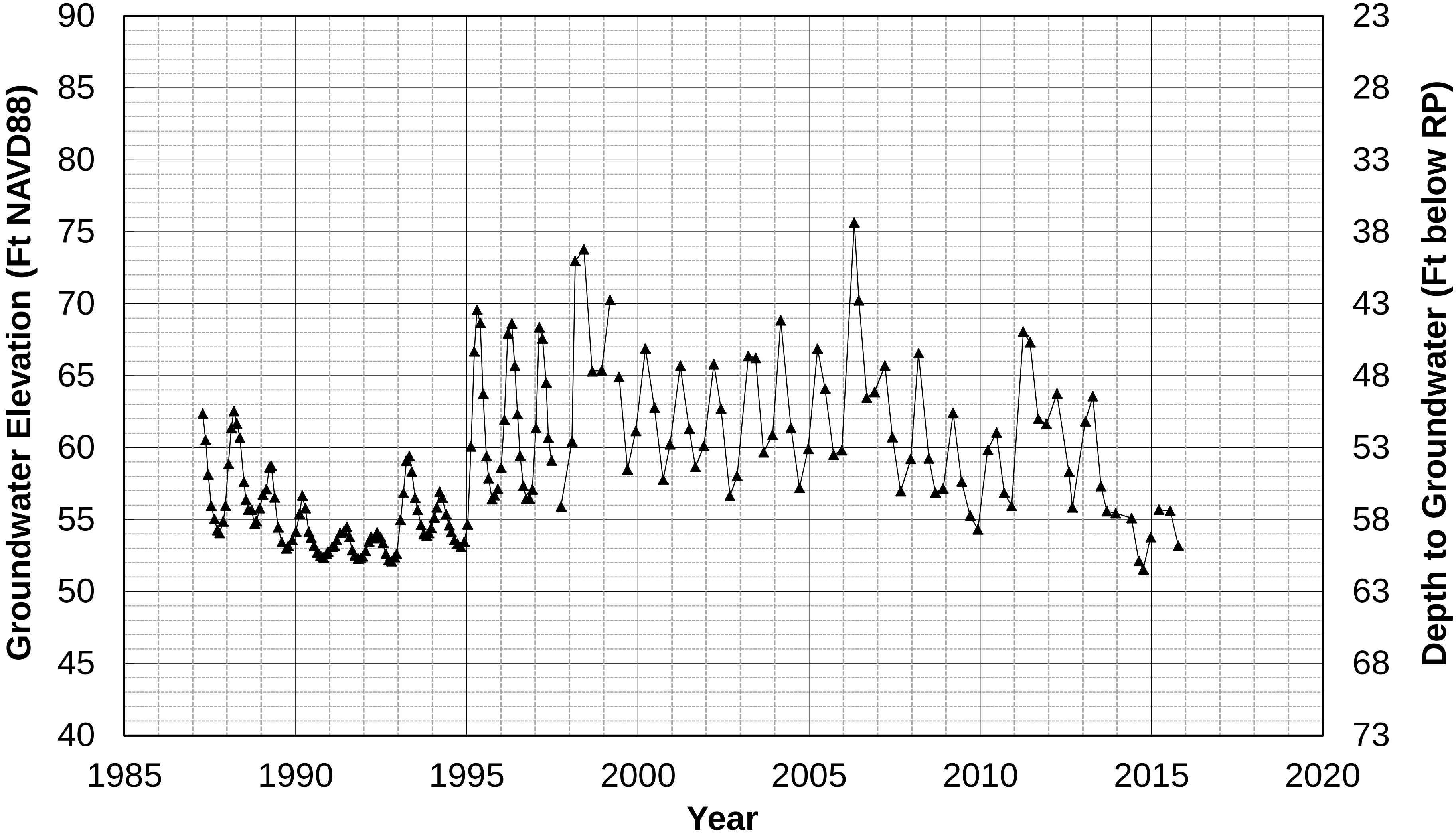

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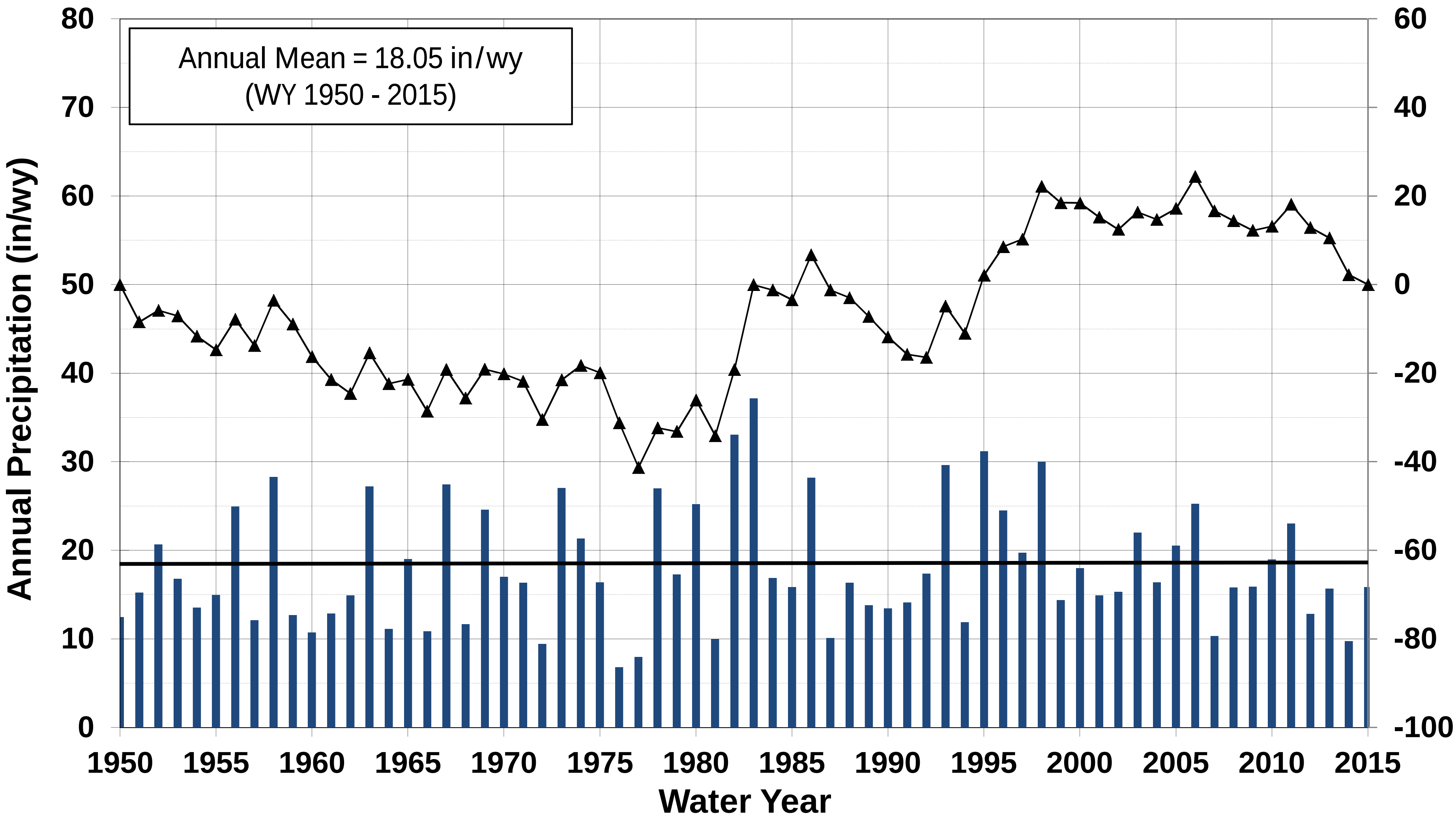
Figure 19
Groundwater Levels, Shifler Property Shallow Well (Stephens)
Teichert Woodland Plant Area



Historical Data from Davis 2 Experimental Farm Station #2294 (NCDC), #042294 (WRCC)

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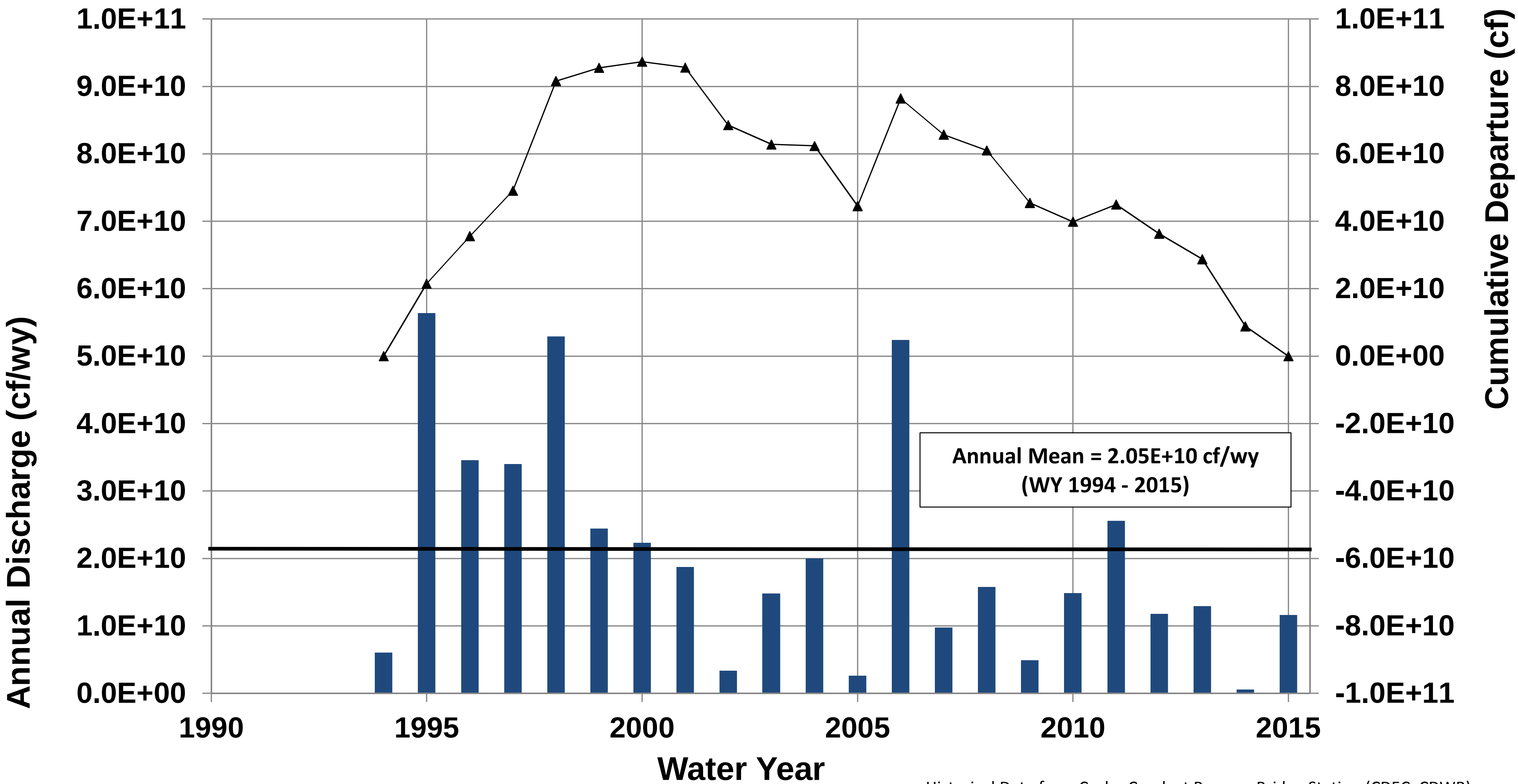
Figure 20
Sacramento Area Historical Precipitation
Teichert Woodland Plant Area



Historical Data from Cache Creek at Rumsey Bridge Station (CDEC, CDWR)

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Figure 21
Historical Stream Discharge, Cache Creek at Rumsey Bridge
Teichert Woodland Plant Area

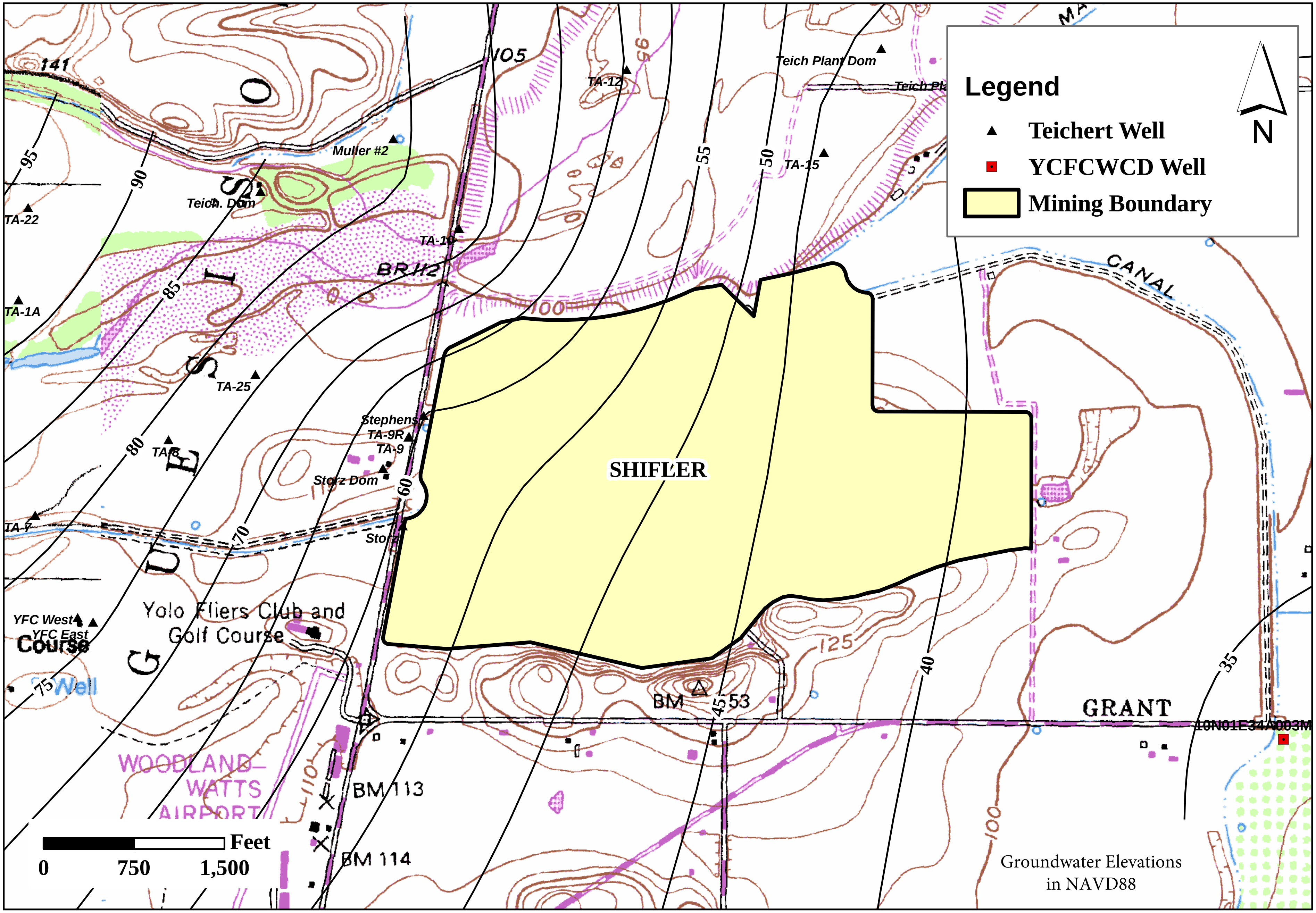

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Figure 22
Contours of Equal Groundwater Elevation, Typical Fall Low
Teichert Shifler Property

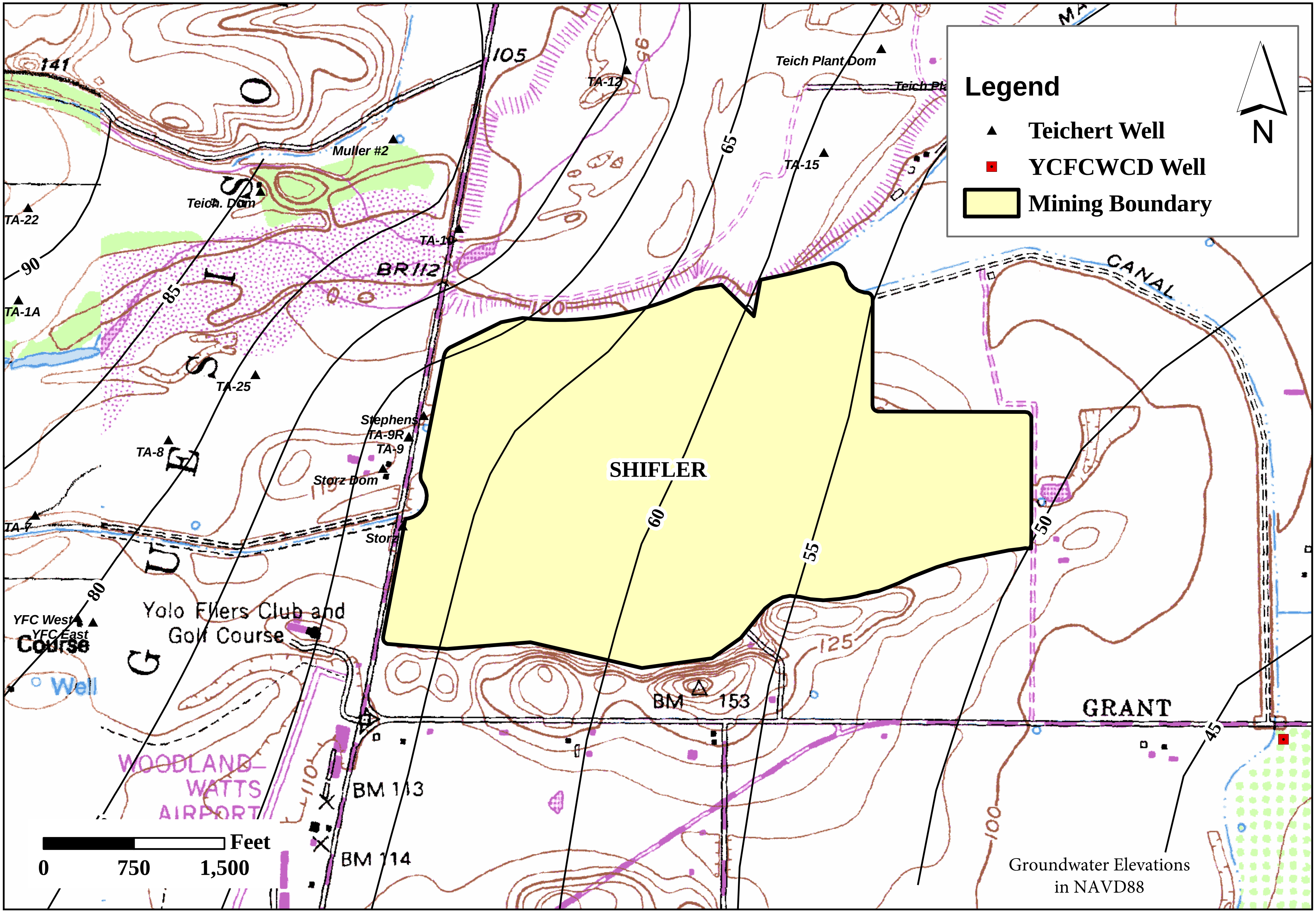

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Figure 23
Contours of Equal Groundwater Elevation, Typical Spring High
Teichert Shifler Property

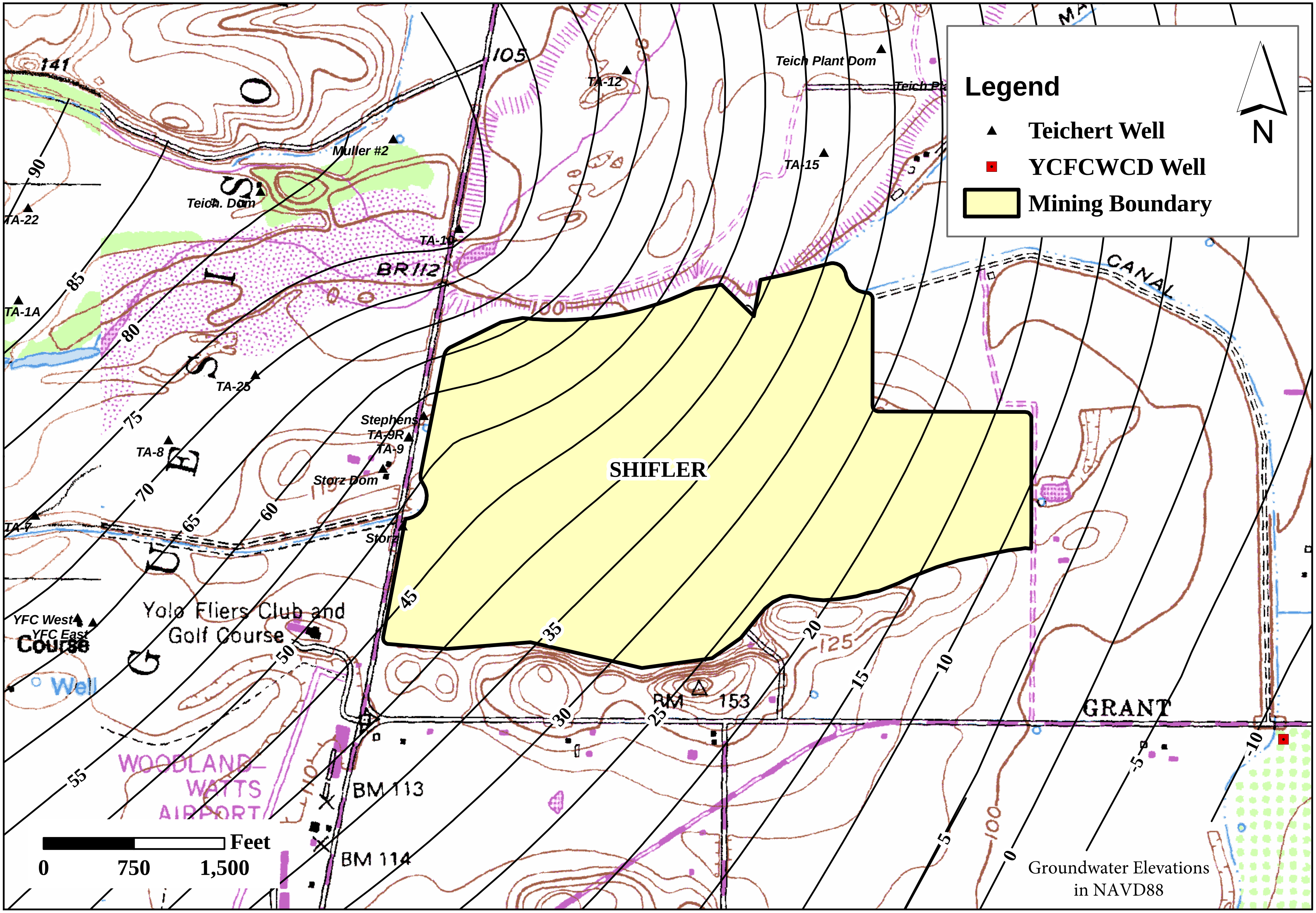

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Figure 24

Contours of Equal Groundwater Elevation, Recent Historical Low, Fall 1992

Teichert Shifler Property

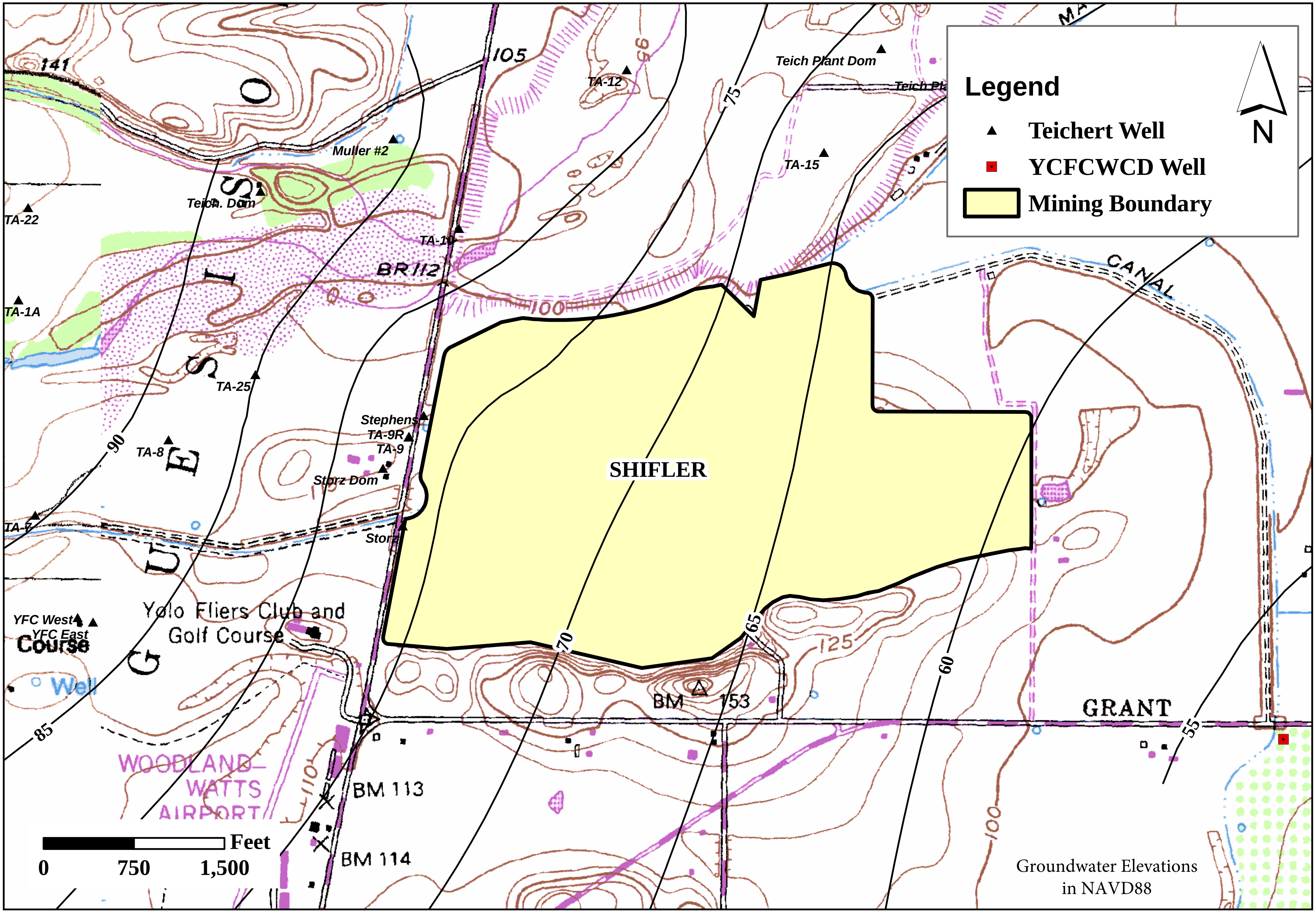

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Figure 25
Contours of Equal Groundwater Elevation, Recent Historical High, Spring 2006
Teichert Shifler Property

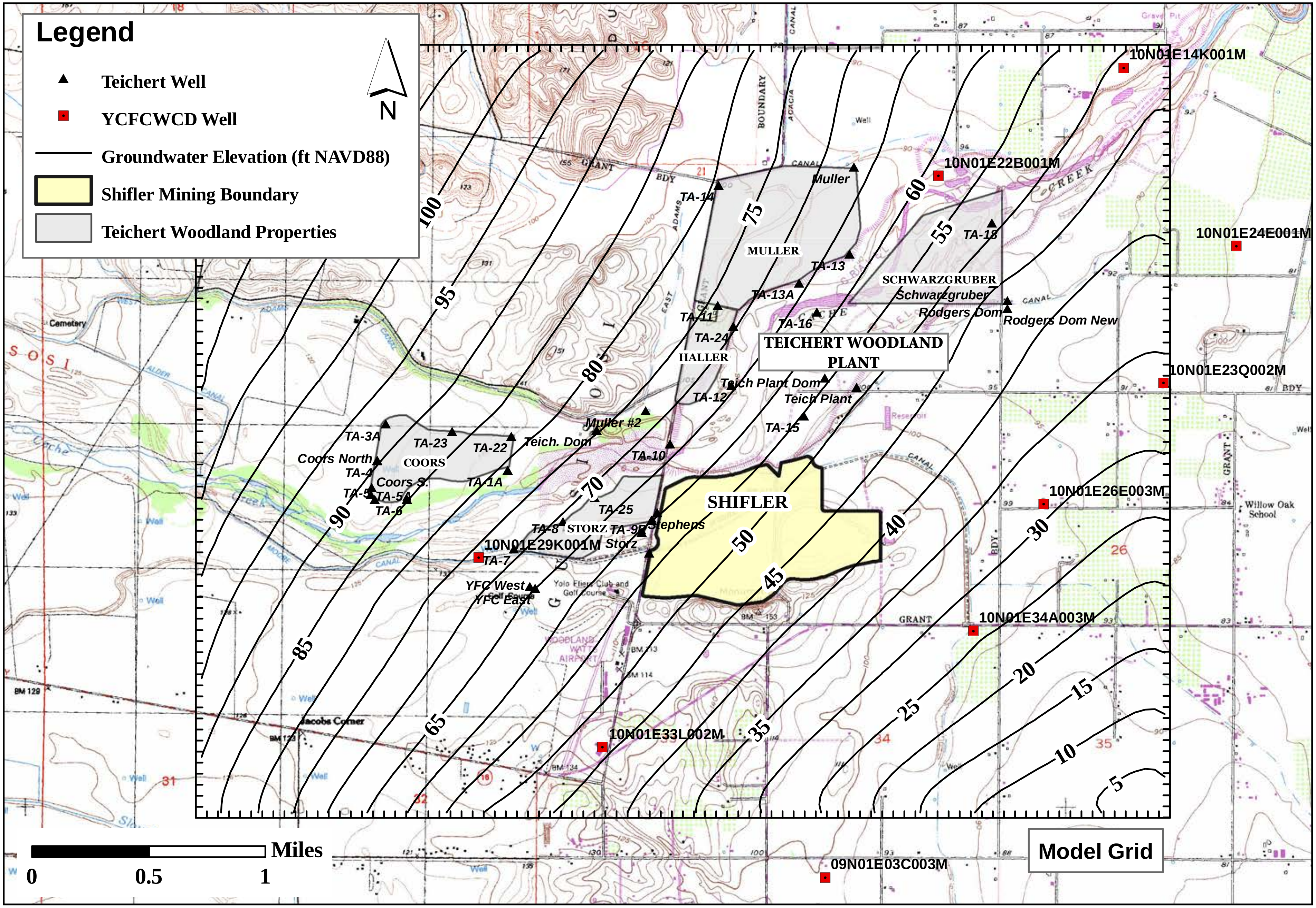
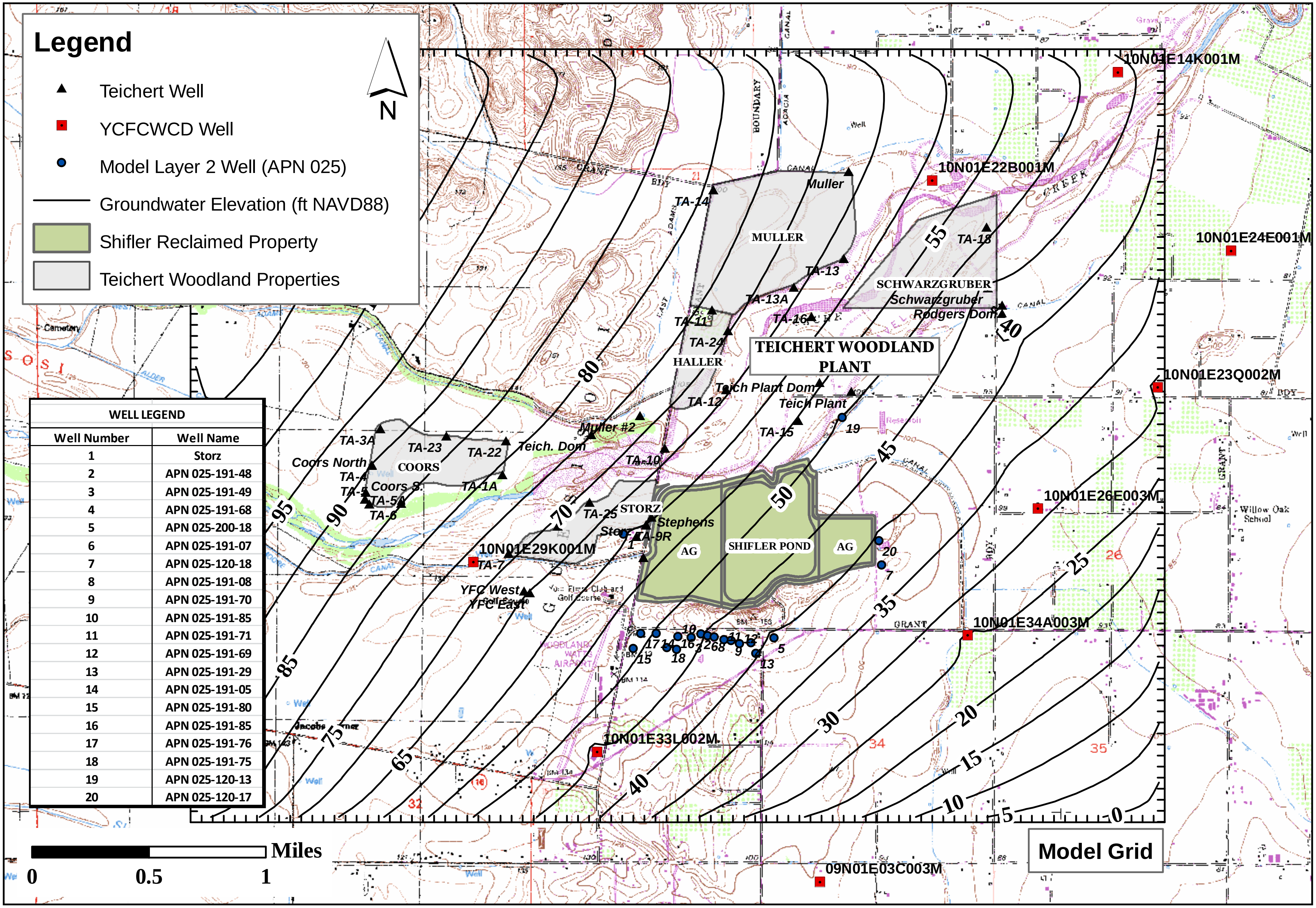


Figure 26a
Simulated Contours, Equal Groundwater Elevation, Layer 1, Baseline Model
Teichert Woodland Plant Area



Well Number	Well Name
1	Storz
2	APN 025-191-48
3	APN 025-191-49
4	APN 025-191-68
5	APN 025-200-18
6	APN 025-191-07
7	APN 025-120-18
8	APN 025-191-08
9	APN 025-191-70
10	APN 025-191-85
11	APN 025-191-71
12	APN 025-191-69
13	APN 025-191-29
14	APN 025-191-05
15	APN 025-191-80
16	APN 025-191-85
17	APN 025-191-76
18	APN 025-191-75
19	APN 025-120-13
20	APN 025-120-17

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Figure 26b

Simulated Contours, Equal Groundwater Elevation, Layer 2, Baseline Model

Teichert Woodland Plant Area

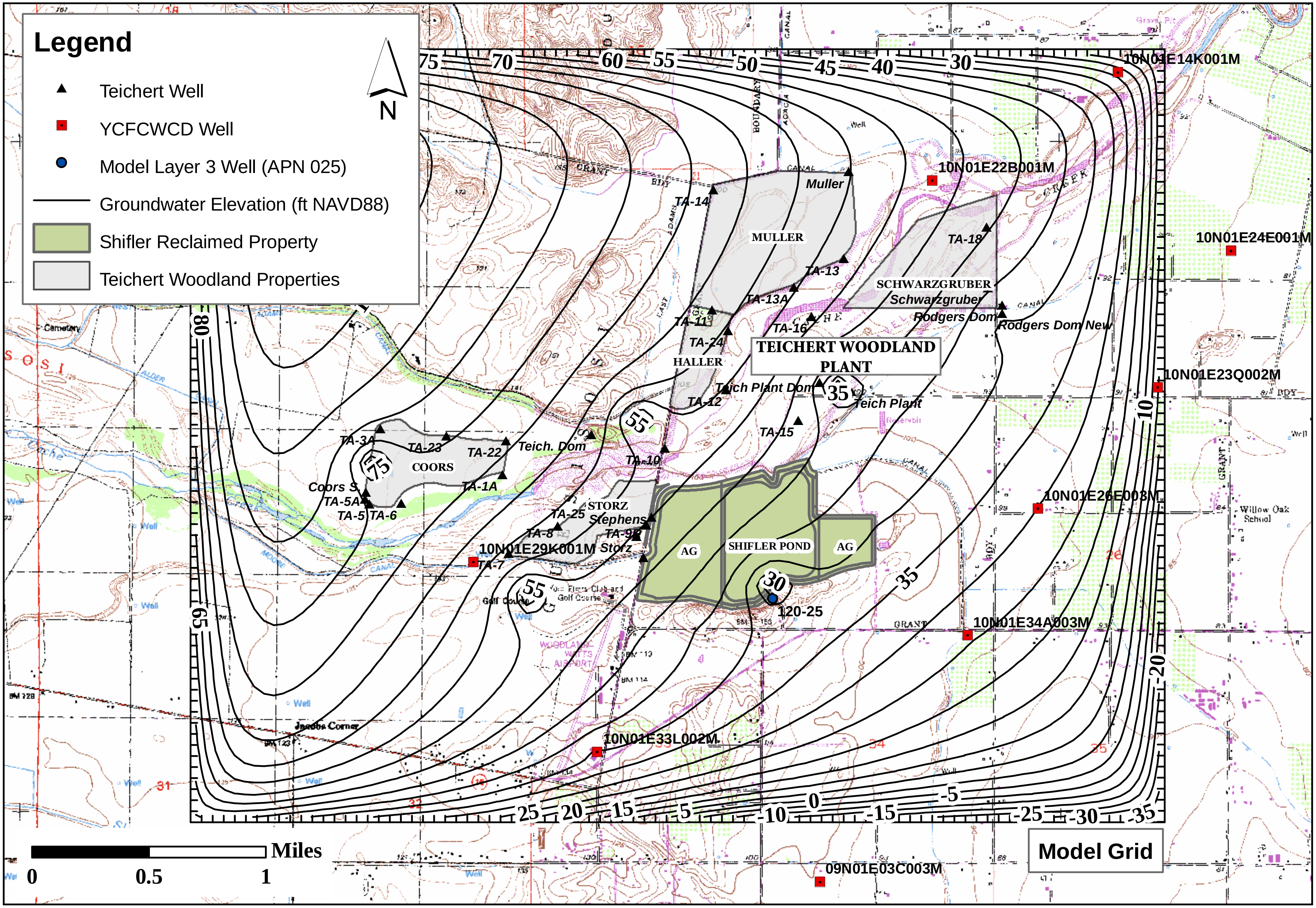

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Figure 26c

Simulated Contours, Equal Groundwater Elevation, Layer 3, Baseline Model

Teichert Woodland Plant Area

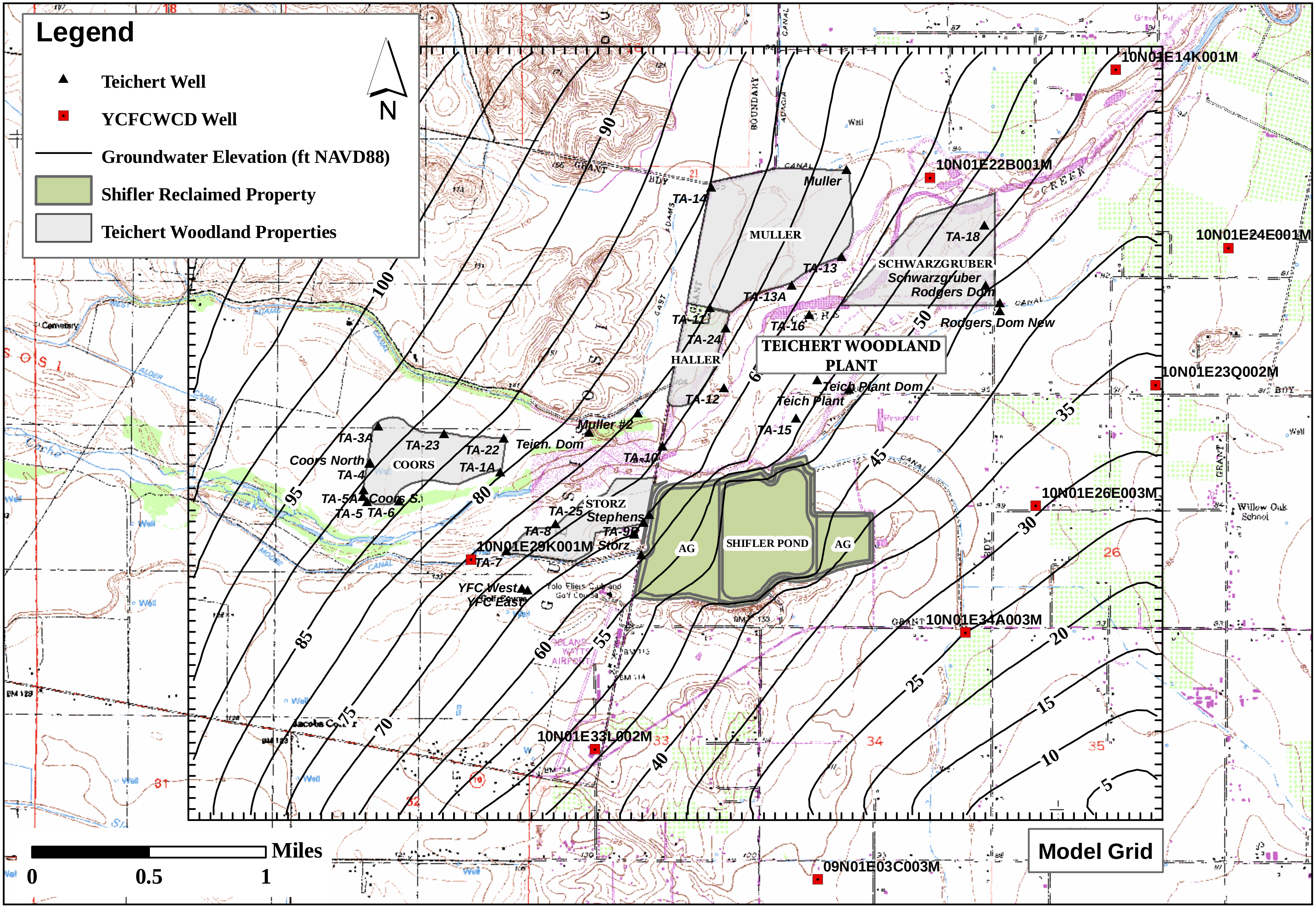

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Figure 27

Simulated Contours, Equal Groundwater Elevation, Layer 1, Reclaimed Project

Teichert Woodland Plant Area

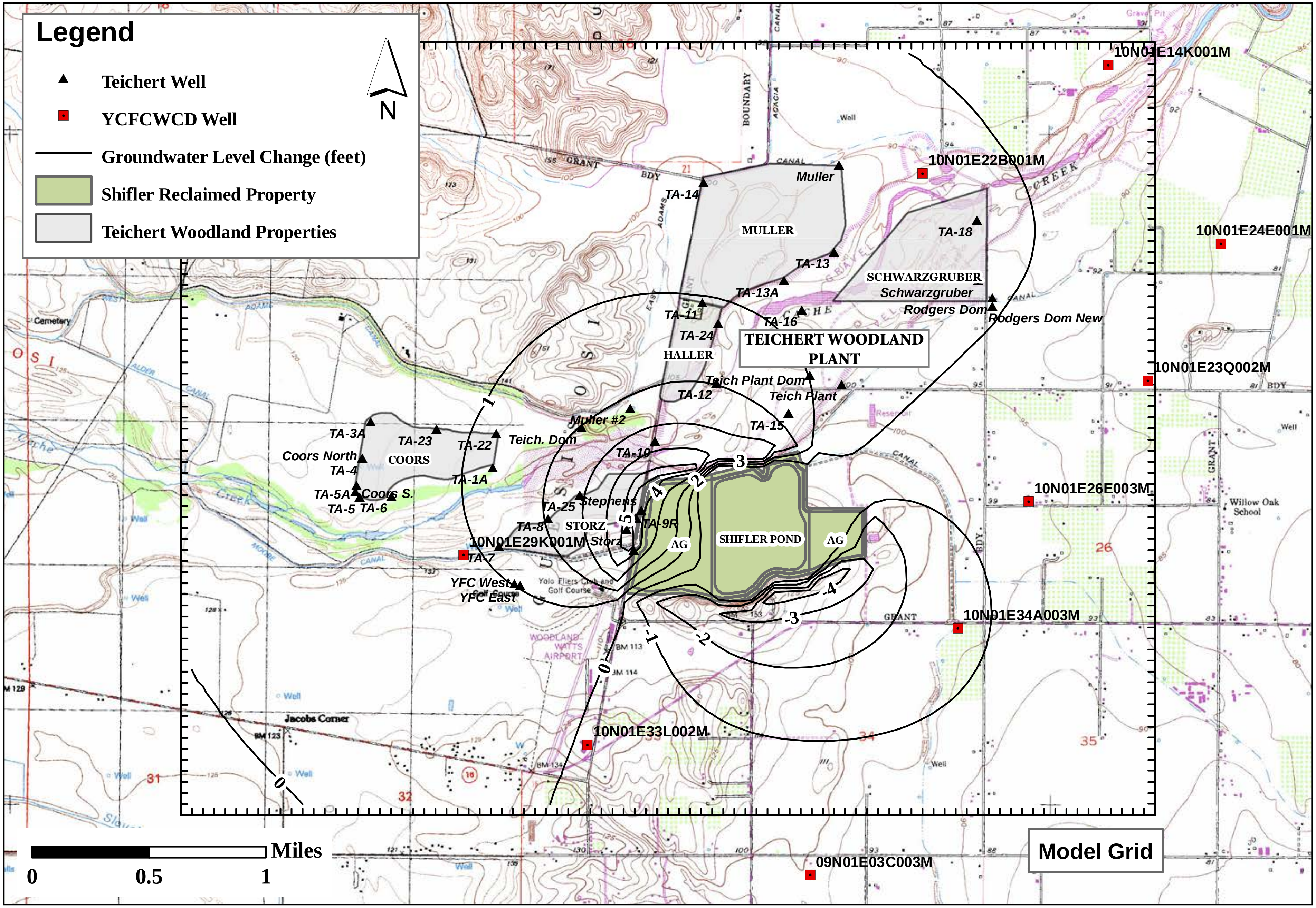

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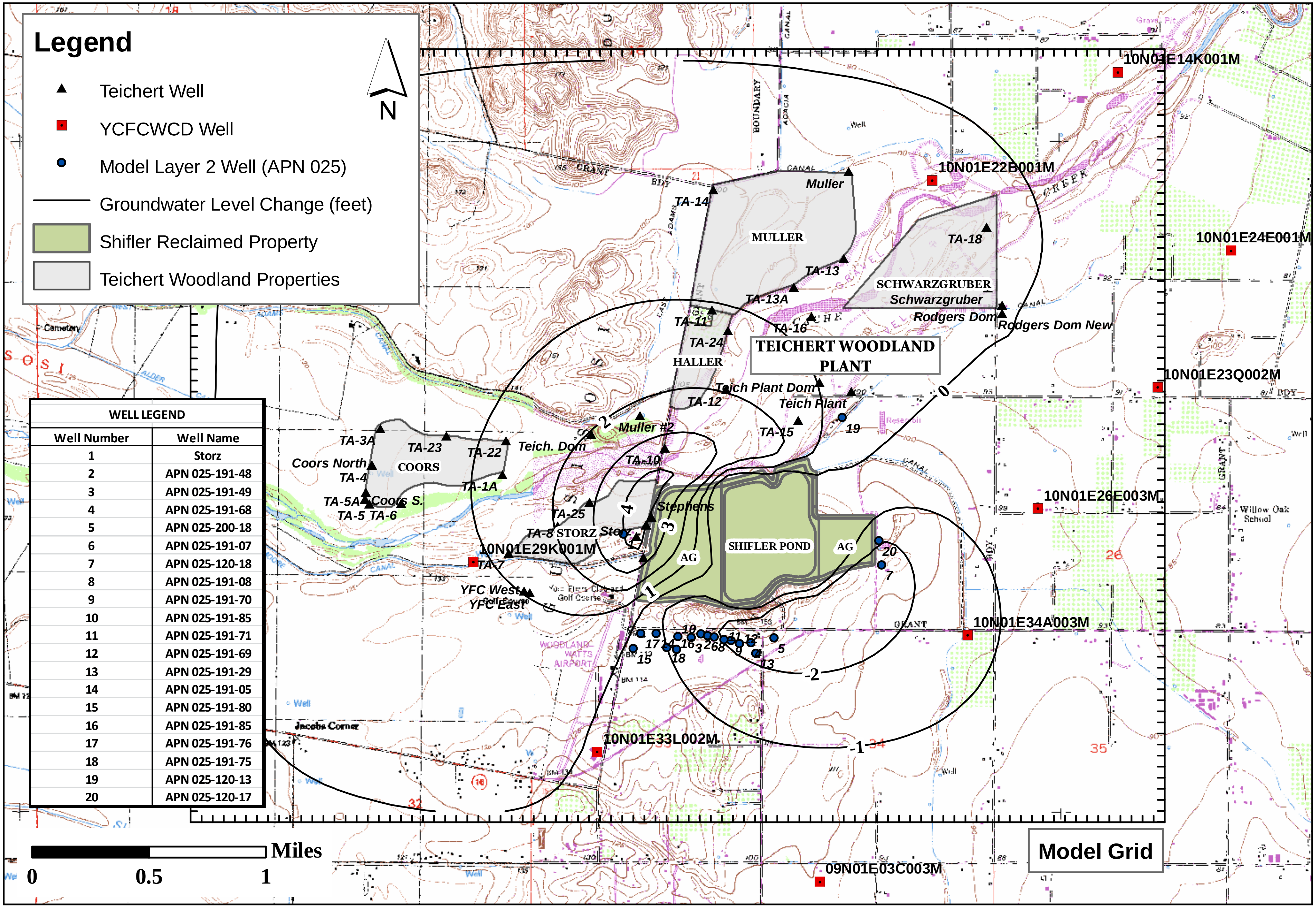
Figure 28a

Simulated Contours, Equal Groundwater Level Change, Layer 1, Baseline vs Reclaimed

Teichert Woodland Plant Area



WELL LEGEND	
Well Number	Well Name
1	Storz
2	APN 025-191-48
3	APN 025-191-49
4	APN 025-191-68
5	APN 025-200-18
6	APN 025-191-07
7	APN 025-120-18
8	APN 025-191-08
9	APN 025-191-70
10	APN 025-191-85
11	APN 025-191-71
12	APN 025-191-69
13	APN 025-191-29
14	APN 025-191-05
15	APN 025-191-80
16	APN 025-191-85
17	APN 025-191-76
18	APN 025-191-75
19	APN 025-120-13
20	APN 025-120-17

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Figure 28b
Simulated Contours, Equal Groundwater Level Change, Layer 2, Baseline vs Reclaimed
Teichert Woodland Plant Area

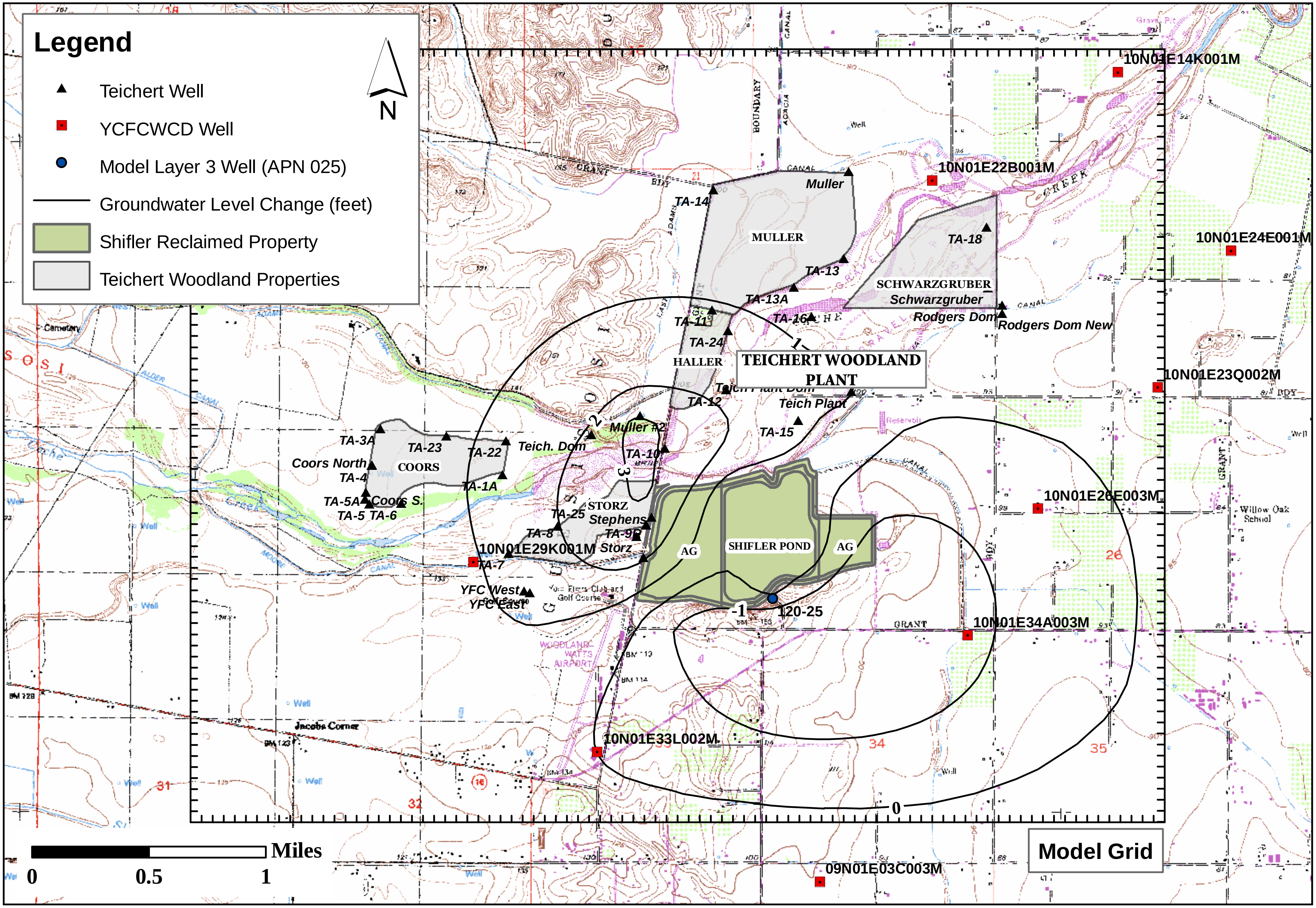

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Figure 28c

Simulated Contours, Equal Groundwater Level Change, Layer 3, Baseline vs Reclaimed

Teichert Woodland Plant Area

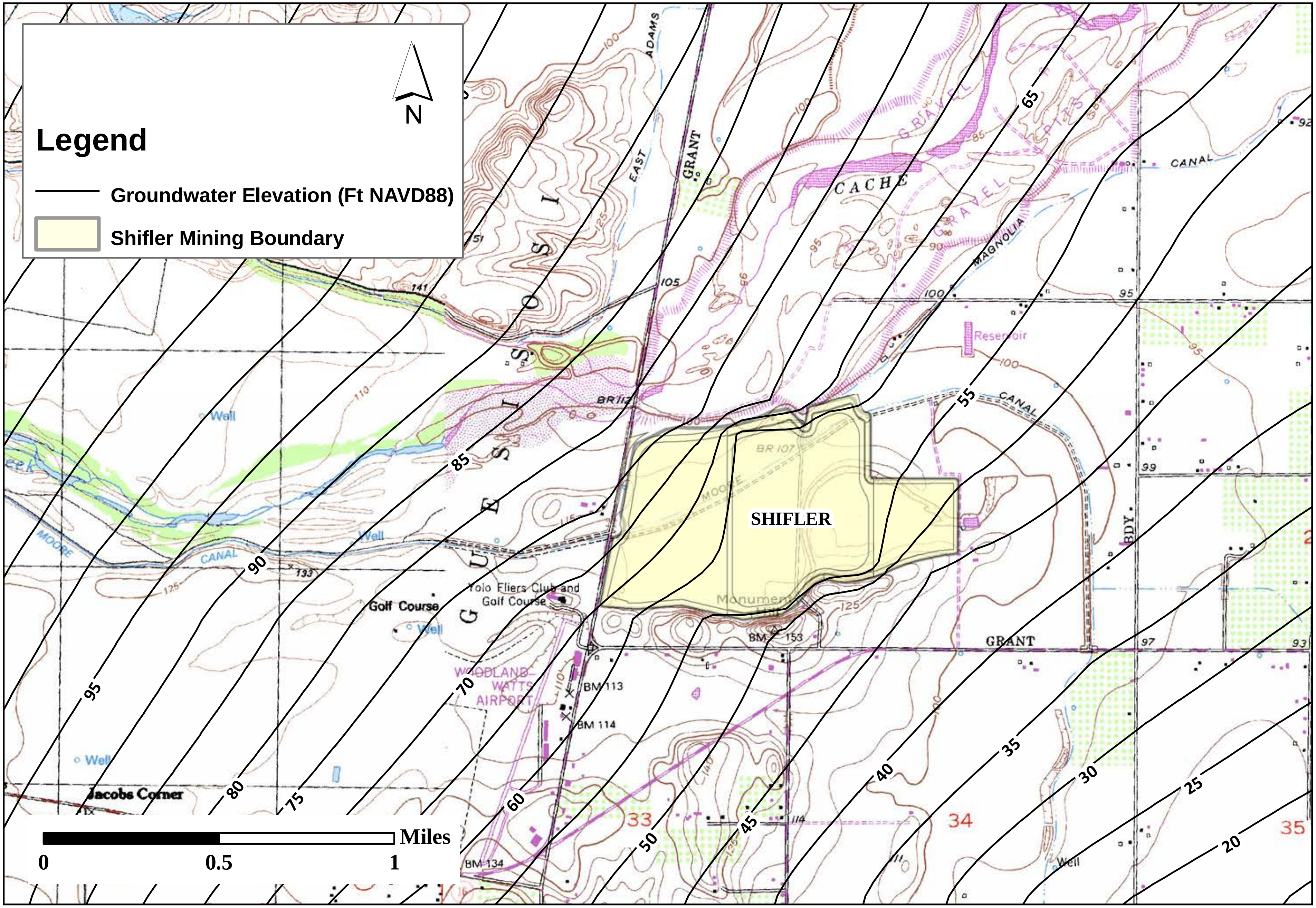

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Figure 29
Contours of Predicted Groundwater Elevation, Average Spring High, Post-Reclamation
Shifler Property, Teichert Woodland Plant Area

Table 1
Characterization of Active Off-Site Water Supply Wells
near the Shifler Property

Well Name	Well Use	Easting (NAD83)	Northing (NAD83)	Reference Point Elevation (Feet, NAVD88)	Well Depth (Feet)	Depth Reported	Model Row	Model Column	Bottom Model Layer	Top Layer Model Layer	Pumping (gpm)	Percent Pumping in Layer 1	Percent Pumping in Layer 2	Percent Pumping in Layer 3
Storz	Domestic/Irrigation	6599090.868000	2010878.849000	115.40	168	Yes	44	40	2	2	40	0	100	0
APN 025-191-48	Domestic	6600831.507950	2008624.547740	127	310	No	53	46	3	2	20	0	30	70
APN 025-191-49	Domestic	6600612.678610	2008537.907270	123	310	No	53	46	3	2	20	0	30	70
APN 025-191-68	Domestic	6601966.871150	2008422.344840	122	310	No	53	51	3	2	20	0	30	70
APN 025-200-18	Domestic/Irrigation	6602481.762310	2008532.606590	122	310	Yes	53	53	3	2	40	0	30	70
APN 025-191-07	Domestic	6600987.437170	2008585.087810	119	310	No	53	47	3	2	20	0	30	70
APN 025-120-18	Domestic	6604919.824710	2010187.513990	108	300	Yes	46	63	3	2	20	0	30	70
APN 025-191-08	Domestic	6601131.929560	2008557.629400	118	310	No	53	48	3	2	20	0	30	70
APN 025-191-70	Domestic	6601513.455300	2008472.994090	117	310	No	53	49	3	2	20	0	30	70
APN 025-191-85	Domestic	6600312.886030	2008566.593480	116	310	No	53	45	3	2	20	0	30	70
APN 025-191-71	Domestic	6601357.846860	2008488.415360	116	310	No	53	49	3	2	20	0	30	70
APN 025-191-69	Domestic	6601707.979200	2008399.000540	116	310	No	53	50	3	2	20	0	30	70
APN 025-191-29	Domestic	6602078.870330	2008179.974100	116	310	No	54	52	3	2	20	0	30	70
APN 025-191-05	Domestic	6599829.194780	2008631.430160	114	310	No	52	42	3	2	20	0	30	70
APN 025-191-80	Industrial	6599308.985150	2008289.067840	113	310	No	54	40	3	2	30	0	30	70
APN 025-191-85	Domestic	6600284.779780	2008270.107820	113	310	No	54	45	3	2	20	0	30	70
APN 025-191-76	Domestic	6599479.491850	2008628.733010	112	310	No	53	41	3	2	20	0	30	70
APN 025-191-75	Domestic	6600070.317070	2008316.040530	112	310	No	53	44	3	2	20	0	30	70
APN 025-120-13	Domestic	6604021.536600	2013518.295640	101	300	Yes	34	59	3	2	20	0	30	70
APN 025-120-17	Irrigation	6604853.899510	2010730.641990	99	300	Yes	44	63	3	2	40	0	30	70
APN 025-120-25	Irrigation	6602452.030950	2009426.787670	107	500	Yes	49	53	3	3	155	0	0	100

Table 2
Summary of Calibrated Model Parameters
Teichert Woodland Plant Area

Parameters	Baseline	Reclamation Scenario
Layer 1 bottom elevation (feet, NAVD88)	Ground surface minus 110 feet	Ground surface minus 110 feet
Layer 2 bottom elevation (feet, NAVD88)	Base of Layer 1 Contours minus 140 feet	Base of Layer 1 Contours minus 140 feet
Layer 3 bottom elevation (feet, NAVD88)	Base of Layer 2 Contours minus 330 feet	Base of Layer 2 Contours minus 330 feet
Layer 1 hydraulic conductivity (feet/day)		
Central portion of grid (Cache Creek Aggregate)	150	150
North and south portions of grid	100	100
Reclaimed pits - backfill	- - -	2.67
Reclaimed pits - pond	- - -	40,000
Layers 2 and 3 hydraulic conductivity (feet/day)	26.7	26.7
Leakance between layers (1/day)	0.0001	0.0001
General head cells		
Conductance (feet^2/day)	10,000	10,000
Head in Layer 1 (feet, NAVD88)	September 2008 Groundwater Level Contours	September 2008 Groundwater Level Contours
Head in Layer 2 (feet, NAVD88)	Layer 1 Head Contours minus 5 to 25 feet	Layer 1 Head Contours minus 5 to 25 feet
Head in Layer 3 (feet, NAVD88)	Layer 2 Head Contours minus 20 to 30 feet	Layer 2 Head Contours minus 20 to 30 feet
Recharge to Layer 1 (feet/day)	0.0017	0.0017
Cache Creek		
Conductance (feet^2/day)	6,250	6,250
Stage (feet above theoretical thalweg,NAVD88)	2.5 feet at west boundary to 1 foot at Stevens Bridge	2.5 feet at west boundary to 1 foot at Stevens Bridge
Pumpage		
37 Wells simulated with total flow in gpm (feet^3/day)	2700 gpm (519,900 ft^3/day)	2700 gpm (519,900 ft^3/day)

Table 3
Simulated Pumping in Model
Teichert Woodland Plant Area

Well Name	Well Use	Well Depth (Feet)	Bottom Model Layer	Top Layer Model Layer	Model Row	Model Column	Pumping (gpm)	Pumping (ft^3/dy)	Percent Pumping in Layer 1	Percent Pumping in Layer 2	Percent Pumping in Layer 3
Teichert Domestic	Irrigation	108	1	1	35	39	10	2,110	100	0	0
10N/01E-26E3	Irrigation	142	2	2	39	76	155	30,000	0	100	0
Storz	Domestic/Irrigation	168	2	2	44	40	40	7,700	0	100	0
Winther Dom	Domestic	160	2	2	26	73	20	3,850	0	100	0
Rodgers Dom New (S)	Domestic	165	2	2	24	74	20	3,850	0	100	0
Rodgers Dom (N)	Domestic	165	2	2	23	74	20	3,850	0	100	0
Schwarzgruber #2	Industrial	198	2	2	22	72	30	6,015	0	100	0
10N/01E-23Q2	Irrigation	216	2	2	31	88	155	30,000	0	100	0
Rodgers Ag	Irrigation	220	2	2	24	73	155	30,000	0	100	0
Mezger	Domestic	230	2	2	25	47	20	3,850	0	100	0
10N/01E-34A03	Irrigation	235	2	2	54	71	155	30,000	0	100	0
APN 025-191-48	Domestic	310	3	2	53	46	20	3,850	0	30	70
APN 025-191-49	Domestic	310	3	2	53	46	20	3,850	0	30	70
APN 025-191-68	Domestic	310	3	2	53	51	20	3,850	0	30	70
APN 025-200-18	Domestic/Irrigation	310	3	2	53	53	40	7,700	0	30	70
APN 025-191-07	Domestic	310	3	2	53	47	20	3,850	0	30	70
APN 025-120-18	Domestic	300	3	2	46	63	20	3,850	0	30	70
APN 025-191-08	Domestic	310	3	2	53	48	20	3,850	0	30	70
APN 025-191-70	Domestic	310	3	2	53	49	20	3,850	0	30	70
APN 025-191-85	Domestic	310	3	2	53	45	20	3,850	0	30	70
APN 025-191-71	Domestic	310	3	2	53	49	20	3,850	0	30	70
APN 025-191-69	Domestic	310	3	2	53	50	20	3,850	0	30	70
APN 025-191-29	Domestic	310	3	2	54	52	20	3,850	0	30	70
APN 025-191-05	Domestic	310	3	2	52	42	20	3,850	0	30	70
APN 025-191-80	Industrial	310	3	2	54	40	30	6,015	0	30	70
APN 025-191-85	Domestic	310	3	2	54	45	20	3,850	0	30	70
APN 025-191-76	Domestic	310	3	2	53	41	20	3,850	0	30	70
APN 025-191-75	Domestic	310	3	2	53	44	20	3,850	0	30	70
APN 025-120-13	Domestic	300	3	2	34	59	20	3,850	0	30	70
APN 025-120-17	Irrigation	300	3	2	44	63	40	7,500	0	30	70
Muller #3	Irrigation	320	3	2	26	74	155	30,000	0	30	70
10N/01E-33L02	Irrigation	395	3	2	64	37	155	30,000	0	30	70
Muller #2	Irrigation	430	3	3	34	41	155	30,000	0	0	100
Teichert Plant	Industrial	453	3	3	31	59	450	86,250	0	0	100
APN 025-120-25	Irrigation	500	3	3	49	53	155	30,000	0	0	100
YFC East	Irrigation	566	3	3	50	31	260	49,650	0	0	100
Coors North	Irrigation	580	3	3	38	17	155	30,000	0	0	100
						Total	**2,695**	**519,940**			

Table 4
Model Calibration Comparison of Simulated and Observed Groundwater Levels, September 2008

Well Name	Well Use	Model Layer	Model Row	Model Column	Simulated Head (Ft, NAVD88)	Measured Head* (Ft, NAVD88)	Difference (Feet)	Average Mean Difference by Layer (Feet)
Teichert Dom	Domestic	1	35	39	75	73.42	1.6	
TA-18	Observation	1	17	72	51	53.98	-3.0	
Schwarzgruber	Observation	1	22	73	45	44.92	0.1	
Stephens	Observation	1	41	42	60	56.87	3.1	
TA-13A	Observation	1	23	55	62	44.42	17.6	
YFC West	Observation	1	49	30	66	75.15	-9.1	
TA-12	Observation	1	31	48	65	63.91	1.1	
TA-14	Observation	1	13	48	79	74.82	4.2	
TA-10	Observation	1	35	43	66	77.58	-11.6	
TA-1/1A	Observation	1	39	29	79	90.60	-11.6	
TA-22	Observation	1	36	29	82	93.26	-11.3	
TA-23	Observation	1	35	24	87	94.00	-7.0	
TA-3/3A	Observation	1	35	18	93	100.74	-7.7	
TA-5/5A	Observation	1	41	16	88	95.58	-7.6	
TA-6	Observation	1	41	19	85	92.93	-7.9	
TA-4	Observation	1	38	17	90	97.54	-7.5	**-3.5**
10N/01E-26E3	Irrigation	2	39	76	31	28.77	2.2	
Storz	Domestic/Irrigation	2	44	40	60	32.34	27.7	
Schwarzgruber #2	Industrial	2	22	72	45	15.89	29.1	
10N/01E-23Q2	Irrigation	2	31	88	29	26.57	2.4	**15**
Muller #2	Irrigation	3	34	41	50	-4.40	54.4	
Teichert Plant	Industrial	3	31	59	47	8.00	39.0	
YFC East	Irrigation	3	50	31	55	17.13	37.9	
Coors North	Irrigation	3	38	17	75	22.18	52.8	**46**

***Groundwater Elevations, September 2008 (NAVD88)**

Table 5
Simulated Impacts to Groundwater Levels
in Active Off-Site Water Supply Wells near the Shifler Property
Baeline vs. Reclaimed Scenario

Well Name	Well Use	Model Layer	Model Row	Model Column	Groundwater Elev. Post-Project Reclamation (NAVD88)	Groundwater Elev. Baseline Calibrated (NAVD88)	Change in Groundwater Elev. by Layer (Feet)	Change in Groundwater Elev. by Well (Feet)
Storz	Domestic/Irrigation	2	44	40	63.7	59.6	4.1	4.1
APN 025-191-48	Domestic	2	53	46	44.0	45.7	-1.7	-1.5
		3	53	46	43.6	45.0	-1.4	
APN 025-191-49	Domestic	2	53	46	44.0	45.7	-1.7	-1.5
		3	53	46	43.6	45.0	-1.4	
APN 025-191-68	Domestic	2	53	51	39.4	41.7	-2.3	-2.1
		3	53	51	38.4	40.3	-1.9	
APN 025-200-18	Domestic/Irrigation	2	53	53	37.4	39.9	-2.5	-2.2
		3	53	53	36.1	38.1	-2.0	
APN 025-191-07	Domestic	2	53	47	43.2	45.0	-1.9	-1.7
		3	53	47	42.8	44.3	-1.6	
APN 025-120-18	Domestic	2	46	63	36.1	38.3	-2.2	-2.0
		3	46	63	36.2	37.9	-1.7	
APN 025-191-08	Domestic	2	53	48	42.2	44.1	-2.0	-1.8
		3	53	48	41.6	43.3	-1.7	
APN 025-191-70	Domestic	2	53	49	40.9	43.0	-2.1	-1.9
		3	53	49	40.3	42.0	-1.8	
APN 025-191-85	Domestic	2	53	45	45.4	46.9	-1.5	-1.4
		3	53	45	45.1	46.3	-1.2	
APN 025-191-71	Domestic	2	53	49	40.9	43.0	-2.1	-1.9
		3	53	49	40.3	42.0	-1.8	
APN 025-191-69	Domestic	2	53	50	40.2	42.4	-2.2	-2.0
		3	53	50	39.5	41.3	-1.8	
APN 025-191-29	Domestic	2	54	52	37.9	40.3	-2.4	-2.2
		3	54	52	37.1	39.1	-2.0	
APN 025-191-05	Domestic	2	52	42	50.6	51.1	-0.5	-0.3
		3	52	42	50.4	50.6	-0.2	
APN 025-191-80	Industrial	2	54	40	51.4	51.4	0.0	0.0
		3	54	40	50.9	50.8	0.0	
APN 025-191-85	Domestic	2	54	45	45.0	46.4	-1.4	-1.3
		3	54	45	44.5	45.7	-1.2	
APN 025-191-76	Domestic	2	53	41	51.1	51.3	-0.2	-0.1
		3	53	41	50.7	50.8	-0.1	
APN 025-191-75	Domestic	2	53	44	46.9	48.1	-1.2	-1.1
		3	53	44	46.6	47.6	-1.0	
APN 025-120-13	Domestic	2	34	59	50.6	49.9	0.7	0.7
		3	34	59	48.4	47.7	0.8	
APN 025-120-17	Irrigation	2	44	63	37.9	39.5	-1.6	-1.5
		3	44	63	37.7	39.0	-1.3	
APN 025-120-25	Irrigation	3	49	53	19.1	18.1	1.0	1.0

APPENDIX

Table A1
Teichert and YCFCWCD Monitoring Network Information
Teichert Aggregates Woodland Plant Area

Well Network

Well Name	Well Type	Current Status	Easting (NAD 83)	Northing (NAD 83)	Reference Point Elevation (Feet, NAVD88)	Well Depth (Feet)	Periods of Record (Levels)	Periods of Record (Quality)	Monitoring and Reporting Entity	Note Code
TA-1A	Monitoring	NA	6,596,353.559	2,012,240.070	112.96	39.7	1987 - 2015	2005 - 2015	Teichert	
TA-1	Monitoring	NA	6,596,353.559	2,012,240.070	112.72	23.9	1986 - 1989	- - -	Teichert	1
TA-3A	Monitoring	NA	6,593,592.840	2,013,271.854	119.06	33.0	1992 - 2015	2005 - 2007	Teichert	
TA-3	Monitoring	NA	6,593,592.840	2,013,271.854	121.33	20.7	1986 - 1993	- - -	Teichert	1
TA-4	Monitoring	NA	6,593,395.982	2,012,443.672	121.97	28.6	1986 - 2015	- - -	Teichert	1
TA-5A	Monitoring	NA	6,593,246.394	2,011,687.500	121.00	34.3	1987 - 2015	1995 - 2015	Teichert	
TA-5	Monitoring	NA	6,593,335.232	2,011,588.210	119.72	27.9	1986 - 2015	- - -	Teichert	1
TA-6	Monitoring	NA	3,594,064.231	2,011,596.049	118.12	28.4	1986 - 2015	- - -	Teichert	1
TA-7	Monitoring	NA	6,596,495.252	2,010,447.499	113.71	35.0	1986 - 1986	- - -	Teichert	1
TA-8	Monitoring	NA	6,597,595.911	2,011,068.992	112.69	32.3	1986 - 2015	- - -	Teichert	1
TA-9R	Monitoring	NA	6,599,597.971	2,011,102.202	114.26	71.8	1987 - 2015	1992 - 1995	Teichert	1
TA-9	Monitoring	NA	6,599,597.971	2,011,102.202	114.24	50.0	1986 - 2015	- - -	Teichert	1
TA-10	Monitoring	NA	6,600,001.230	2,012,833.841	105.79	36.3	1986 - 2015	- - -	Teichert	1
TA-11	Monitoring	NA	6,601,085.682	2,015,970.833	104.64	39.8	1986 - 2015	- - -	Teichert	1
TA-12	Monitoring	NA	6,601,403.237	2,014,158.845	96.98	36.3	1986 - 2015	- - -	Teichert	1
TA-13A	Monitoring	NA	6,602,927.500	2,016,472.184	99.83	61.5	1987 - 2015	1995 - 2015	Teichert	
TA-13	Monitoring	NA	6,604,070.698	2,017,114.992	95.81	39.6	1986 - 2015	- - -	Teichert	1
TA-14	Monitoring	NA	6,601,118.400	2,018,700.842	106.25	37.0	1986 - 2015	1992 - 2015	Teichert	
TA-15	Monitoring	NA	6,603,031.427	2,013,458.300	77.04	40.0	1986 - 2015	- - -	Teichert	1
TA-16	Monitoring	NA	6,603,335.510	2,015,813.980	96.98	40.2	1986 - 2015	- - -	Teichert	1
TA-17	Monitoring	NA	6,604,880.000	2,014,934.000	73.35	34.0	1986 - 2015	- 1992	Teichert	1
TA-18	Monitoring	NA	6,607,284.738	2,017,834.784	84.43	59.8	1986 - 2015	2012 - 2015	Teichert	
TA-22	Monitoring	NA	6,596,440.720	2,013,008.912	115.48	39.0	1992 - 2015	- - -	Teichert	1
TA-23	Monitoring	NA	6,595,092.555	2,013,115.726	116.87	33.0	1992 - 2015	- - -	Teichert	1
TA-24	Monitoring	NA	6,601,446.540	2,015,497.387	119.06	45.0	1992 - 2015	- - -	Teichert	1
TA-25	Monitoring	NA	6,598,321.777	2,011,614.577	110.53	71.2	2009 - 2015	2009 - 2015	Teichert	
YFC-West	Water Supply	Inactive	6,596,845.242	2,009,602.955	116.91	65	1986 - 2015	- - -	Teichert	1
Stephens	Water Supply	Inactive	6,599,721.321	2,011,828.482	112.62	75	1987 - 2015	2009 - 2015	Teichert	
Schwarzgruber	Water Supply	Inactive	6,607,315.531	2,016,472.184	95.25	65	1987 - 2015	2012 - 2015	Teichert	
Coors North	Irrigation	Inactive	6,593,416.229	2,012,435.273	119.88	580	1987 - 2015	- - -	Teichert	1
Coors South	Irrigation	Inactive	6,593,270.563	2,011,845.972	119.58	630	1987 - 1990	- - -	Teichert	1
YFC-East	Irrigation	Active	6,596,976.775	2,009,563.983	116.86	566	1986 - 2015	- - -	Teichert	1
Storz	Water Supply	Active	6,599,553.841	2,010,932.897	115.40	168	1987 - 2015	- - -	Teichert	1
Muller	Irrigation	Inactive	6,604,170.776	2,019,093.456	95.65	- - -	1991 - 2015	- - -	Teichert	1, 2
Muller #2	Irrigation	Active	6,599,463.265	2,013,577.624	109.67	430	1992 - 2015	- - -	Teichert	1
Schwarzgruber #2	Industrial	Active	6,607,315.531	2,016,472.184	94.54	198	1991 - 2015	- - -	Teichert	1
Teichert Plant	Industrial	Active	6,604,232.362	2,014,116.505	97.73	453	1987 - 2015	- - -	Teichert	1
Teichert Plant Domestic	Water Supply	Active	6,603,516.420	2,014,332.057	97.54	- - -	1998 - 2015	- 1995	Teichert	1, 2
Teichert Domestic	Water Supply	Active	6,598,363.371	2,013,141.707	110.79	108	1991 - 2015	- - -	Teichert	1
09N/1E-03C3	Water Supply	Unknown	6,603,535.812	2,003,025.135	102.78	567	1941 - 2015	- - -	YCFCWCD	1, 3
10N/1E-14K1	Water Supply	Unknown	6,610,259.000	2,021,345.000	92.8	77	1957 - 2015	- - -	YCFCWCD	1, 3
10N/1E-23Q2	Water Supply	Unknown	6,611,157.000	2,014,209.000	91.8	220	1950 - 2015	- - -	YCFCWCD	1, 3
10N/1E-24E1	Water Supply	Unknown	6,612,807.000	2,017,307.000	88.8	194	1950 - 2015	- - -	YCFCWCD	1, 3
10N/1E-26E3	Water Supply	Unknown	6,608,451.000	2,011,472.000	100.8	142	1956 - 2015	- - -	YCFCWCD	1, 3
10N/1E-29K1	Water Supply	Unknown	6,595,693.000	2,010,251.000	113.8	336	1951 - 2015	- - -	YCFCWCD	1, 3
10N/1E-33L2	Water Supply	Unknown	6,598,497.000	2,005,957.000	134.3	416	1972 - 2015	- - -	YCFCWCD	1, 3
10N/1E-34A3	Water Supply	Unknown	6,606,845.000	2,008,551.000	102.8	242	1951 - 2015	- - -	YCFCWCD	1, 3

Ponds

Pond Name	Pond Type	Current Status	Period of Record (Quality)	Monitoring and Reporting Entity	Note Code
Muller	Wet Pit	Reclamation complete, backfilled agricultural land and restored wetland	2005 - 2015	Teichert	
Coors	Wet Pit	Reclamation complete, backfilled entirely to agricultural land	2007 - 2014	Teichert	
Storz	Wet Pit	Active	2011 - 2015	Teichert	

1) Well monitored for groundwater levels only, not used for groundwater quality monitoring

2) Well depth unknown

3) Reference Point Elevations updated October 2015, from Yolo County WRID

Table A2
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18
6/26/1986	17.00		14.00	--	20.00	20.20		19.80	24.00	23.50	41.00		23.50	23.00	26.50			20.00	24.00	21.50	29.00	25.50
7/21/1986	22.43			--	26.93	25.43		24.82	32.06				28.42	30.40	24.24			26.64	34.31	28.27		35.57
8/18/1986	23.50			--	27.58	25.96		25.21					28.48	38.06	32.25	40.85		30.80	34.05	29.80		36.90
9/18/1986	23.53		20.41	--	27.95	26.23		25.38					28.48	39.10	32.45			31.79	33.62	28.06	51.25	36.40
10/20/1986				--		26.49		25.38					28.54		32.50			33.25	32.21	26.21	48.86	36.46
11/14/1986	23.68		20.38	--	28.33	26.58		25.58					28.83		32.79				31.42	26.35	47.92	36.39
12/16/1986	23.70		20.33	--	28.18	26.85		25.59					28.74		32.85				30.83	28.82	47.10	36.16
1/16/1987	23.60		20.13	--	28.08	26.52		25.51					28.60	39.68	32.66				29.83		46.06	36.10
2/3/1987	23.60		20.30	--	28.08	26.54		25.48					28.47		32.52				30.00		46.21	35.79
2/18/1987	23.60		20.30	--	28.08	27.00		25.63					28.27	39.68	31.79				28.52	26.13	38.58	33.04
3/13/1987	23.60		20.48	--	28.43	26.00		25.73					27.55		31.53				26.45	25.69	38.75	31.24
4/17/1987		27.67		--			28.85	26.85				50.96	29.32		32.51		46.47	26.58	27.38	26.02	42.22	32.86
5/19/1987		26.61		--	28.18	27.25	28.00	26.33				52.60	28.75		32.14		50.48	27.20	36.72	28.48		36.26
6/15/1987		26.35		--	26.89	25.88	26.96	24.30				54.97	28.98		32.33		53.34	25.96		30.30		37.98
7/17/1987		26.52		--	26.10		27.10	25.27				57.30	29.64		33.34		55.82	30.03		27.16		43.01
8/20/1987		26.07		--	27.10	25.66	26.69	24.89				58.33	29.07		32.84		55.84	29.60		26.57		42.35
9/21/1987		26.34		--	27.42	25.96	27.09	25.23				58.95					55.49	31.50		27.64		40.07
10/14/1987		26.39		--	27.91	26.17	27.30	25.33				59.18	29.02		32.75		54.59			25.93		40.15
11/23/1987		26.57		--	27.62	26.29	27.44	25.32				58.44	29.05	38.35	32.79		54.34			27.16		39.43
12/15/1987		26.46	20.50	--	28.20	26.32	27.49	25.37				57.39	28.60		32.01		53.30		36.52	29.38		36.52
1/18/1988	23.46	25.13	20.47	--	28.26	26.25	27.43	24.98				54.64	26.54		22.07		50.26	30.83	31.39		38.43	29.79
2/16/1988	23.23	26.19	20.46	--	28.28	26.47	27.64	25.48				52.25	28.81		30.95		49.03		28.74		46.70	33.09
3/15/1988		26.42		--	27.53		27.81	25.67				50.93	28.75		31.10		47.94		27.82	26.19	46.39	34.04
4/15/1988	23.31	25.65	20.46	--	28.32	26.76	27.92	25.92		31.80		51.51	28.71		31.31		48.67	26.53	35.37	24.82		38.24
5/17/1988	23.30	26.35	20.47	--	28.32	26.43	28.01	26.02				52.70	29.35		31.88		50.55	30.71	36.15	27.20		38.69
6/30/1988	23.37	25.71	20.04	--	26.02	25.25	26.35	24.65				55.53	28.93		32.46		54.47	29.02		28.76		42.07
7/20/1988	23.39	25.72	20.49	--	26.02	25.12	26.22	24.46				56.82	28.77		32.51		55.28	29.09		31.82		44.02
8/16/1988	23.40	25.73	20.49	--	26.54	25.33	26.46	24.52				57.57	28.78		32.67		55.01	30.06		25.88		43.78
9/20/1988	23.43	25.04	20.49	--	27.55	25.84	26.99	25.03				57.72	28.79		32.76		55.56	29.75		27.01		44.20
10/21/1988	23.44	26.39	20.49	--	27.97	25.18	27.33	25.33				58.57	28.84		32.92		55.32			25.09		41.97
11/11/1988	23.46	26.61	20.50	--	28.14	26.31	27.46	25.36				58.39	28.74		32.97		55.19			25.41		40.23
12/16/1988	23.50	26.80	20.50	--	28.27	25.47	27.63	25.47				57.49	28.49		32.99		55.31			32.50		39.78
1/16/1989	23.45	26.57	20.50	--	28.33	26.57	27.74	25.56				56.57	28.65		32.73		55.21		38.03			38.19
2/23/1989	23.48	26.87	20.50	--	28.36	26.77	27.92	25.74				56.18	28.80		32.98		54.74		37.56	34.43		38.84
3/28/1989	23.48	26.32	20.50	--	28.40	26.79	27.96	25.82				54.85	28.33		31.73		51.05		32.68	30.75		32.18
4/18/1989	23.47	26.95	20.51	--	28.42	26.92	28.13	26.00				54.23	28.82		32.28		50.76	28.17	34.92	30.94		34.72
5/23/1989	23.47	26.70	20.52	--	28.34	26.84	27.96	23.12				56.48	28.81		32.61		54.12	27.16		32.86		39.05
6/29/1989	23.44	26.14	20.23	--	28.28	26.41	27.53	25.58				58.78	29.09		32.98		54.59	29.33		31.15		45.03
8/8/1989	--	26.00	20.50	--	28.04	26.34	27.48	25.54				59.75	29.15		33.05		56.28	30.51		27.53		59.05
9/25/1989	--	26.38	20.51	--	28.10	26.36	27.51	25.42				60.14	28.90		33.02		56.61	34.94		32.23		45.61
10/16/1989	--	26.14	20.51	--	28.15	26.38	27.53	25.40				60.09	29.04		33.11		57.59					44.44
11/28/1989	--	26.70	20.51	--	28.23	26.49	27.66	25.38				59.55	28.94		32.77		58.62					37.65
1/5/1990	--	26.55	20.52	--	28.30	26.64	27.82	25.68				59.00	28.94		32.50		58.81					36.25
2/14/1990	--	26.36	20.54	--	28.30	26.72	27.91	26.63				57.85	28.54		31.67		55.87					34.26
3/14/1990	--	26.29	20.52	--	28.33	26.73	27.97	25.68				56.61	28.59		31.64		54.08		38.38		26.34	33.89
4/16/1990	--	26.56	20.48	--	28.35	26.73	27.92	25.98				57.34	29.01	39.50	32.74		57.33	28.14				44.39
5/23/1990	--	26.32	20.42	--	28.35	27.10	28.31	26.30				59.03	28.98		32.36		61.09	28.75			21.44	
6/15/1990	--	26.13	20.48	--	28.36	27.13	28.28	26.45				59.44	29.14		32.49			29.05			21.23	
7/18/1990	--	26.07	20.48	--	28.37	26.59	27.69	25.94				60.00	29.19		34.36			30.45				
8/21/1990	--	26.07	20.49	--	27.80	25.88	27.10	24.80				60.51	29.48		35.31			30.51				
9/24/1990	--	26.42	20.48	--	28.12	26.38	27.60	25.64				60.63	29.96		35.69						20.06	
10/24/1990	--	26.73	20.48	--	28.27	26.69	27.84	25.92				60.48	29.95		35.72						19.77	
11/26/1990	--	26.74	20.49	--	28.27	26.73	27.98	25.90				60.59	29.98		35.72						20.67	
12/14/1990	--	26.73	20.49	--	28.33	26.85	28.05	25.92				60.42	29.45		35.72						20.59	
1/28/1991	--	26.74	20.49	--	28.35	26.94	28.16	25.91					28.85		35.71							
2/19/1991	--	26.41	20.49	--	28.40	26.97	28.16	26.00				59.98	28.91		33.19			28.01				
3/19/1991	--	25.92	20.49	--	28.37	26.54	27.86	25.61				59.67	27.77		23.10		58.39	32.01			17.43	38.88
4/22/1991	--	26.36	20.49	--	28.32	26.76	27.95	25.79				59.21	28.77		32.20		56.67	27.47			18.55	42.44
5/30/1991	--	25.77	20.49	--	28.33	26.68	27.84	25.77				58.95	28.60		32.45			27.58			19.95	52.54

Date	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
6/26/1986							30.00	81.00										
7/21/1986							37.05	91.40										
8/18/1986							34.68	83.85										
9/18/1986							40.94	71.62										
10/20/1986							41.67	68.42										
11/14/1986							42.00	66.21										
12/16/1986							41.66	58.82										
1/16/1987							41.02	56.19										
2/3/1987							40.88	56.90										
2/18/1987							41.02	56.02										
3/13/1987							40.60	54.45										
4/17/1987					65.52	67.06	39.85	80.88	58.59	50.25			49.30				76.60	
5/19/1987					73.81	75.00	40.09	86.46		52.09			53.50				81.69	
6/15/1987					65.30	66.51	42.62	92.31		54.49			54.69					
7/17/1987					68.49	69.60				56.68			57.30					
8/20/1987					67.80	68.34				57.57			62.52					
9/21/1987					63.46	64.10				58.35								
10/14/1987					61.43	62.24				58.57			57.51					
11/23/1987					57.74	58.65	44.92	64.21		57.76			56.43					
12/15/1987					56.11	57.06	43.98	62.38		56.66			54.56					
1/18/1988					53.57	54.61	42.23	58.70	58.16	53.76			51.36				59.48	
2/16/1988					52.20	53.28	40.87	60.00	55.67	51.27			50.64				65.75	
3/15/1988					51.43	51.06			55.13	50.10			50.80				71.52	
4/15/1988					54.98	55.94	38.78	66.98		50.94			54.32					
5/17/1988					57.49	58.39	40.33	72.58		51.93			55.34					
6/30/1988					71.08	73.35	42.39	80.72		55.00			55.47				90.36	
7/20/1988					70.67	72.55	43.79	100.47		56.25			60.73					
8/16/1988					67.05	68.12	44.67	88.15		56.93			59.39					
9/20/1988					76.89	78.00	45.14	88.05	76.18	56.96								
10/21/1988					62.60	63.62	45.14	73.78	72.02	57.92			64.44					
11/11/1988					61.04	62.04	44.73	70.29	70.59	57.73			61.59					
12/16/1988					58.02	58.93	43.89	65.90	64.65	56.83			56.50					
1/16/1989					55.93	56.87	43.20	61.94		55.90			55.97				62.29	
2/23/1989					54.33	55.33	42.68	59.91	68.18	55.52			55.92					
3/28/1989					54.07	55.01	42.12	59.68	59.14	54.00			52.34					
4/18/1989					64.45	66.08	42.03	74.03	61.71	53.89			52.98				77.18	
5/23/1989					78.72	78.29	43.87	95.04		56.09			54.81					
6/29/1989					71.86	72.53	46.66		81.28	58.16			56.86					
8/8/1989					73.43	73.77	48.25	98.58		59.19			59.70					
9/25/1989					70.42	70.86	48.44		77.04	59.63								
10/16/1989					67.62	68.13	47.68		73.79	59.47								
11/28/1989					64.59	65.22	46.28	69.42	69.14	59.04			58.99					
1/5/1990					61.88	62.47	45.34	67.30	66.36	58.47			56.09				70.74	
2/14/1990					59.28	60.08	44.42	65.07	63.58	57.22			54.39					
3/14/1990					58.01	58.68	43.73	63.27	62.24	55.96			53.61					
4/16/1990					87.20		43.54	110.00	79.10	56.83			57.92					
5/23/1990					87.54	89.83	46.00	109.48	103.10	58.47							125.00	
6/15/1990					87.19	--	46.73	109.35	122.69	58.88							123.89	
7/18/1990					87.00	--	47.89	114.33	130.82	59.43							124.28	
8/21/1990					86.45	--	49.16	110.29	117.34	59.92							111.79	
9/24/1990					85.40	--	49.29	113.58	102.35	60.15							132.00	
10/24/1990					86.98	--	49.54	107.82		60.25							125.30	
11/26/1990					86.45	--	48.59	94.58	84.56	60.03							133.56	
12/14/1990					84.47	--	48.33	90.40	82.01	59.87							124.72	
1/28/1991					86.45	--	47.48	92.27	104.72	59.53							91.26	
2/19/1991					86.97	--	47.73	97.11	85.81	59.45							124.22	
3/19/1991					83.07	--	47.41	88.24	79.28	59.05							123.80	
4/22/1991					86.52	--	46.69	98.20	85.00	58.55				90.70			93.00	
5/30/1991					87.49	--	45.77	109.75	109.39	58.47				112.25			124.38	

Table A2
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
7/2/1991	--	23.75	20.38	--	27.15	25.63	26.73	24.95				58.71	28.59		32.28		53.54	29.10			18.64	46.25					86.26	--	46.49	110.20	127.11	58.13	258.37			124.31			124.21	
7/31/1991	--	22.64	20.35	--	26.98	25.53	26.67	24.62				59.49	28.20		31.90		57.85	28.94			18.92	52.72					86.04	--	47.95	110.85	136.13	58.84	121.34			128.49	77.43		134.37	
8/28/1991	--	22.78	20.05	--	27.37	25.75	26.89	24.71				60.28	29.00		33.75		59.96	30.52			19.18						87.25	--	49.41	112.13	131.74	59.75	109.14			123.00	68.21		124.69	
9/25/1991	--	23.62	20.45	--	27.67	26.00	27.16	25.03				60.76	28.50		33.71	30.29	60.16	30.31			20.04	48.39					87.08	--	50.09	118.05	123.60	60.12	106.60			111.33	65.62		126.15	
10/29/1991	--	25.65	20.47	--	28.12	26.29	27.45	25.21				60.98	29.65		34.93						21.05	50.71					87.45	--	50.41	102.56	89.80	60.35	105.91			101.71	65.53		125.06	
11/26/1991	--	25.94	20.44	--	28.12	26.46	27.62	25.32				60.91	29.44		35.74												87.48	--	49.86	102.68	86.07	60.31	104.29			96.83	63.21		124.20	
12/19/1991	--	26.20	20.45	--	28.18	26.55	27.74	25.40				60.68	29.64		35.74												86.43	--	49.49	94.83	83.00	60.19	103.37			93.78	62.87		123.75	
1/20/1992	--	26.32	20.07	--	28.23	26.63	27.81	25.60				60.43	28.63		32.50						31.72	53.86					82.00	--	48.99	90.90	78.42	59.82	101.98	83.9		89.90	59.93		89.15	
2/25/1992	--	25.46	19.37	--	28.34	26.38	27.57	25.41				59.73	27.84		29.66		56.32	35.33			18.26	35.29					77.76	--	47.86	90.44	76.10	59.16	97.71	80.2		85.57	56.27		123.65	
3/19/1992	--	25.73	19.06	--	28.35	26.47	27.66	25.48				59.41	27.89		30.73		54.08				19.10	32.43					75.59	--	47.18	82.58	74.60	58.81	94.82	78.4	56.63	80.82	54.63		123.73	
4/30/1992	--	26.05	19.44	--	28.35	26.31	26.05	25.53				59.48	28.77		31.98		53.88	28.57			21.18	44.24						--	46.75	120.70	113.73	58.91	112.72	183.8	58.15	93.36	66.06		115.73	
5/22/1992	--	25.41		--	28.25	26.16	27.29	24.99				58.95	28.84		32.21		56.26	28.16				47.69						--	46.07	149.58	123.79	58.51	111.45	178.3		109.11	72.84		123.98	
6/26/1992	--	22.09	18.30	--	26.74	25.30	26.47	24.28				59.43	28.24		31.83		56.32	29.14									87.01	--	47.27		127.58	58.81	113.99	197.7		123.53	78.36		134.65	
7/22/1992	--	21.89	18.94	--	27.31	25.56	26.83	24.72				59.94	28.89		33.30		59.93	30.00				49.91					86.93	--	47.84	150.73	127.62	59.25	114.22	144.1		128.89	78.16		125.92	
8/21/1992	--	22.59	18.23	--	27.73	25.99	27.15	24.98				60.54	28.73		33.35			31.74									87.42	--	49.76	71.73	124.58	60.00	112.15	128.9		124.57	78.62		130.71	
9/22/1992	--	25.61	18.30	--	28.10	26.37	27.51	25.44				61.08	29.29		35.62												87.30	--	50.08		103.21	60.43	111.22	120.5		115.41	71.28		127.06	
10/21/1992	--	26.03	18.30	--	28.22	26.65	27.82	25.70				61.15	28.31		34.27												87.50	--	49.98	57.75	97.29	60.52	110.76	114.5		107.61	72.64		125.85	
11/24/1992	--	26.12	17.59	22.92	28.29	26.68	27.86	25.68				60.88	29.46		33.85								25.35	24.58			87.14	--	49.43	52.36	88.30	60.24	108.91	105.1		99.98	65.00		124.65	
12/15/1992	--	25.88		23.05	28.31	26.38	27.57	25.42				60.68	27.87		31.52						20.24	43.16	25.27	24.69				--	49.00	48.08	85.12	60.03	106.83			96.37	62.31		126.63	
1/25/1993	--	21.52	18.14	22.44	28.26	25.24	26.44	24.44		30.95		58.45	25.33		21.23	25.68	48.28	31.84	31.51	28.95	16.59	23.14	22.45	23.50			81.16	--	44.81	38.61	78.52	57.64	100.83	92.4	53.10	85.55	55.00		82.91	
2/25/1993	--	20.95	--	20.61	26.99	24.59	25.79	23.77		30.27		56.55	24.82		20.50	24.16	42.55	30.80	39.80	27.95	16.05	19.96	21.73	22.40	47.39		75.35	--	41.79	37.23	73.24	55.79	92.74	86.2	49.52	74.03	51.98		73.08	
3/29/1993	--	21.94	--	19.58	25.91	24.72	25.86	23.77				54.21	28.58		24.21	39.50	42.76	34.18	34.20		19.58	24.92	21.93	21.63			71.02	--	40.55	32.38	68.30	53.54	85.81	81.7	49.56	66.04	50.20		65.62	
4/29/1993	--	22.47	--	20.08	26.79	25.26	26.41	24.20				53.71	28.99		30.60	40.79	45.08	28.90	33.42		20.24	28.36	21.84	22.17			79.08	--	40.10	35.15	66.27	53.22	249.59	79.7	50.66	69.97	49.73		126.38	
5/25/1993	--	22.03	--	18.45	26.17	24.90	26.15	24.00				54.80	29.06		31.20		40.08	29.47			21.17	30.01	20.97	20.93			87.90	--	41.41	49.47	102.38	54.29	94.13	106.2	52.89	85.45	61.09		124.59	
6/29/1993	--	21.74	--	18.83	25.51	24.49	25.65	23.63				56.68	29.11		30.71		50.31	29.65			20.15	31.18	20.77	20.67			87.83	--	42.83		105.99	56.12	98.98	114.0	53.91	96.22	62.32		124.35	
7/27/1993	--	21.88	--	19.31	25.80	24.82	25.96	23.88				57.52	29.10		31.02		53.29	30.86			21.20	32.95	21.19	21.32			118.46	--	43.90		93.00	56.95	95.05	168.4	55.37	98.25	66.91		124.36	
8/31/1993	--	22.24	--	21.27	26.67	25.25	26.38	24.35				58.61	29.25		32.83		55.46	31.74			20.53	36.42	21.65	22.08			106.35	--	45.33		90.40	58.01	94.82	108.3	56.29	89.00	75.98		124.43	
9/28/1993	--	22.70	--	20.91	27.20	25.42	26.69	24.62				59.17	29.25		32.85		54.87	30.58			20.91	38.01	22.33	22.57			86.90	--	46.13		87.22	58.62	92.51	102.5	56.30	84.04	74.75		125.21	
10/28/1993	--	23.37	--	21.46	27.59	25.78	26.94	24.71				59.30	29.17		32.77		55.26	36.20			21.02	37.13	23.33	23.19			82.49	--	45.78		81.20	58.75	90.66	95.5	56.27	77.20	60.75		124.10	
11/24/1993	--	24.84	--	21.91	27.99	25.93	27.11	24.79				59.12	29.33		32.78		55.76					37.06	24.02	23.69			79.30	--	45.23		77.91	58.57	89.74	91.4	55.73	73.36	57.55		124.21	
12/16/1993	--	25.09	--	22.24	28.09	25.94	27.15	24.94				58.76	29.02		32.03		54.20				21.08	34.61	24.44	24.02			74.77	--	44.70		74.36	58.19	88.12	87.5	54.78	70.74	55.64		125.62	
1/19/1994	--	25.51	--	22.66	28.16	26.14	27.33	25.00				58.08	29.40		32.40		53.81					35.85	25.03	24.38			70.95	--	44.03		70.97	57.49	84.89	83.1	54.46	68.98	54.27			
2/15/1994	--	25.55	--	22.90	28.17	26.08	27.26	25.01				57.42	28.99		31.58		51.36		38.68		20.89	31.73	25.04	24.54			68.70	--	43.46		69.12	56.77	83.27	80.1	52.79	65.70	52.33			
3/18/1994	--	25.74	--	23.07	28.17	26.19	27.44	25.17				56.37	29.15		31.13		49.07		35.92			31.00	25.15	24.61			66.98	--	42.89	188.99	66.54	55.70	81.42	115.5	51.50	66.09	51.32			
4/15/1994	--		--	21.96	28.10	26.02	27.23	24.99				56.68	28.94		31.43		51.36	28.25				34.60	23.54	23.27				--	42.64		81.55	56.11		170.7	53.58	86.12	68.55			
5/26/1994	--	22.45	--	18.80	26.95	25.72	26.86	24.69				57.77	28.99		31.43	39.75	54.03	29.68			24.63	41.59	22.33	21.81				--	43.16		98.13	57.24			57.12	102.97	88.18			
6/30/1994	--	21.54	--	19.09	26.08	25.04	26.19	23.92				58.61	29.09		31.18		56.61	29.87				43.97	21.20	21.27			88.19	--	45.23		108.87	58.02		196.1	56.78	115.33	82.72			
7/21/1994	--	21.93	--	19.49	26.38	25.14	26.29	24.16				59.07	29.22		32.19		57.45	30.61				45.44	21.57	21.65				--	46.24		115.39	58.48			57.08	119.19	82.87			
8/23/1994	--	22.69	--	20.50	27.14	25.56	26.75	24.50				59.61	29.14		32.54		60.41	30.34				48.58	22.02	22.20				--	47.29		106.85	59.04			60.77	111.78	85.02			
9/27/1994	--	22.96	--	21.32	27.61	25.84	27.02	24.82				59.77	28.97		32.29		58.05	34.97				41.12	22.08	22.62				--	47.84		99.20	59.29		121.0		102.31	81.75			
10/31/1994	--		--	21.70	27.88	25.99	27.17	24.86				60.07	29.70								21.26	50.08	23.48	23.34			86.85	--	47.58		90.85	59.52		109.5		93.24	65.78			
11/1/1994	--		--																									--												
12/6/1994	--		--	22.28	28.08	26.01	27.20	24.91				59.73	28.97		32.19						20.55		24.39	24.04			86.89	--	46.52		83.15	59.18				87.04	61.64			
1/12/1995	--	20.86	--	22.06	27.57	24.19	25.46	23.26		26.17		58.68	23.31		17.82	23.76	48.67	31.45	39.20	26.14	14.80	14.64	23.03	23.74			78.84	--	41.82		77.01	57.95		91.9	52.17	78.22	55.06		79.21	
2/16/1995	--	20.87	--	18.61	25.11	23.90	25.02	23.20		30.76		53.22	25.80		22.28	32.76	41.37	33.44	34.44	32.51	16.74	18.34	21.36	21.12			71.25	--	38.21		67.65	52.54		83.9	39.22	63.65	48.95		65.66	
3/24/1995	--	19.86	--	17.55	23.96	22.73	23.96	22.34		28.86	46.82	46.84	23.07	37.32	17.14	25.43	32.35	31.48	23.76	28.08	12.18	13.75	20.56	20.34	43.35		65.91	--	33.64		62.05	45.94		78.3	34.54	55.60	42.10		56.65	
4/21/1995	--	20.80	--	18.06	23.94	23.15	24.22	22.61		29.17	43.57	43.91	26.91	38.10	22.66	28.88	35.19	28.30	20.91	30.95	12.36	18.73	20.85	20.48	45.40		65.03	--	31.74		60.82	43.05		85.2	34.14	58.15	42.97			
5/26/1995	--	21.63	--	17.91	25.00	24.17	25.31	23.24		29.72	44.39	44.60	28.17	34.86	23.15	40.45	39.55	30.58	24.77	38.29	13.13	23.82	21.01	20.64			78.66	--	32.38		62.13	43.96		137.2	40.89	68.77	44.50			
6/26/1995	--	21.10	--	18.38	25.28	24.48	25.66	23.30		31.52	49.06	49.11	28.74	34.12	24.19		46.99	30.66	34.97		20.00	27.57	20.69	20.64				--	34.93		68.19	48.88		147.3	45.39	79.99	55.70		70.39	
7/31/1995	--	21.79	--	19.67	26.18	25.02	26.20	23.92				53.57	28.88	38.21	24.92		53.52	30.58				33.48	21.28	21.36				--	38.71		80.85	53.21		155.0	52.19	106.65	61.22			
8/23/1995	--	22.33	--	20.28	26.78	25.33	26.49	24.23				55.22	28.95		31.93		55.67	32.60				36.35	21.92	21.92				--	40.64		93.71	54.75			53.77	83.04	65.87			
9/27/1995	--	23.10	--	21.05	27.49	25.76	26.94	24.71				56.81	28.88		33.09		56.81	34.31				37.02	22.90	22.89			87.48	--	42.36		81.08	56.21		100.0	56.62	75.77	57.80			
10/27/1995	--	24.00	--	21.54	27.84	25.98	27.14	24.99				56.62	28.74		32.57		53.62	36.22				34.07	23.48	23.41			79.74	--	42.40		76.85	55.95		91.4	53.49	68.94	54.77			
11/28/1995	--	24.89	--	21.97	28.11	26.13	27.30	25.12				56.19	29.11		32.88		53.06		37.70		31.71	34.21	24.30	23.90			74.18	--	42.55		71.84	55.51		85.2	52.69	64.83	52.41			
12/1/1995	--		--																									--												
1/3/1996	--	24.55	--	22.24	27.97	26.01	27.19	24.97				54.68	28.44		31.39		49.29		33.04		22.30	29.53	24.27	24.04			68.56	--	41.35		65.16	54.01		79.4	49.98	59.88	48.46			
2/7/1996	--	22.00	--	21.94	27.51	24.82	26.05	23.85		26.88		51.54	24.69		19.79	26.17	40.15	31.16	26.55	31.52	15.07	20.90	23.46	23.66			63.85	--	38.40		60.80	50.69		74.6	44.28	54.92	44.13		56.91	
3/15/1996	--	21.63	--	20.40	25.89	24.20	25.35	23.41		29.17	45.72	45.57	25.49		20.41	26.93	33.30	32.54	19.16	29.60	12.23	18.67	22.41	22.46	44.32		59.26	--	34.75		55.60	44.68		69.3	37.45	48.63	40.09		50.73	
4/26/1996	--	22.45	--	19.54	26.25	24.91	26.09	23.85		29.94	44.62	44.81	27.90		24.20	39.58	37.83	27.26	20.50	35.26	11.64	24.20	22.74	22.13	47.01		88.04	--	33.19		56.21	43.99		70.4	41.02	55.74	40.93			

Table A2
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
5/28/1996	--	22.51	--	18.03	25.61	24.78	25.95	23.60		30.32	47.24	47.38	28.52	38.08	30.26		42.43	29.71	26.21		15.08	28.11	22.45	21.80			66.57	--	33.90		62.70	46.94		150.3	45.31	68.27	45.91			
6/26/1996	--	22.05	--	17.89	25.04	24.16	25.42	23.14		31.75		49.92	28.75	35.65	30.92		48.15	29.81	36.04		21.24	30.86	21.90	21.21			81.11	--	36.66		66.50	50.30		144.1	48.44	82.57	49.57			
7/23/1996	--	21.83	--	18.71	25.49	24.55	25.70	23.35				53.52	28.33	38.53	31.36		52.04	30.65			20.96	34.62	21.80	21.19			88.67	--	39.94		76.90	53.18		161.0	51.18	83.42	54.75			
8/27/1996	--	22.04	--	19.33	24.92	24.15	25.25	23.19				55.93	28.65		31.85		54.70	31.24			21.18	37.28	21.96	21.57			87.70	--	42.67		78.75	55.29			53.57	74.93	68.80			
9/26/1996	--	21.94	--	19.16	24.45	23.63	24.70	22.96				51.08	28.79		31.99		52.16	29.19	39.50		20.04	36.59	21.94	21.48			82.75	--	43.98		78.19	56.19		94.7	53.41	70.41	54.55			
10/30/1996	--	21.99	--	19.23	24.42	23.56	24.63	22.85				56.90	28.98		32.76		50.53	32.47	37.09		16.24	38.63	21.93	21.60			70.88	--	43.82		73.74	56.15		87.3	52.66	63.17	51.98			
12/2/1996	--	22.19	--	22.05	25.77	24.42	25.58	23.39				49.57	28.95		31.89		52.02		33.80		18.89	36.22	22.49	22.11			66.23	--	43.17		67.38	55.54		129.1	51.77	60.05	49.07			
1/9/1997	--	20.86	--	20.71	25.92	23.59	24.88	22.92		26.96		52.06	23.59		18.15	24.24	33.70	34.28	25.15	30.00	15.14	17.66	22.01	22.20	45.75		61.55	--	39.63		60.12	51.27		72.8	40.74	53.11	41.43			
2/14/1997	--	20.57	--	18.89	24.76	23.52	24.66	22.58		28.23	45.21	45.23	25.21	34.35	20.93	27.13	31.60	33.27	18.41	29.52	9.29	16.70	20.92	20.84	41.58		57.78	--	35.07		54.72	44.25		68.6	32.58	46.67	37.85			
3/20/1997	--	21.55	--	19.91	25.80	24.35	25.66	23.22		29.22	45.58	45.76	28.27		24.67	39.16	39.63	28.84	22.54	37.64	13.06	23.78	21.62	21.69			60.32	--	34.40		54.08	45.03		68.3	37.89	54.47	38.80		53.57	
4/28/1997	--	20.58	--	17.38	24.28	23.93	25.13	22.60		30.44	48.57	48.67	28.47		30.39		45.27	29.22	31.16		16.27	27.68	21.01	21.00				--	34.82		60.89	48.10		85.4	44.45	72.88	43.46			
5/21/1997	--	19.26	--	17.51	24.42	23.64	24.84	22.27				51.36	29.84		31.23		49.02	27.27	38.31		16.01	29.80	19.25	18.23			88.39	--	36.86		69.03	51.96		100.0	47.85	81.05	48.22			
6/25/1997	--	20.23	--	19.01	25.27	24.11	25.38	23.06				53.77	28.94	33.15	32.09		51.10	30.10			15.77	33.07	20.32	20.16			88.41	--	38.67		85.99	53.52		131.6	50.30	90.50	50.54			
7/23/1997	--		--														54.94	30.21										--												
10/3/1997	--	21.47	--	21.12	26.99	25.15	26.34	23.97				51.66	28.94		32.95		50.97	28.70				38.66	21.48	21.99			88.35	--	43.85		79.50	56.71		98.1	54.31	71.76	53.07		77.15	
1/28/1998	--	22.25	--	22.30	27.95	25.35	26.58	24.38					24.87		19.35	28.75	39.77	32.36	28.12	33.29	15.85	23.85	23.23	23.62			64.14	--	40.97		60.89	52.19		74.3	45.25	55.22	44.20			
3/3/1998	--	19.44	--	17.80	23.60	22.20	23.31	21.67		26.54	41.02	40.83	21.83	30.37	16.59	23.87	27.30	31.05	14.16	24.12	6.46	12.19	20.15	19.74	37.80		59.23	--	31.51		51.97	39.66		68.8	29.13	43.18	32.28		45.88	
6/4/1998	--	20.51	--	16.56	24.06	23.30	24.45	22.32		27.91	39.36	39.64	25.36		22.18	33.96	32.58	30.93	16.14	22.67	11.86	21.23	20.79	20.28	44.13		94.50	--	30.17		51.33	38.84		69.0	36.79	49.40	35.42			
8/31/1998	--	20.33	--	18.92	25.01	23.85	25.04	22.64				48.06	27.05		31.89		44.38	30.22	27.32	33.69	19.55	27.96	20.64	20.35			89.06	--	36.79	84.01	65.60	47.32		85.0	44.46	65.03	44.24			
12/11/1998	--	23.05	--	21.66	27.57	25.52	26.75	24.22				48.26	26.30		30.88		41.74	36.23	21.76	38.29	16.19	26.93	24.34	23.52			59.98	--	38.70	71.81	56.19	47.26		70.4	49.56	42.75	40.81	58.23	49.53	
3/11/1999	--	22.94	--	22.58	28.05	25.55	26.75	24.56		27.69	43.39	43.47	24.10	39.32	20.31	30.96	32.88		15.87	27.59	12.29	19.65	24.55	24.16	43.26		54.17	--	35.17	63.55	51.13	42.37		64.6	36.67	47.41	36.21	54.77		
4/29/1999	--		--														37.45	27.09										--												
6/15/1999	--	20.58	--	19.35	25.66	24.34	25.51	23.23				48.33	26.96	31.57	28.76		46.02	28.80	32.43	34.69		28.35	20.79	20.52			69.67	--	35.35	116.75	63.16	47.71		143.6	44.89	80.74	37.62	70.24	66.80	
9/13/1999	--	22.80	--	20.70	26.74	25.10	26.27	24.09					27.24		32.66			29.73		38.00		35.86	21.82	22.45			69.88	--	40.49	92.20	69.06	54.14		106.0	52.47	72.33	46.94	78.33		
12/10/1999	--	24.65	--	21.88	27.82	25.86	27.04	24.65					27.48		31.95		48.68	36.30	29.62		17.48	33.35	23.19	23.45			62.25	--	40.89	74.35	60.44	51.47		93.1	48.61	57.01	43.47	66.78	61.14	
3/22/2000	--	23.97	--	22.28	28.09	25.78	26.98	24.69		28.73		46.80	25.91		21.10	36.26	37.03	34.38	20.17	34.71	11.94	23.17	23.49	23.57	47.02		56.97	--	37.66	70.77	54.49	45.75		86.4	39.37	49.18	40.99	57.77		
6/26/2000	--	21.95	--	17.56	23.58	21.30	23.87	21.18					27.08		31.01		48.10	29.17	33.91			27.31	20.69	19.55			77.69	--	37.60	113.15	63.39	49.85		103.4	44.55	80.63	43.35	70.94	63.04	
9/27/2000	--	23.91	--	20.10	26.15	24.68	25.83	23.59				47.80	27.96		33.29			30.14	38.42			32.84	22.13	22.06			68.23	--	42.09	95.72	67.70	54.85		100.7	49.21	67.54	46.68	77.40		
12/8/2000	--	24.80	--	21.64	27.56	25.53	26.75	24.30					28.22		32.97		49.39		30.27			31.71	23.19	23.24			61.29	--	41.15	72.89	60.81	52.40		92.6	47.70	56.94	43.00	69.09		
3/29/2001	--	24.92	--	22.30	28.20	26.07	27.29	24.90		30.38			27.35		23.70		40.74	35.34	21.74	37.26		27.19	23.90	23.93			57.74	--	37.59	76.10	55.47	46.94		88.0	42.81	50.82	38.51	76.71		
7/2/2001	--	23.91	--	19.74	26.06	24.54	25.70	23.56					27.92		31.10		50.67	30.01	38.50			29.47	21.64	21.43			73.66	--		98.50	65.84	51.31		107.4	46.07	83.07	43.57	77.17	71.84	
9/7/2001	--	23.86	--	20.05	25.97	24.51	25.68	23.47					28.06		32.97		53.45	30.41	38.05			30.24	21.90	21.82			74.82	--	41.08	107.48	68.94	53.96		108.8	47.90	68.95	46.25	74.40	69.58	71.49
12/6/2001	--	24.02	--	21.76	27.21	25.28	26.50	24.06					26.48		29.52		45.81	35.39	28.42			28.09	23.21	23.28			66.42	--	42.21	77.29	62.87	52.51		97.9	46.09	56.75	44.07	70.94	63.69	135.79
3/21/2002	--	24.44	--	21.84	27.25	25.61	26.81	24.42		31.80		47.86	27.66		24.99		41.20		21.12	38.16		27.72	23.88	23.55			59.89	--	37.84	76.45	55.80	46.82		90.3	42.65	49.79	39.64	61.46	49.50	53.66
6/6/2002	--	24.42	--	19.71	25.89	24.63	25.77	23.60					28.00		30.73		47.56	29.40	31.84	38.34		27.41	22.38	21.99			67.45	--	37.70	93.70	63.06	49.92		103.7	44.55	82.58	41.24	75.56	66.66	75.31
9/9/2002	--	24.09	--	19.70	25.54	24.17	25.27	23.13					27.95		33.54			30.50				31.13	21.82	21.72			84.55	--	42.02	112.64	76.16	55.98		116.8	48.70	74.44	47.72	81.79	78.67	147.94
11/25/2002	--	24.37	--	21.65	27.26	25.29	26.42	24.12					27.72		31.60		50.63		32.29			31.48	23.16	23.14			72.58	--	43.22	93.37	68.35	54.60		105.3	48.62	60.02	45.78	73.01	61.32	67.49
3/24/2003	--	24.09	--	21.73	27.32	25.27	26.48	24.07		30.96		47.08	26.70		21.72	35.17	38.45	34.61	20.30	35.40		25.65	23.24	23.27			61.14	--	36.88	76.10	56.35	46.26		92.6	41.51	49.26	37.38	63.08	49.68	55.50
6/10/2003	--	24.40	--	20.69	26.13	24.82	25.95	23.84				47.16	27.44	37.68	30.18		44.14	28.38	27.52	38.33		26.46	22.71	23.18			81.63	--	34.58	108.59	59.48	46.40		102.5	42.56	76.87	36.73	72.32	64.40	74.00
9/2/2003	--	20.79	--	18.43	24.10	23.17	24.21	22.12					27.87		32.07		52.37	31.89	34.60			31.02	21.03	20.44			78.12	--	40.05	110.57	70.73	52.94		109.9	48.77	68.72	42.02	79.02	72.34	147.19
12/8/2003	--		--	21.49	26.91	24.95	26.18	23.69					27.52		32.09		48.51		28.12			30.59	22.56	22.63			67.54	--	41.13	89.69	64.21	51.75		101.8	47.13	56.37	42.10	71.17	63.41	138.79
3/5/2004	--	21.36	--	21.77	26.58	24.26	25.47	23.33		26.97		44.98	23.06		18.65	25.69	31.54	33.30	17.57	27.48		17.25	22.41	22.78	43.00		59.76	--	35.02	78.51	54.85	43.78		92.1	35.03	46.91	33.84	58.69	46.49	52.06
6/21/2004	--	20.97	--	18.65	25.38	24.11	25.32	22.94					26.92		30.77		50.54	30.28	37.57			29.96	20.54	20.43			83.50	--	37.96	112.54	70.90	51.24		128.9	49.02	84.62	41.62	82.02	78.44	150.64
9/20/2004	--	23.58	--	20.06	25.66	24.12	25.42	22.98					27.36		32.96		53.93	34.63				30.19	21.73	21.52			87.35	--	42.52	111.41	79.38	55.43		124.0	48.90	68.59	47.60	81.33	68.22	76.26
12/22/2004	--		--	22.19	27.71	25.57	26.78	24.28					26.89		31.19		48.53		28.99			30.33	22.97	23.33			70.44	--	41.51	87.03	63.86	52.71		103.2	47.14	55.98	42.40	69.32	56.67	61.28
4/1/2005	--	23.74	--	22.18	27.83	25.61	26.85	24.43				46.93	25.00		20.14	33.55	38.00	35.47	19.79	33.08		23.07	23.15	23.44	47.42		61.99	--	36.54	79.53	57.19	45.75		95.1	40.79	48.51	37.18	61.70	54.81	127.33
6/20/2005	--	20.75	--	18.87	24.55	23.58	24.72	22.49		31.34		49.03	27.66		30.85		47.13	29.30				28.25	21.09	20.92			77.07	--	34.59	112.02	65.19	48.53		112.2	43.43	77.37	42.27	76.71	67.37	72.57
9/19/2005	--	21.72	--	18.95	24.60	23.44	24.58	22.38				49.00	28.10		32.96		53.36	30.65		38.20		33.75	20.98	20.64			91.11	--	39.93	108.56	74.50	53.12		124.7	50.62	68.44	43.77	85.95	68.28	77.88
12/15/2005	--	22.00	--	21.71	27.21	25.19	26.42	23.90	--				28.05		32.71		50.23			33.41		33.04	22.74	22.92			70.91	--	40.75	86.89	65.98	52.80		106.0	49.09	57.17	41.77	72.09	60.42	70.90
4/28/2006	--	20.12	--	20.03	25.22	23.17	24.48	22.34	--	23.68	37.90	38.18	23.38	36.08	12.69	25.10	27.58	33.47	12.46	24.06		16.16	21.22	21.25	38.50		57.45	--	29.30	79.97	52.04	36.98		92.6	30.95	41.42	30.22	55.23	44.07	56.46
6/16/2006	--	20.53	--	17.02	24.17	23.39	24.49	22.14	--	26.60		42.94	27.01		25.08	40.59	39.62	28.63	24.45	38.48		23.23	20.60	20.27			72.58	--	29.83	120.16	62.69	42.40		123.5	35.98	65.16	32.95	67.47	57.87	67.25
9/8/2006	--	20.62	--	17.11	23.14	22.41	23.52	21.55	--			--	27.47		30.94		46.16	30.82				25.42	21.05	20.36			80.32	--	36.34	92.29	69.74	49.15		114.1	23.23	62.88	39.64	71.40	62.60	75.25
11/30/2006	--	21.33	--	20.62	26.30	24.45	25.67	23.31	--			--	27.36		32.44		44.94		24.11			27.00	22.15	22.19			80.01	--	38.18	90.50	63.56	48.76		106.9	43.29	51.99	38.79	67.47	60.40	143.08
3/21/2007	--	22.69	--	22.37	27.84	25.99	27.18	24.85	--			--	27.22		24.39		41.91		22.10	36.73		25.51	23.61	23.80			60.80	--	37.42	90.06	60.88	46.93		108.3	41.70	51.10	37.08	65.16	50.90	56.95
6/8/2007	--	22.58	--	19.96	27.61	26.22	27.36	25.88	--			--	27.53		32.04		48.90	29.28				28.40	22.45	23.03			94.74	--	38.80	116.06	72.66	51.90		123.5	47.66	85.63	37.45	82.25	70.46	75.75

Table A2
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
9/4/2007	--	21.59	--	19.19	24.75	24.10	25.10	23.85	--			--	28.00		33.08		54.31	33.04				27.94	21.71	22.00			87.75	--	42.64	99.45	82.42	55.66		136.5	45.71	76.41	43.84	87.80	79.14	143.85
12/21/2007	--	22.53	--	21.26	26.94	25.44	26.58	24.85	--			--	27.59		32.59		49.66			38.28		28.04	23.36	23.50			70.31	--	41.56	82.20	68.43	53.41		109.0	46.09	57.46	40.99	72.32	58.64	63.96
3/13/2008	--	21.63	--	20.57	26.42	24.91	26.07	24.22	--		50.06	--	26.68		22.38	38.93	41.99	36.00	21.88			24.81	22.48	22.72			62.52	--	35.75	87.42	60.32	46.07		104.4	40.48	50.67	33.47	46.93	33.47	55.24
7/1/2008	--	22.82	--	16.83	23.56	23.64	24.62	24.54	--			--	28.05		31.76		51.97	30.30		37.91		32.02	23.29	23.03				--	38.94		80.85	53.37	72.24		50.44	88.42	34.07	72.75	78.89	84.98
9/10/2008	--	22.36	--	18.32	24.43	24.43	25.42	25.19	--			--	28.21		33.07		55.41	31.43				30.45	22.22	22.87			97.70	--	41.76	99.73	83.06	55.75	74.49	135.8	50.33	78.65	41.37	72.56		83.74
12/1/2008	--	23.09	--	20.34	26.22	25.37	26.44	25.44	--			--	28.35		32.77		54.57			37.95		31.69	23.94	24.43			75.76	--	42.23	99.03	72.22	55.47	66.13	160.3	50.81	62.37	41.93		63.98	68.73
3/17/2009	--	22.55	--	21.56	27.24	25.66	26.83	25.10	--			--	27.00		23.64		47.14	36.20				26.40	23.61	24.12			68.40	--	39.08	89.00	63.93	50.20	58.60	82.7	44.39	54.07	35.40	51.03	54.79	59.57
6/16/2009	--	24.08	--	20.22	27.96	25.80	27.02	26.77	--			--	28.22		31.74			29.13		33.74		42.95	24.30	23.75				--	40.40	166.50	92.63	54.99	78.17	155.7	60.07	99.57	46.06		93.88	152.44
9/14/2009	--	24.30	--	20.39	26.69	25.92	26.96	27.52	--			--	28.48		33.93			34.38		37.78		47.57	24.84	23.87		44.38	114.78	--	43.70	133.77	107.68	57.35	88.09	159.8	62.85	96.75	50.82		96.29	101.91
12/7/2009	--	24.60	--		27.51	26.21	27.31	27.07	--			--	28.43		32.69								26.01	24.58		48.28	87.10	--	44.91	112.62	86.20	58.30	79.19	102.1		77.05	49.90		80.40	84.21
3/22/2010	--	22.77	--	21.20	27.51	25.96	27.10	25.81	--	26.47		--	27.31		23.85	39.65	47.88				--	25.54	23.83	23.54		42.98	76.86	--	40.50	109.24	70.71	52.78	66.15	182.4	49.36	60.14	38.89	56.69	61.11	66.32
6/22/2010	--	23.18	--	13.37	24.50	24.89	25.94	26.43	--			--	28.53		30.65		46.85	29.92				26.66	22.14	19.43		41.45	88.40	--	37.37	107.00	83.03	51.58	71.91	145.0	48.22	88.72	38.11	66.61	75.83	83.17
9/13/2010	--	22.58	--	16.97	22.90	23.37	24.37	25.01	--			--	29.08		32.89		52.97	30.04				26.83	21.50	21.25		45.24	99.97	--	41.00	105.46	89.86	55.77	78.54	183.6	44.04	78.46	44.09	75.04	83.16	130.95
12/1/2010	--	23.12	--	19.51	25.28	24.80	25.88	25.08	--			--	29.14		33.03		54.88		22.09		--	32.20	22.78	22.56		46.38	84.84	--	42.72	108.42	84.75	56.68	71.20	166.1	53.53	66.30	45.78		68.63	74.32
4/5/2011	--	21.24	--	18.51	24.42	23.45	24.57	23.79	--	23.69		--	23.49		18.92	25.69	31.98	34.93	20.03	27.07	--	16.83	21.56	21.03	45.68	34.67	71.20	--	34.96	93.30	66.20	44.56	55.24	124.2	34.68	49.57	34.09	46.53	55.88	137.72
6/16/2011	--	21.98	--	14.35	21.55	22.80	23.67	24.17	--			--	27.92		24.75		41.52	29.27	--	37.35	--	24.07	20.43	19.12		36.00	94.56	--	32.98	98.12	47.56	45.31	59.42	163.6	40.55	71.26	31.18		63.61	73.21
9/12/2011	--	21.88	--	15.92	22.38	23.25	24.19	24.26	--			--	28.07		30.89		48.29	30.28	--		--	25.48	19.77	18.73		42.13	116.45	--	37.87	111.24	91.74	50.62	67.73	193.8	40.57	67.69	42.96		66.95	75.83
12/6/2011	--	22.22	--	19.03	21.70	24.50	25.58	24.58	--			--	28.23		32.42		48.35	30.80	--		--	26.18	20.91	20.89		43.87	86.39	--	40.65	111.08	77.74	51.00	60.42	172.5	44.45	55.76	41.89	53.99	62.52	137.51
3/29/2012	--	22.42	--	21.03	26.45	25.27	26.44	24.93	--			--	26.03		22.86		41.58	32.85	--	34.00	--	23.72	21.78	22.15		41.82	79.30	--	39.68	89.84	70.59	48.87	56.12	168.8	42.84	53.01	39.94	49.02	53.02	58.57
8/3/2012	--	21.63	--	16.01	23.15	23.53	24.53	24.43	--			--	28.30		32.27		52.20		--		--	31.43	19.35	18.16		45.74	112.70	--	40.97	119.98	97.19	54.31	77.90	193.1	46.53	87.13	45.30		80.75	89.16
9/10/2012	--	21.60	--	16.48	23.25	23.69	24.69	24.76	--			--	28.61		35.13		54.75	31.06	--		--	28.96	19.32	18.45		47.25	111.40	--	42.22	112.19	97.51	56.78	78.30	191.9	49.06	79.80	46.02	75.58	85.03	146.50
1/25/2013	--	20.59	--	18.90	24.95	24.33	25.40	24.23	--			--	27.57		23.39		44.24		--		--	26.14	23.93	24.00		43.67	80.50	--	39.27	96.53	76.90	50.80	60.40	158.4	43.90	55.70	39.80	62.69		141.64
4/15/2013	--	22.20	--	19.45	25.63	25.05	26.11	25.17	--		--	--	28.27		26.85		42.97	30.31	--		--	26.80	24.49	24.93		42.42	93.80	--	38.68	112.67	--	49.05	59.90	176.2	44.87	62.50	40.38		59.16	68.90
7/12/2013	--	22.09	--	16.56	23.67	23.99	24.90	24.98	--		--	--	29.01		33.58		52.05	31.05	--		--	41.19	23.21	22.42		45.70	133.70	--	40.58	147.68	--	55.30	78.80	198.3	56.45	95.90	47.13		84.93	91.52
9/12/2013	--	21.92	--	17.25	23.85	24.02	24.98	24.99	--		--	--	29.10		33.24		53.59	32.01	--		--	32.28	23.21	22.70		46.55	132.90	--	41.50	141.36	--	57.05	81.10	199.1	54.00	83.63	47.68		82.40	89.50
12/16/2013	--	22.91	--	20.24	26.25	25.10	26.21	24.99	--		--	--	28.79		33.02		55.31		--		--	57.51	25.91	26.01		46.55	113.10	--	41.78	118.98	--	57.18	73.50	189.6		70.75	46.43	71.46	70.91	77.90
6/2/2014	--	24.14	--	21.73	27.85	26.47	27.52	26.93	--		--	--	29.38		34.37			35.02	--		--		27.84	27.68		46.39	>300	--	44.41	145.28	--	57.52	83.50	156.6		98.44	47.02	--	93.32	148.56
8/20/2014	--	24.89	--	21.59	27.89		27.65	27.35	--		--	--	31.03						--		--		29.20	28.30		49.86	83.12	--	48.83	126.80	--	60.51	105.10	197.7		118.11	54.38	--	113.90	119.70
10/6/2014	--	25.20	--	21.98	27.81		27.75	27.35	--		--	--	31.42					34.62	--		--		29.78	28.51		50.82	83.40	--	49.42	121.35	--	61.08	101.80			108.29	47.60	--	109.80	114.40
12/23/2014	--	22.53	--	22.46	27.64	25.00	26.28	24.39	--	25.11	--	--	25.93				48.74		--	34.68	--	27.75	27.74	27.81	20.56	48.83	87.09	--	45.15	132.55	--	58.85	91.90			92.21	47.99	--	92.34	96.08
2/6/2015	--		--			--			--		--	--							--		--							--			--							--		
3/20/2015	--	24.15	--	22.27	26.24	26.22	27.37	25.65	--		--	--	28.27		31.57		53.41	31.61	--		--	37.95	28.36	27.93		45.86	83.90	--	43.38	109.48	--	56.94			54.23	74.52	46.46	--	71.87	77.93
7/20/2015	--	21.33	--	18.15	25.02	24.96	25.95	26.09	--		--	--	28.27		32.29		54.33		--		--	48.37	23.32	22.81		46.15	125.25	--	42.18	150	--	57.01	96.30			118.02	49.04	--	139.23	
10/15/2015	--	22.27	--	19.33	25.79	24.94	26.08	25.60	--		--	--	29.47						--		--		25.10	25.00		47.53	136.32	--	45.20	169.03	--	59.43	97.54	199.1		106.00	49.46		109.2	

Table A2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
6/26/1986	95.72		107.33		101.97	99.52		98.32	89.71	89.19	73.24		82.29	81.64	70.48			86.25	53.04	75.48	61.94	58.93							86.91	35.86										
7/21/1986	90.29				95.04	94.29		93.30	81.65				77.37	74.24	72.74			79.61	42.73	68.71		48.86							79.86	25.46										
8/18/1986	89.22				94.39	93.76		92.91					77.31	66.58	64.73	54.96		75.45	42.99	67.18		47.53							82.23	33.01										
9/18/1986	89.19		100.92		94.02	93.49		92.74					77.31	65.54	64.53			74.46	43.42	68.92	39.69	48.03							75.97	45.24										
10/20/1986						93.23		92.74					77.25		64.48			73.00	44.83	70.77	42.08	47.97							75.24	48.44										
11/14/1986	89.04		100.95		93.64	93.14		92.54					76.96		64.19				45.62	70.63	43.02	48.04							74.91	50.65										
12/16/1986	89.02		101.00		93.79	92.87		92.53					77.05		64.13				46.21	68.16	43.84	48.27							75.25	58.04										
1/16/1987	89.12		101.20		93.89	93.20		92.61					77.19	64.96	64.32				47.21		44.88	48.33							75.89	60.67										
2/3/1987	89.12		101.03		93.89	93.18		92.64					77.32		64.46				47.04		44.73	48.64							76.03	59.96										
2/18/1987	89.12		101.03		93.89	92.72		92.49					77.52	64.96	65.19				48.52	70.85	52.36	51.39							75.89	60.84										
3/13/1987	89.12		100.85		93.54	93.72		92.39					78.24		65.45				50.59	71.29	52.19	53.19							76.31	62.41										
4/17/1987		85.29					92.15	91.27				63.30	76.47		64.47		53.36	79.67	49.66	70.96	48.72	51.57					54.36	52.52	77.06	35.98	56.81	62.37			45.95				21.13	
5/19/1987		86.35			93.79	92.47	93.00	91.79				61.66	77.04		64.84		49.35	79.05	40.32	68.50		48.17					46.07	44.58	76.82	30.40		60.53			41.75				16.04	
6/15/1987		86.61			95.08	93.84	94.04	93.82				59.29	76.81		64.65		46.49	80.29		66.68		46.45					54.58	53.07	74.29	24.55		58.13			40.56					
7/17/1987		86.44			95.87		93.90	92.85				56.96	76.15		63.64		44.01	76.22		69.82		41.42					51.39	49.98				55.94			37.95					
8/20/1987		86.89			94.87	94.06	94.31	93.23				55.93	76.72		64.14		43.99	76.65		70.41		42.08					52.08	51.24				55.05			32.73					
9/21/1987		86.62			94.55	93.76	93.91	92.89				55.31					44.34	74.75		69.34		44.36					56.42	55.48				54.27								
10/14/1987		86.57			94.06	93.55	93.70	92.79				55.08	76.77		64.23		45.24			71.05		44.28					58.45	57.34				54.05			37.74					
11/23/1987		86.39			94.35	93.43	93.56	92.80				55.82	76.74	66.29	64.19		45.49			69.82		45.00					62.14	60.93	71.99	52.65		54.86			38.82					
12/15/1987		86.50	100.83		93.77	93.40	93.51	92.75				56.87	77.19		64.97		46.53		40.52	67.60		47.91					63.77	62.52	72.93	54.48		55.96			40.69					
1/18/1988	89.26	87.83	100.86		93.71	93.47	93.57	93.14				59.62	79.25		74.91		49.57	75.42	45.65		52.51	54.64					66.31	64.97	74.68	58.16	57.24	58.86			43.89				38.25	
2/16/1988	89.49	86.77	100.87		93.69	93.25	93.36	92.64				62.01	76.98		66.03		50.80		48.30		44.24	51.34					67.68	66.30	76.04	56.86	59.73	61.35			44.61				31.98	
3/15/1988		86.54			94.44		93.19	92.45				63.33	77.04		65.88		51.89		49.22	70.79	44.55	50.39					68.45	68.52			60.27	62.52			44.45				26.21	
4/15/1988	89.41	87.31	100.87		93.65	92.96	93.08	92.20		80.89		62.75	77.08		65.67		51.16	79.72	41.67	72.16		46.19					64.90	63.64	78.13	49.88		61.68			40.93					
5/17/1988	89.42	86.61	100.86		93.65	93.29	92.99	92.10				61.56	76.44		65.10		49.28	75.54	40.89	69.78		45.74					62.39	61.19	76.58	44.28		60.69			39.91					
6/30/1988	89.35	87.25	101.29		95.95	94.47	94.65	93.47				58.73	76.86		64.52		45.36	77.23		68.22		42.36					48.80	46.23	74.52	36.14		57.62			39.78				7.37	
7/20/1988	89.33	87.24	100.84		95.95	94.60	94.78	93.66				57.44	77.02		64.47		44.55	77.16		65.16		40.41					49.21	47.03	73.12	16.39		56.37			34.52					
8/16/1988	89.32	87.23	100.84		95.43	94.39	94.54	93.60				56.69	77.01		64.31		44.82	76.19		71.10		40.65					52.83	51.46	72.24	28.71		55.69			35.86					
9/20/1988	89.29	87.92	100.84		94.42	93.88	94.01	93.09				56.54	77.00		64.22		44.27	76.50		69.97		40.23					42.99	41.58	71.77	28.81	39.22	55.66								
10/21/1988	89.28	86.57	100.84		94.00	94.54	93.67	92.79				55.69	76.95		64.06		44.51			71.89		42.46					57.28	55.96	71.77	43.08	43.38	54.70			30.81					
11/11/1988	89.26	86.35	100.83		93.83	93.41	93.54	92.76				55.87	77.05		64.01		44.64			71.57		44.20					58.84	57.54	72.18	46.57	44.81	54.89			33.66					
12/16/1988	89.22	86.16	100.83		93.70	94.25	93.37	92.65				56.77	77.30		63.99		44.52			64.48		44.65					61.86	60.65	73.02	50.96	50.75	55.79			38.75					
1/16/1989	89.27	86.39	100.83		93.64	93.15	93.26	92.56				57.69	77.14		64.25		44.62		39.01			46.24					63.95	62.71	73.71	54.92		56.72			39.28				35.44	
2/23/1989	89.24	86.09	100.83		93.61	92.95	93.08	92.38				58.08	76.99		64.00		45.09		39.48	62.55		45.59					65.55	64.25	74.23	56.95	47.22	57.10			39.33					
3/28/1989	89.24	86.64	100.83		93.57	92.93	93.04	92.30				59.41	77.46		65.25		48.78		44.36	66.23		52.25					65.81	64.57	74.79	57.18	56.26	58.62			42.91					
4/18/1989	89.25	86.01	100.82		93.55	92.80	92.87	92.12				60.03	76.97		64.70		49.07	78.08	42.12	66.04		49.71					55.43	53.50	74.88	42.83	53.69	58.73			42.27				20.55	
5/23/1989	89.25	86.26	100.81		93.63	92.88	93.04	95.00				57.78	76.98		64.37		45.71	79.09		64.12		45.38					41.16	41.29	73.04	21.82		56.53			40.44					
6/29/1989	89.28	86.82	101.10		93.69	93.31	93.47	92.54				55.48	76.70		64.00		45.24	76.92		65.83		39.40					48.02	47.05	70.25		34.12	54.46			38.39					
8/8/1989		86.96	100.83		93.93	93.38	93.52	92.58				54.51	76.64		63.93		43.55	75.74		69.45		25.38					46.45	45.81	68.66	18.28		53.43			35.55					
9/25/1989		86.58	100.82		93.87	93.36	93.49	92.70				54.12	76.89		63.96		43.22	71.31		64.75		38.82					49.46	48.72	68.47		38.36	52.99								
10/16/1989		86.82	100.82		93.82	93.34	93.47	92.72				54.17	76.75		63.87		42.24					39.99					52.26	51.45	69.23		41.61	53.15								
11/28/1989		86.26	100.82		93.74	93.23	93.34	92.74				54.71	76.85		64.21		41.21					46.78					55.29	54.36	70.63	47.44	46.26	53.58			36.26					
1/5/1990		86.41	100.81		93.67	93.08	93.18	92.44				55.26	76.85		64.48		41.02					48.18					58.00	57.11	71.57	49.56	49.04	54.15			39.16				26.99	
2/14/1990		86.60	100.79		93.67	93.00	93.09	91.49				56.41	77.25		65.31		43.96					50.17					60.60	59.50	72.49	51.79	51.82	55.40			40.86					
3/14/1990		86.67	100.81		93.64	92.99	93.03	92.44				57.65	77.20		65.34		45.75		38.66		47.01	50.54					61.87	60.90	73.18	53.59	53.16	56.66			41.64					
4/16/1990		86.40	100.85		93.62	92.99	93.08	92.14				56.92	76.78	65.14	64.24		42.50	78.11				40.04					32.68		73.37	6.86	36.30	55.79			37.33					
5/23/1990		86.64	100.91		93.62	92.62	92.69	91.82				55.23	76.81		64.62		38.74	77.50			51.91						32.34	29.75	70.91	7.38	12.30	54.15							-27.27	
6/15/1990		86.83	100.85		93.61	92.59	92.72	91.67				54.82	76.65		64.49			77.20			52.12						32.69		70.18	7.51	-7.29	53.74							-26.16	
7/18/1990		86.89	100.85		93.60	93.13	93.31	92.18				54.26	76.60		62.62			75.80									32.88		69.02	2.53	-15.42	53.19							-26.55	
8/21/1990		86.89	100.84		94.17	93.84	93.90	93.32				53.75	76.31		61.67			75.74									33.43		67.75	6.57	-1.94	52.70							-14.06	
9/24/1990		86.54	100.85		93.85	93.34	93.40	92.48				53.63	75.83		61.29						53.29						34.48		67.62	3.28	13.05	52.47							-34.27	
10/24/1990		86.23	100.85		93.70	93.03	93.16	92.20				53.78	75.84		61.26						53.58						32.90		67.37	9.04		52.37							-27.57	
11/26/1990		86.22	100.84		93.70	92.99	93.02	92.22				53.67	75.81		61.26						52.68						33.43		68.32	22.28	30.84	52.59							-35.83	
12/14/1990		86.23	100.84		93.64	92.87	92.95	92.20				53.84	76.34		61.26						52.76						35.41		68.58	26.46	33.39	52.75							-26.99	
1/28/1991		86.22	100.84		93.62	92.78	92.84	92.21					76.94		61.27												33.43		69.43	24.59	10.68	53.09							6.47	
2/19/1991		86.55	100.84		93.57	92.75	92.84	92.12				54.28	76.88		63.79			78.24									32.91		69.18	19.75	29.59	53.17							-26.49	

Table A2

Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
3/19/1991		87.04	100.84		93.60	93.18	93.14	92.51				54.59	78.02		73.88		41.44	74.24			55.92	45.55					36.81		69.50	28.62	36.12	53.57							-26.07	
4/22/1991		86.60	100.84		93.65	92.96	93.05	92.33				55.05	77.02		64.78		43.16	78.78			54.80	41.99					33.36		70.22	18.66	30.40	54.07				3.84			4.73	
5/30/1991		87.19	100.84		93.64	93.04	93.16	92.35				55.31	77.19		64.53			78.67			53.40	31.89					32.39		71.14	7.11	6.01	54.15				-17.71			-26.65	
7/2/1991		89.21	100.95		94.82	94.09	94.27	93.17				55.55	77.20		64.70		46.29	77.15			54.71	38.18					33.62		70.42	6.66	-11.71	54.49				-29.77			-26.48	
7/31/1991		90.32	100.98		94.99	94.19	94.33	93.50				54.77	77.59		65.08		41.98	77.31			54.43	31.71					33.84		68.96	6.01	-20.73	53.78	-25.69			-33.95	33.36		-36.64	
8/28/1991		90.18	101.28		94.60	93.97	94.11	93.41				53.98	76.79		63.23		39.87	75.73			54.17						32.63		67.50	4.73	-16.34	52.87	-13.49			-28.46	42.58		-26.96	
9/25/1991		89.34	100.88		94.30	93.72	93.84	93.09				53.50	77.29		63.27	65.52	39.67	75.94			53.31	36.04					32.80		66.82	-1.19	-8.20	52.50	-10.95			-16.79	45.17		-28.42	
10/29/1991		87.31	100.86		93.85	93.43	93.55	92.91				53.28	76.14		62.05						52.30	33.72					32.43		66.50	14.30	25.60	52.27	-10.26			-7.17	45.26		-27.33	
11/26/1991		87.02	100.89		93.85	93.26	93.38	92.80				53.35	76.35		61.24												32.40		67.05	14.18	29.33	52.31	-8.64			-2.29	47.58		-26.47	
12/19/1991		86.76	100.88		93.79	93.17	93.26	92.72				53.58	76.15		61.24												33.45		67.42	22.03	32.40	52.43	-7.72			0.76	47.92		-26.02	
1/20/1992		86.64	101.26		93.74	93.09	93.19	92.52				53.83	77.16		64.48						41.63	30.57					37.88		67.92	25.96	36.98	52.80	-6.33	25.77		4.64	50.86		8.58	
2/25/1992		87.50	101.96		93.63	93.34	93.43	92.71				54.53	77.95		67.32		43.51	70.92			55.09	49.14					42.12		69.05	26.42	39.30	53.46	-2.06	29.45		8.97	54.52		-25.92	
3/19/1992		87.23	102.27		93.62	93.25	93.34	92.64				54.85	77.90		66.25		45.75				54.25	52.00					44.29		69.73	34.28	40.80	53.81	0.83	31.32	38.62	13.72	56.16		-26.00	
4/30/1992		86.91	101.89		93.62	93.41	94.95	92.59				54.78	77.02		65.00		45.95	77.68			52.17	40.19							70.16	-3.84	1.67	53.71	-17.07	-74.16	37.10	1.18	44.73		-18.00	
5/22/1992		87.55			93.72	93.56	93.71	93.13				55.31	76.95		64.77		43.57	78.09				36.74							70.84	-32.72	-8.39	54.11	-15.80	-68.62		-14.57	37.95		-26.25	
6/26/1992		90.87	103.03		95.23	94.42	94.53	93.84				54.83	77.55		65.15		43.51	77.11									32.87		69.64		-12.18	53.81	-18.34	-88.02		-28.99	32.43		-36.92	
7/22/1992		91.07	102.39		94.66	94.16	94.17	93.40				54.32	76.90		63.68		39.90	76.25				34.52					32.95		69.07	-33.87	-12.22	53.37	-18.57	-34.43		-34.35	32.63		-28.19	
8/21/1992		90.37	103.10		94.24	93.73	93.85	93.14				53.72	77.06		63.63			74.51									32.46		67.15	45.13	-9.18	52.62	-16.50	-19.18		-30.03	32.17		-32.98	
9/22/1992		87.35	103.03		93.87	93.35	93.49	92.68				53.18	76.50		61.36												32.58		66.83		12.19	52.19	-15.57	-10.87		-20.87	39.51		-29.33	
10/21/1992		86.93	103.03		93.75	93.07	93.18	92.42				53.11	77.48		62.71												32.38		66.93	59.11	18.11	52.10	-15.11	-4.86		-13.07	38.15		-28.12	
11/24/1992		86.84	103.74	96.14	93.68	93.04	93.14	92.44				53.38	76.33		63.13								90.13	92.29			32.74		67.48	64.50	27.10	52.38	-13.26	4.61		-5.44	45.79		-26.92	
12/15/1992		87.08		96.01	93.66	93.34	93.43	92.70				53.58	77.92		65.46						53.11	41.27	90.21	92.18					67.91	68.78	30.28	52.59	-11.18			-1.83	48.48		-28.90	
1/25/1993		91.44	103.19	96.62	93.71	94.48	94.56	93.68		81.74		55.81	80.46		75.75	70.13	51.55	74.41	45.53	68.03	56.76	61.29	93.03	93.37			38.72		72.10	78.25	36.88	54.98	-5.18	17.32	42.15	8.99	55.79		14.82	
2/25/1993		92.01		98.45	94.98	95.13	95.21	94.35		82.42		57.71	80.97		76.48	71.65	57.28	75.45	37.24	69.03	57.30	64.47	93.75	94.47	71.67		44.53		75.12	79.63	42.16	56.83	2.91	23.44	45.73	20.51	58.81		24.65	
3/29/1993		91.02		99.48	96.06	95.00	95.14	94.35				60.05	77.21		72.77	56.31	57.07	72.07	42.84		53.77	59.51	93.55	95.24			48.86		76.36	84.48	47.10	59.08	9.84	27.94	45.69	28.50	60.59		32.11	
4/29/1993		90.49		98.98	95.18	94.46	94.59	93.92				60.55	76.80		66.38	55.02	54.75	77.35	43.62		53.11	56.07	93.64	94.70			40.80		76.81	81.71	49.13	59.40	-153.94	30.02	44.59	24.57	61.06		-28.65	
5/25/1993		90.93		100.61	95.80	94.82	94.85	94.12				59.46	76.73		65.78		59.75	76.78			52.18	54.42	94.51	95.94			31.98		75.50	67.39	13.02	58.33	1.52	3.46	42.36	9.09	49.70		-26.86	
6/29/1993		91.22		100.23	96.46	95.23	95.35	94.49				57.58	76.68		66.27		49.52	76.60			53.20	53.25	94.71	96.20			32.05		74.08		9.41	56.50	-3.33	-4.28	41.34	-1.68	48.47		-26.62	
7/27/1993		91.08		99.75	96.17	94.90	95.04	94.24				56.74	76.69		65.96		46.54	75.39			52.15	51.48	94.29	95.55			1.42		73.01		22.40	55.67	0.60	-58.68	39.88	-3.71	43.88		-26.63	
8/31/1993		90.72		97.79	95.30	94.47	94.62	93.77				55.65	76.54		64.15		44.37	74.51			52.82	48.01	93.83	94.79			13.53		71.58		25.00	54.61	0.83	1.38	38.96	5.54	34.81		-26.70	
9/28/1993		90.26		98.15	94.77	94.30	94.31	93.50				55.09	76.54		64.13		44.96	75.67			52.44	46.42	93.15	94.30			32.98		70.78		28.18	54.00	3.14	7.15	38.95	10.50	36.04		-27.48	
10/28/1993		89.59		97.60	94.38	93.94	94.06	93.41				54.96	76.62		64.21		44.57	70.05			52.33	47.30	92.15	93.68			37.39		71.13		34.20	53.87	4.99	14.20	38.98	17.34	50.04		-26.37	
11/24/1993		88.12		97.15	93.98	93.79	93.89	93.33				55.14	76.46		64.20		44.07					47.37	91.46	93.18			40.58		71.68		37.49	54.05	5.91	18.24	39.52	21.18	53.24		-26.48	
12/16/1993		87.87		96.82	93.88	93.78	93.85	93.18				55.50	76.77		64.95		45.63				52.27	49.82	91.04	92.85			45.11		72.21		41.04	54.43	7.53	22.17	40.47	23.80	55.15		-27.89	
1/19/1994		87.45		96.40	93.81	93.58	93.67	93.12				56.18	76.39		64.58		46.02					48.58	90.45	92.49			48.93		72.88		44.43	55.13	10.76	26.56	40.79	25.56	56.52			
2/15/1994		87.41		96.16	93.80	93.64	93.74	93.11				56.84	76.80		65.40		48.47		38.36		52.46	52.70	90.44	92.33			51.18		73.45		46.28	55.85	12.38	29.56	42.46	28.84	58.46			
3/18/1994		87.22		95.99	93.80	93.53	93.56	92.95				57.89	76.64		65.85		50.76		41.12			53.43	90.33	92.26			52.90		74.02	-72.13	48.86	56.92	14.23	-5.87	43.75	28.45	59.47			
4/15/1994				97.10	93.87	93.70	93.77	93.13				57.58	76.85		65.55		48.47	78.00				49.83	91.94	93.60					74.27		33.85	56.51		-60.99	41.67	8.42	42.24			
5/26/1994		90.51		100.26	95.02	94.00	94.14	93.43				56.49	76.80		65.55	56.06	45.80	76.57			48.72	42.84	93.15	95.06					73.75		17.27	55.38			38.13	-8.43	22.61			
6/30/1994		91.42		99.97	95.89	94.68	94.81	94.20				55.65	76.70		65.80		43.22	76.38				40.46	94.28	95.60			31.69		71.68		6.53	54.60		-86.40	38.47	-20.79	28.07			
7/21/1994		91.03		99.57	95.59	94.58	94.71	93.96				55.19	76.57		64.79		42.38	75.64				38.99	93.91	95.22					70.67		0.01	54.14			38.17	-24.65	27.92			
8/23/1994		90.27		98.56	94.83	94.16	94.25	93.62				54.65	76.65		64.44		39.42	75.91				35.85	93.46	94.67					69.62		8.55	53.58			34.48	-17.24	25.77			
9/27/1994		90.00		97.74	94.36	93.88	93.98	93.30				54.49	76.82		64.69		41.78	71.28				43.31	93.40	94.25					69.07		16.20	53.33		-11.33		-7.77	29.04			
10/31/1994				97.36	94.09	93.73	93.83	93.26				54.19	76.09								52.09	34.35	92.00	93.53			33.03		69.33		24.55	53.10		0.22		1.30	45.01			
11/1/1994																																								
12/6/1994				96.78	93.89	93.71	93.80	93.21				54.53	76.82		64.79						52.80		91.09	92.83			32.99		70.39		32.25	53.44				7.50	49.15			
1/12/1995		92.10		97.00	94.40	95.53	95.54	94.86		86.52		55.58	82.48		79.16	72.05	51.16	74.80	37.84	70.84	58.55	69.79	92.45	93.13			41.04		75.09		38.39	54.67		17.78	43.08	16.32	55.73		18.52	
2/16/1995		92.09		100.45	96.86	95.82	95.98	94.92		81.93		61.04	79.99		74.70	63.05	58.46	72.81	42.60	64.47	56.61	66.09	94.12	95.75			48.63		78.70		47.75	60.08		25.75	56.03	30.89	61.84		32.07	
3/24/1995		93.10		101.51	98.01	96.99	97.04	95.78		83.83	67.42	67.42	82.72	67.32	79.84	70.38	67.48	74.77	53.28	68.90	61.17	70.68	94.92	96.53	75.71		53.97		83.27		53.35	66.68		31.41	60.71	38.94	68.69		41.08	
4/21/1995		92.16		101.00	98.03	96.57	96.78	95.51		83.52	70.67	70.35	78.88	66.54	74.32	66.93	64.64	77.95	56.13	66.03	60.99	65.70	94.63	96.39	73.66		54.85		85.17		54.58	69.57		24.48	61.11	36.39	67.82			
5/26/1995		91.33		101.15	96.97	95.55	95.69	94.88		82.97	69.85	69.66	77.62	69.78	73.83	55.36	60.28	75.67	52.27	58.69	60.22	60.61	94.47	96.23			41.22		84.53		53.27	68.66		-27.50	54.36	25.77	66.29			
6/26/1995		91.86		100.68	96.69	95.24	95.34	94.82		81.17	65.18	65.15	77.05	70.52	72.79		52.84	75.59	42.07		53.35	56.86	94.79	96.23					81.98		47.21	63.74		-37.66	49.86	14.55	55.09		27.34	
7/31/1995		91.17		99.39	95.79	94.70	94.80	94.20				60.69	76.91	66.43	72.06		46.31	75.67				50.95	94.20	95.51					78.20		34.55	59.41		-45.29	43.06	-12.11	49.57			
8/23/1995		90.63		98.78	95.19	94.39	94.51	93.89				59.04	76.84		65.05		44.16	73.65				48.08	93.56	94.95					76.27		21.69	57.87			41.48	11.50	44.92			
9/27/1995		89.86		98.01	94.48	93.96	94.06	93.41				57.45	76.91		63.89		43.02	71.94				47.41	92.58	93.98			32.40		74.55		34.32	56.41		9.69	38.63	18.77	52.99			
10/27/1995		88.96		97.52	94.13	93.74	93.86	93.13				57.64	77.05		64.41		46.21	70.03				50.36	92.00	93.46			40.14		74.51		38.55	56.67		18.24	41.76	25.60	56.02			

Table A2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
11/28/1995		88.07		97.09	93.86	93.59	93.70	93.00				58.07	76.68		64.10		46.77		39.34		41.64	50.22	91.18	92.97			45.70		74.36		43.56	57.11		24.48	42.56	29.71	58.38			
12/1/1995																																								
1/3/1996		88.41		96.82	94.00	93.71	93.81	93.15				59.58	77.35		65.59		50.54		44.00		51.05	54.90	91.21	92.83			51.32		75.56		50.24	58.61		30.25	45.27	34.66	62.33			
2/7/1996		90.96		97.12	94.46	94.90	94.95	94.27		85.81		62.72	81.10		77.19	69.64	59.68	75.09	50.49	65.46	58.28	63.53	92.02	93.21			56.03		78.51		54.60	61.93		35.10	50.97	39.62	66.66		40.82	
3/15/1996		91.33		98.66	96.08	95.52	95.65	94.71		83.52	68.52	68.69	80.30		76.57	68.88	66.53	73.71	57.88	67.38	61.12	65.76	93.07	94.41	74.74		60.62		82.16		59.80	67.94		40.42	57.80	45.91	70.70		47.00	
4/26/1996		90.51		99.52	95.72	94.81	94.91	94.27		82.75	69.62	69.45	77.89		72.78	56.23	62.00	78.99	56.54	61.72	61.71	60.23	92.74	94.74	72.05		31.84		83.72		59.19	68.63		39.26	54.23	38.80	69.86			
5/28/1996		90.45		101.03	96.36	94.94	95.05	94.52		82.37	67.00	66.88	77.27	66.56	66.72		57.40	76.54	50.83		58.27	56.32	93.03	95.07			53.31		83.01		52.70	65.68		-40.67	49.94	26.27	64.88			
6/26/1996		90.91		101.17	96.93	95.56	95.58	94.98		80.94		64.34	77.04	68.99	66.06		51.68	76.44	41.00		52.11	53.57	93.58	95.66			38.77		80.25		48.90	62.32		-34.43	46.81	11.97	61.22			
7/23/1996		91.13		100.35	96.48	95.17	95.30	94.77				60.74	77.46	66.11	65.62		47.79	75.60			52.39	49.81	93.68	95.68			31.21		76.97		38.50	59.44		-51.29	44.07	11.12	56.04			
8/27/1996		90.92		99.73	97.05	95.57	95.75	94.93				58.33	77.14		65.13		45.13	75.01			52.17	47.15	93.52	95.30			32.18		74.24		36.65	57.33			41.68	19.61	41.99			
9/26/1996		91.02		99.90	97.52	96.09	96.30	95.16				63.18	77.00		64.99		47.67	77.06	37.54		53.31	47.84	93.54	95.39			37.13		72.93		37.21	56.43		15.01	41.84	24.13	56.24			
10/30/1996		90.97		99.83	97.55	96.16	96.37	95.27				57.36	76.81		64.22		49.30	73.78	39.95		57.11	45.80	93.55	95.27			49.00		73.09		41.66	56.47		22.40	42.59	31.37	58.81			
12/2/1996		90.77		97.01	96.20	95.30	95.42	94.73				64.69	76.84		65.09		47.81		43.24		54.46	48.21	92.99	94.76			53.65		73.74		48.02	57.08		-19.41	43.48	34.49	61.72			
1/9/1997		92.10		98.35	96.05	96.13	96.12	95.20		85.73		62.20	82.20		78.83	71.57	66.13	71.97	51.89	66.98	58.21	66.77	93.47	94.67	73.31		58.33		77.28		55.28	61.35		36.84	54.51	41.43	69.36			
2/14/1997		92.39		100.17	97.21	96.20	96.34	95.54		84.46	69.03	69.03	80.58	70.29	76.05	68.68	68.23	72.98	58.63	67.46	64.06	67.73	94.56	96.03	77.48		62.10		81.84		60.68	68.37		41.11	62.67	47.87	72.94			
3/20/1997		91.41		99.15	96.17	95.37	95.34	94.90		83.47	68.66	68.50	77.52		72.31	56.65	60.20	77.41	54.50	59.34	60.29	60.65	93.86	95.18			59.56		82.51		61.32	67.59		41.34	57.36	40.07	71.99		44.16	
4/28/1997		92.38		101.68	97.69	95.79	95.87	95.52		82.25	65.67	65.59	77.32		66.59		54.56	77.03	45.88		57.08	56.75	94.47	95.87					82.09		54.51	64.52		24.25	50.80	21.66	67.33			
5/21/1997		93.70		101.55	97.55	96.08	96.16	95.85				62.90	75.95		65.75		50.81	78.98	38.73		57.34	54.63	96.23	98.64			31.49		80.05		46.37	60.66		9.69	47.40	13.49	62.57			
6/25/1997		92.73		100.05	96.70	95.61	95.62	95.06				60.49	76.85	71.49	64.89		48.73	76.15			57.58	51.36	95.16	96.71			31.47		78.24		29.41	59.10		-21.95	44.95	4.04	60.25			
7/23/1997																	44.89	76.04																						
10/3/1997		91.49		97.94	94.98	94.57	94.66	94.15				62.60	76.85		64.03		48.86	77.55				45.77	94.00	94.88			31.53		73.06		35.90	55.91		11.54	40.94	22.78	57.72		20.58	
1/28/1998		90.71		96.76	94.02	94.37	94.42	93.74					80.92		77.63	67.06	60.06	73.89	48.92	63.69	57.50	60.58	92.25	93.25			55.74		75.94		54.51	60.43		35.33	50.00	39.32	66.59			
3/3/1998		93.52		101.26	98.37	97.52	97.69	96.45		86.15	73.22	73.43	83.96	74.27	80.39	71.94	72.53	75.20	62.88	72.86	66.89	72.24	95.33	97.13	81.26		60.65		85.40		63.43	72.96		40.88	66.12	51.36	78.51		51.85	
6/4/1998		92.45		102.50	97.91	96.42	96.55	95.80		84.78	74.88	74.62	80.43		74.80	61.85	67.25	75.32	60.90	74.31	61.49	63.20	94.69	96.59	74.93		25.38		86.74		64.07	73.78		40.65	58.46	45.14	75.37			
8/31/1998		92.63		100.14	96.96	95.87	95.96	95.48				66.20	78.74		65.09		55.45	76.03	49.72	63.29	53.80	56.47	94.84	96.52			30.82		80.12	32.85	49.80	65.30		24.71	50.79	29.51	66.55			
12/11/1998		89.91		97.40	94.40	94.20	94.25	93.90				66.00	79.49		66.10		58.09	70.02	55.28	58.69	57.16	57.50	91.14	93.35			59.90		78.21	45.05	59.21	65.36		39.26	45.69	51.79	69.98	39.31	48.20	
3/11/1999		90.02		96.48	93.92	94.17	94.25	93.56		85.00	70.85	70.79	81.69	65.32	76.67	64.85	66.95		61.17	69.39	61.06	64.78	90.93	92.71	75.80		65.71		81.74	53.31	64.27	70.25		45.04	58.58	47.13	74.58	42.77		
4/29/1999																	62.38	79.16																						
6/15/1999		92.38		99.71	96.31	95.38	95.49	94.89				65.93	78.83	73.07	68.22		53.81	77.45	44.61	62.29		56.08	94.69	96.35			50.21		81.56	0.11	52.24	64.91		-33.97	50.36	13.80	73.17	27.30	30.93	
9/13/1999		90.16		98.36	95.23	94.62	94.73	94.03					78.55		64.32			76.52		58.98		48.57	93.66	94.42			50.00		76.42	24.66	46.34	58.48		3.69	42.78	22.21	63.85	19.21		
12/10/1999		88.31		97.18	94.15	93.86	93.96	93.47					78.31		65.03		51.15	69.95	47.42		55.87	51.08	92.29	93.42			57.63		76.02	42.51	54.96	61.15		16.62	46.64	37.53	67.32	30.76	36.59	
3/22/2000		88.99		96.78	93.88	93.94	94.02	93.43		83.96		67.46	79.88		75.88	59.55	62.80	71.87	56.87	62.27	61.41	61.26	91.99	93.30	72.04		62.91		79.25	46.09	60.91	66.87		23.32	55.88	45.36	69.80	39.77		
6/26/2000		91.01		101.50	98.39	98.42	97.13	96.94					78.71		65.97		51.73	77.08	43.13			57.12	94.79	97.32			42.19		79.31	3.71	52.01	62.77		6.23	50.70	13.91	67.44	26.60	34.69	
9/27/2000		89.05		98.96	95.82	95.04	95.17	94.53				66.46	77.83		63.69			76.11	38.62			51.59	93.35	94.81			51.65		74.82	21.14	47.70	57.77		9.00	46.04	27.00	64.11	20.14		
12/8/2000		88.16		97.42	94.41	94.19	94.25	93.82					77.57		64.01		50.44		46.77			52.72	92.29	93.63			58.59		75.76	43.97	54.59	60.22		17.08	47.55	37.60	67.79	28.45		
3/29/2001		88.04		96.76	93.77	93.65	93.71	93.22		82.31			78.44		73.28		59.09	70.91	55.30	59.72		57.24	91.58	92.94			62.14		79.32	40.76	59.93	65.68		21.70	52.44	43.72	72.28	20.83		
7/2/2001		89.05		99.32	95.91	95.18	95.30	94.56					77.87		65.88		49.16	76.24	38.54			54.96	93.84	95.44			46.22			18.36	49.56	61.31		2.30	49.18	11.47	67.22	20.37	25.89	
9/7/2001		89.10		99.01	96.00	95.21	95.32	94.65					77.73		64.01		46.38	75.84	38.99			54.19	93.58	95.05			45.06		75.83	9.38	46.46	58.66		0.91	47.35	25.59	64.54	23.14	28.15	26.05
12/6/2001		88.94		97.30	94.76	94.44	94.50	94.06					79.31		67.46		54.02	70.86	48.62			56.34	92.27	93.59			53.46		74.70	39.57	52.53	60.11		11.77	49.16	37.79	66.72	26.60	34.04	-38.25
3/21/2002		88.52		97.22	94.72	94.11	94.19	93.70		80.89		66.40	78.13		71.99		58.63		55.92	58.82		56.71	91.60	93.32			59.99		79.07	40.41	59.60	65.80		19.39	52.60	44.75	71.15	36.08	48.23	43.88
6/6/2002		88.54		99.35	96.08	95.09	95.23	94.52					77.79		66.25		52.27	76.85	45.20	58.64		57.02	93.10	94.88			52.43		79.21	23.16	52.34	62.70		6.00	50.70	11.96	69.55	21.98	31.07	22.23
9/9/2002		88.87		99.36	96.43	95.55	95.73	94.99					77.84		63.44			75.75				53.30	93.66	95.15			35.33		74.89	4.22	39.24	56.64		-7.17	46.55	20.10	63.07	15.75	19.06	-50.40
11/25/2002		88.59		97.41	94.71	94.43	94.58	94.00					78.07		65.38		49.20		44.75			52.95	92.32	93.73			47.30		73.69	23.49	47.05	58.02		4.38	46.63	34.52	65.01	24.53	36.41	30.05
3/24/2003		88.87		97.33	94.65	94.45	94.52	94.05		81.73		67.18	79.09		75.26	60.64	61.38	71.64	56.74	61.58		58.78	92.24	93.60			58.74		80.03	40.76	59.05	66.36		17.08	53.74	45.28	73.41	34.46	48.05	42.04
6/10/2003		88.56		98.37	95.84	94.90	95.05	94.28				67.10	78.35	66.96	66.80		55.69	77.87	49.52	58.65		57.97	92.77	93.69			38.25		82.33	8.27	55.92	66.22		7.15	52.69	17.67	74.06	25.22	33.33	23.54
9/2/2003		92.17		100.63	97.87	96.55	96.79	96.00					77.92		64.91		47.46	74.36	42.44			53.41	94.45	96.43			41.76		76.86	6.29	44.67	59.68		-0.24	46.48	25.82	68.77	18.52	25.39	-49.65
12/8/2003				97.57	95.06	94.77	94.82	94.43					78.27		64.89		51.32		48.92			53.84	92.92	94.24			52.34		75.78	27.17	51.19	60.87		7.84	48.12	38.17	68.69	26.37	34.32	-41.25
3/5/2004		91.60		97.29	95.39	95.46	95.53	94.79		85.72		69.28	82.73		78.33	70.12	68.29	72.95	59.47	69.50		67.18	93.07	94.09	76.06		60.12		81.89	38.35	60.55	68.84		17.55	60.22	47.63	76.95	38.85	51.24	45.48
6/21/2004		91.99		100.41	96.59	95.61	95.68	95.18					78.87		66.21		49.29	75.97	39.47			54.47	94.94	96.44			36.38		78.95	4.32	44.50	61.38		-19.18	46.23	9.92	69.17	15.52	19.29	-53.10
9/20/2004		89.38		99.00	96.31	95.60	95.58	95.14					78.43		64.02		45.90	71.62				54.24	93.75	95.35			32.53		74.39	5.45	36.02	57.19		-14.33	46.35	25.95	63.19	16.21	29.51	21.28
12/22/2004				96.87	94.26	94.15	94.22	93.84					78.90		65.79		51.30		48.05			54.10	92.51	93.54			49.44		75.40	29.83	51.54	59.91		6.46	48.11	38.56	68.39	28.22	41.06	36.26
4/1/2005		89.22		96.88	94.14	94.11	94.15	93.69				67.33	80.79		76.84	62.26	61.83	70.78	57.25	63.90		61.36	92.33	93.43	71.64		57.89		80.37	37.33	58.21	66.87		14.54	54.46	46.03	73.61	35.84	42.92	-29.79
6/20/2005		92.21		100.19	97.42	96.14	96.28	95.63		81.35		65.23	78.13		66.13		52.70	76.95				56.18	94.39	95.95			42.81		82.32	4.84	50.21	64.09		-2.57	51.82	17.17	68.52	20.83	30.36	24.97
9/19/2005		91.24		100.11	97.37	96.28	96.42	95.74				65.26	77.69		64.02		46.47	75.60		58.78		50.68	94.50	96.23			28.77		76.98	8.30	40.90	59.50		-15.02	44.63	26.10	67.02	11.59	29.45	19.66

Table A2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
12/15/2005		90.96		97.35	94.76	94.53	94.58	94.22					77.74		64.27		49.60			63.57		51.39	92.74	93.95			48.97		76.16	29.97	49.42	59.82		3.69	46.16	37.37	69.02	25.45	37.31	26.64
4/28/2006		92.84		99.03	96.75	96.55	96.52	95.78		89.01	76.34	76.08	82.41	68.56	84.29	70.71	72.25	72.78	64.58	72.92		68.27	94.26	95.62	80.56		62.43		87.61	36.89	63.36	75.64		17.08	64.30	53.12	80.57	42.31	53.66	41.08
6/16/2006		92.43		102.04	97.80	96.33	96.51	95.98		86.09		71.32	78.78		71.90	55.22	60.21	77.62	52.59	58.50		61.20	94.88	96.60			47.30		87.08	-3.30	52.71	70.22		-13.87	59.27	29.38	77.84	30.07	39.86	30.29
9/8/2006		92.34		101.95	98.83	97.31	97.48	96.57					78.32		66.04		53.67	75.43				59.01	94.43	96.51			39.56		80.57	24.57	45.66	63.47		-4.40	72.02	31.66	71.15	26.14	35.13	22.29
11/30/2006		91.63		98.44	95.67	95.27	95.33	94.81					78.43		64.54		54.89		52.93			57.43	93.33	94.68			39.87		78.73	26.36	51.84	63.86		2.76	51.96	42.55	72.00	30.07	37.33	-45.54
3/21/2007		90.27		96.69	94.13	93.73	93.82	93.27					78.57		72.59		57.92		54.94	60.25		58.92	91.87	93.07			59.08		79.49	26.80	54.52	65.69		1.38	53.55	43.44	73.71	32.38	46.83	40.59
6/8/2007		90.38		99.10	94.36	93.50	93.64	92.24					78.26		64.94		50.93	76.97				56.03	93.03	93.84			25.14		78.11	0.80	42.74	60.72		-13.87	47.59	8.91	73.34	15.29	27.27	21.79
9/4/2007		91.37		99.87	97.22	95.62	95.90	94.27					77.79		63.90		45.52	73.21				56.49	93.77	94.87			32.13		74.27	17.41	32.98	56.96		-26.81	49.54	18.13	66.95	9.74	18.59	-46.31
12/21/2007		90.43		97.80	95.03	94.28	94.42	93.27					78.20		64.39		50.17			58.70		56.39	92.12	93.37			49.57		75.35	34.66	46.97	59.21		0.68	49.16	37.08	69.80	25.22	39.09	33.58
3/13/2008		91.33		98.49	95.55	94.81	94.93	93.90			64.18		79.11		74.60	56.88	57.84	70.25	55.16			59.62	93.00	94.15			57.36		81.16	29.44	55.08	66.55		5.30	54.77	43.87	77.32	50.61	64.26	42.30
7/1/2008		90.14		102.23	98.41	96.08	96.38	93.58					77.74		65.22		47.86	75.95		59.07		52.41	92.19	93.84					77.97		34.55	59.25	23.41		44.81	6.12	76.72	24.79	18.84	12.56
9/10/2008		90.60		100.74	97.54	95.29	95.58	92.93					77.58		63.91		44.42	74.82				53.98	93.26	94.00			22.18		75.15	17.13	32.34	56.87	21.16	-26.11	44.92	15.89	69.42	24.98		13.80
12/1/2008		89.87		98.72	95.75	94.35	94.56	92.68					77.44		64.21		45.26			59.03		52.74	91.54	92.44			44.12		74.68	17.83	43.18	57.15	29.52	-50.60	44.44	32.17	68.86		33.75	28.81
3/17/2009		90.41		97.50	94.73	94.06	94.17	93.02					78.79		73.34		52.69	70.05				58.03	91.87	92.75			51.48		77.83	27.86	51.47	62.42	37.05	27.02	50.86	40.47	75.39	46.51	42.94	37.97
6/16/2009		88.88		98.84	94.01	93.92	93.98	91.35					77.57		65.24			77.12		63.24		41.48	91.18	93.12					76.51	-49.64	22.77	57.63	17.48	-45.98	35.18	-5.03	64.73		3.85	-54.90
9/14/2009		88.66		98.67	95.28	93.80	94.04	90.60					77.31		63.05			71.87		59.20		36.86	90.64	93.00		66.15	5.10		73.21	-16.91	7.72	55.27	7.56	-50.14	32.40	-2.21	59.97		1.44	-4.37
12/7/2009		88.36			94.46	93.51	93.69	91.05					77.36		64.29								89.47	92.29		62.25	32.78		72.00	4.24	29.20	54.32	16.46	7.61		17.49	60.89		17.33	13.33
3/22/2010		90.19		97.86	94.46	93.76	93.90	92.31		86.22			78.48		73.13	56.16	51.95					58.89	91.65	93.33		67.55	43.02		76.41	7.62	44.69	59.84	29.50	-72.73	45.89	34.40	71.90	40.85	36.62	31.22
6/22/2010		89.78		105.69	97.47	94.83	95.06	91.69					77.26		66.33		52.98	76.33				57.77	93.34	97.44		69.08	31.48		79.54	9.86	32.37	61.04	23.74	-35.35	47.03	5.82	72.68	30.93	21.90	14.37
9/13/2010		90.38		102.09	99.07	96.35	96.63	93.11					76.71		64.09		46.86	76.21				57.60	93.98	95.62		65.29	19.91		75.91	11.40	25.54	56.85	17.11	-73.93	51.21	16.08	66.70	22.50	14.57	-33.41
12/1/2010		89.84		99.55	96.69	94.92	95.12	93.04					76.65		63.95		44.95		54.95			52.23	92.70	94.31		64.15	35.04		74.19	8.44	30.65	55.94	24.45	-56.46	41.72	28.24	65.01		29.10	23.22
4/5/2011		91.72		100.55	97.55	96.27	96.43	94.33		89.00			82.30		78.06	70.12	67.85	71.32	57.01	69.91		67.60	93.92	95.84	73.38	75.86	48.68		81.95	23.56	49.20	68.06	40.41	-14.56	60.57	44.97	76.70	51.01	41.85	-40.18
6/16/2011		90.98		104.71	100.42	96.92	97.33	93.95					77.87		72.23		58.31	76.98		59.63		60.36	95.05	97.75		74.53	25.32		83.93	18.74	67.84	67.31	36.23	-53.88	54.70	23.28	79.61		34.12	24.33
9/12/2011		91.08		103.14	99.59	96.47	96.81	93.86					77.72		66.09		51.54	75.97				58.95	95.71	98.14		68.40	3.43		79.04	5.62	23.66	62.00	27.92	-84.09	54.68	26.85	67.83		30.78	21.71
12/6/2011		90.74		100.03	100.27	95.22	95.42	93.54					77.56		64.56		51.48	75.45				58.25	94.57	95.98		66.66	33.49		76.26	5.78	37.66	61.62	35.23	-62.84	50.80	38.78	68.90	43.55	35.21	-39.97
3/29/2012		90.54		98.03	95.52	94.45	94.56	93.19					79.76		74.12		58.25	73.40		62.98		60.71	93.70	94.72		68.71	40.58		77.23	27.02	44.81	63.75	39.53	-59.13	52.41	41.53	70.85	48.52	44.71	38.97
8/3/2012		91.33		103.05	98.82	96.19	96.47	93.69					77.49		64.71		47.63					53.00	96.13	98.71		64.79	7.18		75.94	-3.12	18.21	58.31	17.75	-83.43	48.72	7.41	65.49		16.98	8.38
9/10/2012		91.36		102.58	98.72	96.03	96.31	93.36					77.18		61.85		45.08	75.19				55.47	96.16	98.42		63.28	8.48		74.69	4.67	17.89	55.84	17.35	-82.23	46.19	14.74	64.77	21.96	12.70	-48.96
1/25/2013		92.37		100.16	97.02	95.39	95.60	93.89					78.22		73.59		55.59					58.29	91.55	92.87		66.86	39.38		77.64	20.33	38.50	61.82	35.25	-48.73	51.35	38.84	70.99	34.85		-44.10
4/15/2013		90.76		99.61	96.34	94.67	94.89	92.95					77.52		70.13		56.86	75.94				57.63	90.99	91.94		68.11	26.08		78.23	4.19		63.57	35.75	-66.53	50.38	32.04	70.41		38.57	28.64
7/12/2013		90.87		102.50	98.30	95.73	96.10	93.14					76.78		63.40		47.78	75.20				43.24	92.27	94.45		64.83	-13.82		76.33	-30.82		57.32	16.85	-88.63	38.80	-1.36	63.66		12.80	6.02
9/12/2013		91.04		101.81	98.12	95.70	96.02	93.13					76.69		63.74		46.24	74.24				52.15	92.27	94.17		63.98	-13.02		75.41	-24.50		55.57	14.55	-89.43	41.25	10.91	63.11		15.33	8.04
12/16/2013		90.05		98.82	95.72	94.62	94.79	93.13					77.00		63.96		44.52					26.92	89.57	90.86		63.98	6.78		75.13	-2.12		55.44	22.15	-79.93		23.79	64.36	26.08	26.82	19.64
6/2/2014		88.82		97.33	94.12	93.25	93.48	91.19					76.41		62.61			71.23					87.64	89.19		64.14	<-180.12		72.50	-28.42		55.10	12.15	-46.93		-3.90	63.77		4.41	-51.02
8/20/2014		88.07		97.47	94.08		93.35	90.77					74.76										86.28	88.57		60.67	36.76		68.08	-9.94		52.11	-9.45	-88.03		-23.57	56.41		-16.17	-22.16
10/6/2014		87.76		97.08	94.16		93.25	90.77					74.37					71.63					85.70	88.36		59.71	36.48		67.49	-4.49		51.54	-6.15			-13.75	63.19		-12.07	-16.86
12/23/2014		90.43		96.60	94.33	94.72	94.72	93.73		87.58			79.86				51.09			62.30		56.68	87.74	89.06	98.50	61.70	32.79		71.76	-15.69		53.77	3.75			2.33	62.80		5.39	1.46
2/6/2015	--		--			--			--		--	--									--							--			--							--		
3/20/2015		88.81		96.79	95.73	93.50	93.63	92.47					77.52		65.41		46.42	74.64				46.48	87.12	88.94		64.67	35.98		73.53	7.38		55.68			41.02	20.02	64.33		25.86	19.61
7/20/2015		91.63		100.91	96.95	94.76	95.05	92.03					77.52		64.69		45.50					36.06	92.16	94.06		64.38	-5.37		74.73	-33.14		55.61	-0.65			-23.48	61.75		-41.50	
10/15/2015		90.69		99.73	96.18	94.78	94.92	92.52					76.32										90.38	91.87		63.00	-16.44		71.71	-52.17		53.19	-1.89	-89.43		-11.46	61.33		-11.47	

Table A3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

												Alkalinity				Total						Coliform		
Sampling Point	**Date**	**pH** (standard pH-units)	**TDS**	**EC** (µS/cm)	**Na**	**Ca**	**Mg**	**K**	**Cl**	**SO4**	**F**	**HCO3** as CaCO3	**CO3** as CaCO3	**OH** as CaCO3	**Total** as CaCO3	**Hardness** as CaCO3	**NO3** as NO3	**NO2** as N	**BOD**	**Total P**	**MBAS**	**Total** (MPN/100 mL)	**Fecal** (MPN/100 mL)	**E. Coli** (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-1A	9/16/2005	7.15	**800**	**1,300**	99	72	100	<1.0	45	78	0.68	640	<5.0	<5.0	640	610	27	-	-	-	-	<2	<2	-
TA-1A	1/11/2006	7.29	**730**	**1,200**	99	62	94	<1.0	28	60	0.66	620	<5.0	<5.0	620	540	16	-	-	-	-	<2	<2	-
TA-1A	3/28/2006	7.20	**740**	**1,200**	99	64	96	<1.0	17	63	0.78	610	<5.0	<5.0	610	560	13	-	-	-	-	<2	<2	-
TA-1A	9/5/2006	7.15	**780**	**1,200**	140	72	98	1.6	27	60	0.68	670	<5.0	<5.0	670	580	15	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	3/19/2007	7.06	**710**	**1,200**	99	63	96	1.0	24	65	0.63	650	<5.0	<5.0	650	550	14	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	9/5/2007	7.10	**520**	**910**	73	48	72	<1.0	29	27	0.73	480	<5.0	<5.0	480	420	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	3/10/2008	7.00	**510**	870	64	48	70	<1.0	27	38	0.66	420	<5.0	<5.0	420	410	3.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	9/11/2008	7.01	460	770	57	44	64	<1.0	27	19	0.60	420	<5.0	<5.0	420	370	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	9/15/2009	6.98	**520**	**900**	57	52	77	<1.0	28	34	0.34	460	<5.0	<5.0	460	450	4.9	-	-	-	-	13	<1.8	<1.8
TA-1A	3/24/2010	7.12	**520**	870	62	42	70	<1.0	36	66	0.66	400	<5.0	<5.0	400	390	7.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	4/7/2011	7.03	**700**	**1,200**	86	56	93	<1.0	43	80	0.57	570	<5.0	<5.0	570	520	9.3	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	5/1/2012	7.68	**790**	870	100	66	100	<1.0	39	74	0.67	680	<5.0	<5.0	680	580	7.7	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	4/16/2013	7.26	**670**	**1,200**	85	57	96	<1.0	39	29	0.65	620	<5.0	<5.0	620	570	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	6/3/2014	7.24	**740**	**1,400**	84	65	87	<1.0	31	53	0.66	750	<5.0	<5.0	750	520	3.5	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	3/27/2015	7.10	**870**	**1,400**	97	63	79	<1.0	41	110	0.93	640	<5.0	<5.0	640	490	2.2	-	8.3	0.14	-	7.8	<1.8	<1.8
TA-3A	9/16/2005	8.45	410	660	66	33	40	1.9	31	48	0.47	240	14	<5.0	250	250	34	-	-	-	-	<2	<2	-
TA-3A	3/28/2006	*Well goes dry during purging. No sample retrieved.*																						
TA-3A	9/5/2006	*Well goes dry during purging. No sample retrieved.*																						
TA-3A	9/6/2007	7.56	**750**	**1,200**	80	74	110	1.0	29	51	0.54	620	<5.0	<5.0	620	620	23	-	-	-	-	23	<1.8	<1.8
TA-5A	11/6/1995	7.7	**630**	**1,200**	75	77	73	2.3	57	85	0.31	-	-	-	410	520	**63**	ND	-	-	-	ND	ND	-
TA-5A	3/19/2007	6.96	**690**	**1,100**	77	81	86	2.2	23	47	0.32	620	<5.0	<5.0	620	560	19	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	3/10/2008	7.03	**680**	**1,100**	72	84	86	2.2	34	52	0.40	540	<5.0	<5.0	540	570	16	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	9/11/2008	7.13	**720**	**1,100**	74	90	89	2.2	38	68	0.36	570	<5.0	<5.0	570	590	21	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	9/15/2009	7.13	**710**	**1,200**	78	88	93	2.2	42	67	0.23	600	<5.0	<5.0	600	610	23	-	-	-	-	2.0	<1.8	<1.8
TA-5A	3/24/2010	7.17	**720**	**1,200**	73	78	87	2.1	62	71	0.38	540	<5.0	<5.0	540	550	18	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	4/7/2011	7.16	**640**	**1,100**	67	75	83	1.9	39	62	0.31	530	<5.0	<5.0	530	530	35	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	5/1/2012	7.25	**650**	**1,100**	68	75	83	1.9	31	56	0.39	600	<5.0	<5.0	600	530	24	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	4/16/2013	7.26	**710**	**1,300**	65	85	100	1.9	43	73	0.41	600	<5.0	<5.0	600	620	22	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	6/3/2014	7.33	**700**	**1,300**	66	82	78	2.1	39	64	0.52	580	<5.0	<5.0	580	530	18	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	3/27/2015	7.29	**760**	**1,300**	71	77	69	1.6	45	64	0.65	550	<5.0	<5.0	550	480	15	-	5.0	2.0	-	46	<1.8	<1.8
TA-9R	Spring '92	7.7	**890**	**1,270**	97.4	82	64.8	-	130	92.4	0.13	487	ND	ND	487	380	25	-	-	-	0.06	-	-	-
TA-9R	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	ND	-
TA-13A	11/7/1995	7.8	270	620	38	37	32	2.7	34	23	0.17	-	-	-	230	230	5	ND	-	-	-	ND	ND	-
TA-13A	7/23/1997	7.8	409	639	40	50	40	2.9	29	41	0.26	274	ND	-	274	288	7.3	-	-	-	-	23	ND	-
TA-13A	3/5/1998	7.6	248	387	17	38	28	2.2	11	21	0.16	201	ND	-	201	185	ND	-	-	-	-	2	ND	-
TA-13A	9/29/1998	7.6	324	507	27	37	29	2.6	23	26	0.17	206	ND	-	208	212	3.9	-	-	-	-	ND	ND	-
TA-13A	4/29/1999	7.4	275	430	26	42	31	4.2	20	30	0.16	214	ND	-	214	231	2.9	-	-	-	-	4	ND	-
TA-13A	4/19/2000	7.8	330	540	37	45	33	2.8	36	35	0.13	210	ND	-	210	250	5.9	-	-	-	-	ND	ND	-

Table A3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total (MPN/100 mL)	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-13A	5/7/2001	7.6	400	690	54	49	40	2.7	69	57	0.13	220	ND	-	220	290	14	-	-	-	-	ND	ND	-
TA-13A	5/7/2002	7.6	420	690	52	56	45	2.4	57	43	0.11	240	ND	ND	240	320	13	-	-	-	-	ND	ND	-
TA-13A	4/9/2003	7.71	350	600	42	51	41	2.6	39	38	ND	270	ND	ND	270	290	6.6	-	-	-	-	13	ND	ND
TA-13A	9/15/2003	7.58	350	550	42	41	32	2.4	33	27	0.18	250	ND	ND	250	240	10	-	-	-	-	ND	ND	ND
TA-13A	4/14/2004	7.51	310	510	30	44	32	1.6	31	33	0.17	240	ND	ND	240	240	3.1	-	-	-	-	2.0	ND	ND
TA-13A	9/28/2004	7.50	350	610	49	49	38	3.0	35	30	0.28	260	ND	ND	260	280	11	-	-	-	-	ND	ND	ND
TA-13A	4/14/2005	7.50	360	560	41	46	36	2.3	35	36	0.15	250	<5.0	<5.0	250	270	4.2	-	-	-	-	13	2.0	2.0
TA-13A	9/15/2005	7.49	360	640	51	48	38	2.7	38	34	0.16	280	<5.0	<5.0	280	280	16	-	-	-	-	<2	<2	-
TA-13A	3/28/2006	7.46	220	370	18	36	24	2.3	11	17	0.16	180	<5.0	<5.0	180	190	<2.0	-	-	-	-	130	<2	-
TA-13A	9/11/2006	7.13	370	610	31	50	32	3.3	36	40	0.15	260	<5.0	<5.0	260	260	13	-	-	-	-	>1,600	920	280
TA-13A	3/20/2007	7.13	380	710	56	48	39	2.6	67	42	0.12	240	<5.0	<5.0	240	280	8.4	-	-	-	-	<1.8	<1.8	<1.8
TA-13A	9/5/2007	7.41	320	590	47	40	32	2.7	29	26	0.17	250	<5.0	<5.0	250	230	7.5	-	-	-	-	<1.8	<1.8	<1.8
TA-13A	3/12/2008	7.21	300	510	33	41	29	2.5	33	31	0.16	190	<5.0	<5.0	190	220	6.5	-	-	-	-	170	7.8	4.5
TA-13A	9/15/2009	*Insufficient water in well. No sample retrieved.*																						
TA-13A	3/23/2010	7.37	400	700	53	42	36	2.3	60	50	0.13	220	<5.0	<5.0	220	250	3.7	-	-	-	-	2.0	<1.8	<1.8
TA-13A	9/16/2010	*Biennial sampling conducted in March 2010*																						
TA-13A	4/4/2012	7.62	410	730	70	54	44	2.8	79	37	0.17	230	<5.0	<5.0	230	320	6.4	-	<3.0	<0.050	-	<1.8	<1.8	<1.8
TA-13A	9/12/2012	*Biennial sampling conducted in April 2012*																						
TA-13A	6/2/2014	*Well dry. No sample retrieved.*																						
TA-13A	10/6/2014	*Well dry. No sample retrieved.*																						
TA-13A	3/27/2015	*Insufficient water in well. No sample retrieved (followup attempt to sample since well was dry in 2014)*																						
TA-14	3/1/1992	7.9	481	614	36.8	42.7	33	-	41.6	26.9	0.25	291	ND	ND	291	252	7	-	-	-	ND	-	-	-
TA-14	7/23/1997	7.7	278	435	34	34	26	1.1	18	17	0.38	218	ND	-	218	191	1.6	-	-	-	-	ND	ND	-
TA-14	3/5/1998	8	260	407	32	34	29	3	18	16	0.3	202	ND	-	201	203	2.3	-	-	-	-	ND	ND	-
TA-14	9/29/1998	7.8	297	464	30	34	25	1.2	18	20	0.31	199	ND	-	196	188	1.4	-	-	-	-	4	2	-
TA-14	4/29/1999	7.4	268	418	29	37	27	1.1	22	19	0.24	204	ND	-	204	201	4	-	-	-	-	17	ND	-
TA-14	9/14/1999	7.7	288	426	30	31	24	1.1	17	15	0.27	196	ND	-	196	178	ND	-	-	-	-	17	9	-
TA-14	4/19/2000	7.7	270	430	35	34	25	1.4	16	18	0.22	200	ND	-	200	190	3	-	-	-	-	4	4	-
TA-14	9/19/2000	7.9	270	440	33	32	25	1	13	15	0.16	190	ND	-	190	180	ND	-	-	-	-	ND	ND	-
TA-14	5/7/2001	7.7	250	430	34	34	26	1.1	15	15	0.23	180	ND	-	180	140	3.3	-	-	-	-	17	2	-
TA-14	9/20/2001	7.5	280	450	34	33	25	1.2	14	13	0.18	200	ND	-	200	180	ND	-	-	-	-	ND	ND	-
TA-14	5/7/2002	7.7	270	400	34	36	27	1.2	16	13	0.2	190	ND	ND	190	200	3	-	-	-	-	2	2	-
TA-14	9/25/2002	7.5	270	440	32	38	27	1.1	15	11	0.39	200	ND	ND	200	210	ND	-	-	-	-	ND	ND	-
TA-14	9/15/2003	7.62	270	430	29	34	24	1.5	16	12	0.29	210	ND	ND	210	190	ND	-	-	-	-	17	ND	ND
TA-14	4/14/2004	7.77	260	420	27	35	25	ND	19	13	0.32	220	ND	ND	220	190	3.9	-	-	-	-	14	6.0	6.0
TA-14	9/28/2004	*Well goes dry during purging. No sample retrieved.*																						
TA-14	4/14/2005	*Well goes dry during purging. No sample retrieved.*																						
TA-14	9/15/2005	7.44	280	450	30	38	27	1.0	18	14	0.26	210	<5.0	<5.0	210	210	<2.0	-	-	-	-	4.0	<2	-
TA-14	4/26/2006	7.59	280	440	29	38	28	1.0	18	14	0.26	220	<5.0	<5.0	220	210	3.7	-	-	-	-	13	13	13
TA-14	9/11/2006	7.37	260	440	33	34	24	1.3	18	15	0.24	240	<5.0	<5.0	240	180	<2.0	-	-	-	-	2.0	2.0	2.0

Table A3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total (MPN/100 mL)	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-14	3/20/2007	*Well is dry. No sample retrieved.*																						
TA-14	9/6/2007	7.30	230	450	29	36	27	1.2	18	15	0.26	210	<5.0	<5.0	210	200	2.3	-	-	-	-	<1.8	<1.8	<1.8
TA-14	3/12/2008	*Well goes dry during purging. No sample retrieved.*																						
TA-14	9/11/2008	*Insufficient water in well. No sample retrieved.*																						
TA-14	9/15/2009	*Insufficient water in well. No sample retrieved.*																						
TA-14	3/22/2010	*Well is dry. No sample retrieved. Biennial sampling conducted in September 2010*																						
TA-14	9/16/2010	7.39	310	530	33	44	36	1.4	23	19	0.22	220	<5.0	<5.0	220	260	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-14	4/4/2012	*Insufficient water in well. No sample retrieved.*																						
TA-14	9/12/2012	*Insufficient water in well. No sample retrieved.*																						
TA-14	6/2/2014	*Insufficient water in well. No sample retrieved.*																						
TA-14	10/6/2014	*Insufficient water in well. No sample retrieved.*																						
TA-14	3/27/2015	*Insufficient water in well. No sample retrieved (followup attempt to sample since well water level was too low to sample in 2014)*																						
TA-17	Spring '92	7.7	477	618	46.3	37.1	30.7	-	44.8	36.8	0.14	275	ND	ND	275	202	4	-	-	-	ND	-	-	-
TA-25	9/15/2009	7.65	430	730	54	56	42	3.5	55	64	<0.10	270	<5.0	<5.0	270	320	9.7	-	-	-	-	4.5	<1.8	<1.8
TA-25	3/23/2010	7.48	470	800	53	55	44	2.6	48	52	0.13	310	<5.0	<5.0	310	320	7.4	-	-	-	-	<1.8	<1.8	<1.8
TA-25	9/14/2010	7.55	**500**	840	66	68	59	3.1	52	54	0.16	310	<5.0	<5.0	310	410	8.9	-	-	-	-	<1.8	<1.8	<1.8
TA-25	4/7/2011	7.58	460	840	53	61	47	2.4	59	60	0.10	350	<5.0	<5.0	350	350	7.5	-	-	-	-	<1.8	<1.8	<1.8
TA-25	9/15/2011	7.62	**500**	810	65	72	53	2.7	64	57	<0.10	340	<5.0	<5.0	340	400	6.5	-	-	-	-	<1.8	<1.8	<1.8
TA-25	5/1/2012	7.32	480	840	59	67	51	2.8	56	55	0.13	360	<5.0	<5.0	360	380	5.7	-	-	-	-	<1.8	<1.8	<1.8
TA-25	9/12/2012	7.54	**570**	**950**	68	84	61	3.1	66	62	0.18	350	<5.0	<5.0	350	460	8.1	-	-	-	-	<1.8	<1.8	<1.8
TA-25	4/16/2013	7.56	470	840	55	58	49	2.5	57	56	0.15	330	<5.0	<5.0	330	350	11	-	-	-	-	<1.8	<1.8	<1.8
TA-25	6/2/2014	7.75	**520**	**900**	57	65	47	2.6	55	49	0.18	280	<5.0	<5.0	280	360	9.4	-	-	-	-	<1.8	<1.8	<1.8
TA-25	3/26/2015	7.46	**570**	**1,000**	58	66	38	2.1	65	47	0.25	370	<5.0	<5.0	370	320	7.8	-	-	-	-	<1.8	<1.8	<1.8
Plant Dom	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	-
Stephens	9/16/2009	7.31	**630**	**1,100**	110	71	63	2.9	75	73	<0.10	420	<5.0	<5.0	420	440	40	-	-	-	-	7.8	<1.8	<1.8
Stephens	3/24/2010	7.13	**620**	**1,100**	96	68	57	2.6	68	77	0.12	370	<5.0	<5.0	370	400	36	-	-	-	-	2.0	<1.8	<1.8
Stephens	9/14/2010	7.16	**570**	**900**	93	59	56	2.7	52	53	0.16	340	<5.0	<5.0	340	380	25	-	-	-	-	<1.8	<1.8	<1.8
Stephens	4/7/2011	*Farmers's crop growing around the wellhead; difficult access. No sample retrieved.*												-	-			-	-	-	-	-	-	-
Stephens	9/21/2011	7.35	470	820	81	56	44	2.6	51	50	0.11	300	<5.0	<5.0	300	320	10	-	-	-	-	<1.8	<1.8	<1.8
Stephens	4/5/2012	7.72	**630**	**1,000**	100	80	68	2.1	75	73	0.23	370	<5.0	<5.0	370	480	34	-	-	-	-	<1.8	<1.8	<1.8
Stephens	9/12/2012	7.67	**570**	**990**	110	60	55	3.3	70	59	0.21	350	<5.0	<5.0	350	380	7.7	-	-	-	-	7.8	<1.8	<1.8
Stephens	4/17/2013	7.62	**540**	**980**	82	49	55	2.3	71	64	0.12	340	<5.0	<5.0	340	350	15	-	-	-	-	13	<1.8	<1.8
Stephens	6/2/2014	7.53	**510**	**970**	70	51	47	1.9	58	37	0.19	380	<5.0	<5.0	380	320	2.1	-	-	-	-	2.0	<1.8	<1.8
Stephens	3/26/2015	7.41	**570**	**1,100**	86	52	40	2.0	76	52	0.26	380	<5.0	<5.0	380	290	3.9	-	-	-	-	<1.8	<1.8	<1.8
TA-18	9/11/2012	7.64	340	570	56	41	34	3.1	26	25	0.21	280	<5.0	<5.0	280	240	6.8	-	-	-	-	<1.8	<1.8	<1.8
TA-18	4/16/2013	7.68	410	790	60	47	47	2.5	64	41	0.13	290	<5.0	<5.0	290	190	17	-	-	-	-	<1.8	<1.8	<1.8

Table A3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total (MPN/100 mL)	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-18	9/11/2013	7.76	320	630	53	37	33	3.1	34	26	0.12	250	<5.0	<5.0	250	230	4.5	-	-	-	-	<1.8	<1.8	<1.8
TA-18	6/2/2014	*Well is dry. No sample retrieved.*																						
TA-18	10/6/2014	*Well is dry. No sample retrieved.*																						
TA-18	3/26/2015	7.70	470	870	74	57	33	2.1	89	50	0.26	270	<5.0	<5.0	270	310	3.7	-	-	-	-	<1.8	<1.8	<1.8
Schwarzgruber	9/11/2012	7.44	420	660	59	58	45	3.3	58	36	0.19	280	<5.0	<5.0	280	330	4.7	-	-	-	-	79	<1.8	<1.8
Schwarzgruber	4/16/2013	7.43	350	670	49	45	40	2.8	50	37	0.11	270	<5.0	<5.0	270	280	7.9	-	-	-	-	<1.8	<1.8	<1.8
Schwarzgruber	9/11/2013	7.51	360	760	53	47	37	2.8	52	38	<0.10	260	<5.0	<5.0	260	270	8.4	-	-	-	-	4.5	<1.8	<1.8
Schwarzgruber	6/2/2014	*Well is dry. No sample retrieved.*																						
Schwarzgruber	10/6/2014	*Well is dry. No sample retrieved.*																						
Schwarzgruber	3/26/2015	7.51	420	770	48	46	31	2.1	55	34	0.24	270	<5.0	<5.0	270	250	10	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)	9/11/2012	7.47	420	720	57	56	43	3.0	49	35	0.17	320	<5.0	<5.0	320	320	10	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)	6/2/2014	7.80	440	800	56	51	41	2.9	46	36	0.12	290	<5.0	<5.0	290	300	13	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)	3/26/2015	7.61	440	810	50	47	32	2.1	53	39	0.25	290	<5.0	<5.0	290	250	11	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	9/11/2012	7.51	440	740	61	57	44	3.1	56	37	0.18	250	<5.0	<5.0	250	320	11	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	6/2/2014	7.59	440	790	58	53	42	2.7	48	37	0.14	290	<5.0	<5.0	290	300	14	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	3/26/2015	7.62	470	850	54	49	33	2.1	60	37	0.25	310	<5.0	<5.0	310	260	12	-	-	-	-	<1.8	<1.8	<1.8
Muller Pond	4/14/2005	8.47	360	580	44	38	40	2.3	48	40	0.15	230	8.8	<5.0	240	260	3.8	-	-	-	-	900	50	50
Muller Pond	9/15/2005	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/29/2006	8.30	280	500	37	36	31	2.2	28	26	0.15	210	<5.0	<5.0	210	220	6.2	-	-	-	-	80	8.0	-
Muller Pond	9/11/2006	**8.61**	320	550	56	25	37	3.6	36	36	0.17	270	<5.0	<5.0	270	210	<2.0	-	-	-	-	240	240	240
Muller Pond	3/20/2007	8.23	340	670	48	39	43	2.9	50	38	0.12	250	<5.0	<5.0	250	280	6.2	-	-	-	-	350	14	14
Muller Pond	9/7/2007	**8.89**	460	820	88	8.5	63	4.9	83	51	0.24	210	68	<5.0	280	280	<2.0	-	-	-	-	79	27	22
Muller Pond	3/11/2008	8.34	310	570	40	36	33	2.1	40	31	0.16	200	<5.0	<5.0	200	230	9.7	-	-	-	-	130	2.0	2.0
Muller Pond	9/11/2008	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/17/2009	8.45	430	760	50	38	40	2.3	66	42	0.16	240	13	<5.0	260	260	16					220	2.0	2.0
Muller Pond	9/16/2009	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/25/2010	**8.66**	260	620	47	33	43	3.0	49	38	0.12	190	22	<5.0	220	260	<2.0	-	-	-	-	1,600	46	33
Muller Pond	9/15/2010	**9.60**	370	690	94	4.6	44	2.6	80	43	0.14	78	110	<5.0	190	190	<2.0	-	-	-	-	920	280	350
Muller Pond	4/4/2012	8.37	400	680	65	41	52	2.7	74	37	0.16	240	<5.0	<5.0	240	320	4.0	-	<3.0	<0.050	-	540	350	79
Muller Pond	6/4/2014	*Pond is Dry. No sample retrieved.*																						
Muller Pond	10/6/2014	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/27/2015	*Pond is Dry. No sample retrieved (followup attempt to sample since pond was dry in 2014).*																						
Coors Pond	9/7/2007	**8.67**	**660**	**1,000**	100	19	100	1.6	38	75	0.64	450	83	<5.0	540	480	<2.0	-	-	-	-	110	33	33
Coors Pond	3/11/2008	**8.60**	300	530	40	26	43	<1.0	12	25	0.52	230	30	<5.0	260	240	3.3	-	-	-	-	4.0	2.0	2.0
Coors Pond	9/11/2008	**8.52**	**650**	**1,100**	110	28	94	<1.0	38	63	0.79	490	44	<5.0	530	460	3.4	-	-	-	-	79	79	26
Coors Pond	3/17/2009	**8.93**	410	690	66	17	48	<1.0	27	49	0.52	210	110	<5.0	310	240	<2.0	-	-	-	-	23	<1.8	<1.8

Table A3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total (MPN/100 mL)	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
Coors Pond	9/16/2009	**8.63**	**720**	**1,200**	150	19	110	<1.0	44	84	0.65	550	44	<5.0	590	480	2.0	-	-	-	-	79	33	33
Coors Pond	3/25/2010	**8.85**	280	690	76	20	54	<1.0	25	42	0.49	250	51	<5.0	300	270	<2.0	-	-	-	-	4.5	<1.8	<1.8
Coors Pond	9/15/2010	**8.70**	**790**	**1,300**	130	16	120	<1.0	38	78	0.68	550	110	<5.0	660	550	<2.0	-	-	-	-	31	13	13
Coors Pond	4/6/2011	**8.80**	**530**	**910**	90	20	90	<1.0	35	58	0.40	370	79	<5.0	450	420	<2.0	-	-	-	-	7.8	<1.8	<1.8
Coors Pond	9/12/2011	**8.89**	**830**	**1,300**	150	13	130	<1.0	45	88	0.65	490	140	<5.0	630	570	<2.0	-	-	-	-	170	6.8	6.8
Coors Pond	3/29/2012	8.49	**770**	**1,300**	130	27	110	<1.0	45	78	0.59	560	48	<5.0	610	530	<2.0	-	-	-	-	25	<1.8	<1.8
Coors Pond	9/10/2012	8.28	**900**	**1,500**	150	38	120	<1.0	47	67	0.78	710	84	<5.0	790	600	<2.0	-	-	-	-	>1600	920	280
Coors Pond	4/17/2013	8.36	**500**	**900**	82	33	67	1.5	29	39	0.41	410	21	<5.0	440	360	<2.0	-	-	-	-	110	33	33
Coors Pond	9/11/2013	**8.74**	**760**	**1,300**	130	17	120	<1.0	44	63	0.56	520	88	<5.0	600	530	<2.0	-	-	-	-	>1600	170	70
Coors Pond	6/2/2014	**8.97**	**790**	**1,400**	130	15	110	<1.0	44	63	0.66	230	66	<5.0	300	480	<2.0	-	-	-	-	170	33	33
Coors Pond	10/6/2014	**9.03**	**910**	**1,600**	150	16	130	2.5	59	72	0.74	610	170	<5.0	790	560	<2.0	-	-	-	-	540	23	13
Coors Pond	3/27/2015	*Wet-pit filled in. No sample retrieved, or to be retrieved in future.*																						
Storz Pond	4/6/2011	8.17	490	870	76	55	51	2.3	59	56	0.10	330	<5.0	<5.0	330	350	24	-	-	-	-	23	2.0	2.0
Storz Pond	9/12/2011	**8.95**	420	740	80	22	57	2.4	54	50	<0.10	230	48	<5.0	280	290	<2.0	-	-	-	-	540	6.8	4.5
Storz Pond	3/29/2012	7.97	**670**	**1,100**	93	66	63	2.6	75	73	0.19	420	<5.0	<5.0	420	420	35	-	-	-	-	70	7.8	7.8
Storz Pond	9/10/2012	7.95	**590**	**980**	81	48	55	2.4	62	57	0.16	420	<5.0	<5.0	420	340	11	-	-	-	-	22	<1.8	<1.8
Storz Pond	4/17/2013	8.14	**520**	**940**	85	42	57	2.2	61	55	0.11	380	<5.0	<5.0	380	340	13	-	-	-	-	350	4.0	4.0
Storz Pond	9/11/2013	**8.99**	460	870	94	16	53	1.9	77	52	<0.10	200	69	<5.0	270	260	<2.0	-	-	-	-	220	110	110
Storz Pond	6/2/2014	**9.28**	440	780	77	12	55	<1.0	63	42	0.11	200	90	<5.0	290	260	<2.0	-	-	-	-	140	17	17
Storz Pond	10/6/2014	7.72	**540**	**1,000**	83	50	49	3.0	73	51	0.16	350	<5.0	<5.0	350	330	5.1	-	-	-	-	140	17	6.8
Storz Pond	3/26/2015	7.59	**600**	**1,100**	87	54	43	1.4	83	52	0.27	400	<5.0	<5.0	400	320	<2.0	-	-	-	-	430	13	13
Storz Pond	10/28/2015	**8.83**	**480**	890	86	9	48	1.7	70	37	<0.10	250	49	<5.0	300	220	<2.0	-	-	-	-	23	<1.8	<1.8

Beginning in 2005, all non-detected (ND) values are given as "<reporting limit".

1. Maximum Contaminant Levels for drinking water standards; *italic font style* indicates secondary, i.e., consumer acceptance limits. For EC, TDS, chloride, and sulfate, the recommended (lower) values are given. Measured constituent concentrations at or exceeding the MCL are highlighted with bold font style.

Table A3
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
TA-1A	9/16/2005	-	<0.050	<0.0050	0.230	<0.010	0.012	<0.010	<0.100	<0.00020	<0.020	<0.0050	0.0050	<0.020	**28**	-	-	-	<0.3 - <5	<0.13 - <0.5	880	330[9]	<0.50
TA-1A	1/11/2006	-	<0.050	<0.0050	0.230	<0.010	0.013	<0.010	<0.100	<0.00020	**0.058**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.50 - <5.0	<50[10]	<100	<0.50
TA-1A	3/28/2006	-	<0.050	<0.0050	0.230	<0.010	<0.010	<0.010	<0.100	<0.00020	**0.055**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.25	<50	<100	<0.50
TA-1A	9/5/2006	-	<0.050	<0.0050	0.240	<0.010	**0.095**	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/19/2007	-	<0.050	<0.0050	0.220	<0.010	0.018	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	9/5/2007	-	<0.050	<0.0050	0.170	<0.010	<0.010	<0.010	0.210	<0.00020	**0.062**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/10/2008	-	<0.050	<0.0050	0.180	<0.010	0.018	<0.010	<0.100	<0.00020	**0.059**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	9/11/2008	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	0.037	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	9/15/2009	-	0.120	<0.0050	0.190	<0.010	<0.010	<0.010	0.140	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**5.8**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/24/2010	-	<0.050	<0.0050	0.150	<0.010	<0.010	<0.010	<0.100	<0.00020	0.031	<0.0050	<0.0050	<0.020	0.51	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	4/7/2011	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	0.160	<0.00020	**0.190**	<0.0050	<0.0050	<0.020	0.98	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	5/1/2012	-	<0.050	<0.0050	0.230	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.2	<0.2 - <250	<50	<50	<0.50 - 1.6[17a]
TA-1A	6/6/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.50 - <1.0[17b]
TA-1A	4/16/2013	-	<0.050	<0.0050	0.190	<0.010	0.010	<0.010	0.150	<0.00020	**0.130**	<0.0050	<0.0050	<0.020	0.93	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	6/3/2014	-	<0.050	<0.0050	0.260	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.074	0.90	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/27/2015	*No metals or organics analyses required under post-reclamation conditions; turbidity not analyzed*													-								
TA-3A	9/16/2005	-	<0.050	<0.0050	0.140	<0.010	0.046	0.011	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**170**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-3A	3/28/2006	*Well goes dry during purging. No sample retrieved.*																					
TA-3A	9/5/2006	*Well goes dry during purging. No sample retrieved.*																					
TA-3A	9/6/2007	-	0.200	<0.0050	0.280	<0.010	0.030	0.012	0.290	<0.00020	<0.020	<0.0050	<0.0050	0.028	**12**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	11/6/1995	ND	ND	ND	0.21	ND	ND	ND	ND	ND	0.003	ND	ND	ND	0.9	-	ND	-	ND	ND	ND	-	ND
TA-5A	3/19/2007	-	0.053	<0.0050	0.220	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.5	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	3/10/2008	-	0.054	<0.0050	0.210	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	9/11/2008	-	0.076	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.4	-	-	-	<0.05 - <0.1	2.1[11]	<50	<50	<0.50 - <1.0
TA-5A	9/15/2009	-	<0.050	<0.0050	0.220	<0.010	0.013	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.9	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	3/24/2010	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	4/7/2011	-	0.110	<0.0050	0.180	<0.010	0.017	<0.010	0.130	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	5/1/2012	-	0.074	<0.0050	0.180	<0.010	0.016	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.70	-	-	-	<0.05 - <0.2	<0.2 - <250	<50	<50	<0.50 - 0.71[17a]
TA-5A	6/6/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.50 - <1.0[17b]
TA-5A	4/16/2013	-	0.08	<0.0050	0.200	<0.010	0.011	0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.73	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	6/3/2014	-	0.99	<0.0050	0.220	<0.010	0.016	<0.010	2.100	<0.00020	0.033	<0.0050	<0.0050	0.076	13	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	3/27/2015	*No metals or organics analyses required under post-reclamation conditions; turbidity not analyzed*													-								
TA-9R	Spring '92	ND	0.16	ND	0.31	ND	ND	ND	0.21	ND	ND	ND	ND	ND	-	N.D.	-	-	-	-	-	-	-
TA-9R	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	-	-	-	ND	ND	ND	-	ND
TA-13A	11/7/1995	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	-	ND	-	ND	ND	ND	-	ND
TA-13A	7/23/1997	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	-	-	-	ND	ND	ND	ND	ND
TA-13A	3/5/1998	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	0.022	-	-	-	-	ND	ND	ND	ND	ND
TA-13A	9/29/1998	ND	ND	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/29/1999	ND	ND	ND	0.14	ND	ND	ND	ND	ND	0.043	ND	ND	ND	-	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/19/2000	-	ND	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	-	-	-	ND	ND	ND	ND	ND
TA-13A	5/7/2001	-	ND	ND	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	5/7/2002	-	ND	ND	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND

Table A3
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
TA-13A	4/9/2003	-	ND	ND	0.160	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	-	-	-	ND	ND	ND	ND	ND
TA-13A	9/15/2003	-	ND	ND	0.120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/14/2004	-	ND	ND	0.140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	9/28/2004	-	ND	ND	0.170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/14/2005	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-13A	9/15/2005	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-13A	3/28/2006	-	<0.050	<0.0050	0.110	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.25	<50	<100	<0.50
TA-13A	9/11/2006	-	<0.050	<0.0050	0.180	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.1	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	390	<0.50 - <1.0
TA-13A	9/28/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-
TA-13A	3/20/2007	-	<0.050	<0.0050	0.150	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.100	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	9/5/2007	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	3/12/2008	-	<0.050	<0.0050	0.130	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	9/15/2009	*Insufficient water in well. No sample retrieved.*																					
TA-13A	3/23/2010	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	4/4/2012	*No metals or organics analyses required under post-reclamation conditions*																					
TA-14	33664	ND	0.54	ND	0.16	ND	0.03	ND	**0.63**	ND	ND	ND	ND	ND	-	ND	-	-	-	-	-	-	-
TA-14	7/23/1997	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	0.018	**85**	-	-	-	ND	ND	ND	ND	ND
TA-14	3/5/1998	ND	14	0.003	0.23	ND	**0.095**	0.026	**14**	ND	**0.24**	0.028	ND	0.046	-	-	-	-	ND	ND	ND	ND	ND
TA-14	9/29/1998	ND	0.89	ND	0.13	ND	0.01	ND	**0.89**	ND	ND	ND	ND	0.01	**18**	-	-	-	ND	ND	ND	ND	ND
TA-14	4/29/1999	ND	0.21	ND	0.14	ND	ND	ND	**0.31**	ND	0.021	ND	ND	0.015	-	-	-	-	ND	ND	ND	ND	ND
TA-14	9/14/1999	ND	0.81	ND	0.12	ND	ND	ND	**1.3**	ND	**0.055**	ND	ND	ND	-	-	-	-	ND	ND	ND	ND	ND
TA-14	4/19/2000	-	0.86	ND	0.11	ND	0.023	ND	**1.8**	ND	0.025	ND	ND	ND	**30**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/19/2000	ND	0.36	ND	0.14	ND	ND	ND	**0.92**	ND	**0.051**	0.0059	ND	ND	**82**	-	-	-	ND	ND	ND	ND	ND
TA-14	5/7/2001	-	0.62	ND	0.15	ND	0.03	ND	0.14	ND	0.1	0.022	ND	ND	**37**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/20/2001	-	0.073	ND	0.11	ND	ND	ND	0.22	ND	ND	ND	ND	ND	**20**	-	-	-	ND	ND	ND	ND	ND
TA-14	5/7/2002	-	1.3	ND	0.13	ND	0.014	ND	**1.6**	ND	**0.077**	ND	ND	ND	**31**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/25/2002	-	0.31	ND	0.13	ND	ND	ND	**0.45**	ND	0.032	ND	ND	0.02	**20**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/15/2003	-	**1.20**	ND	0.130	ND	0.027	0.029	**2.10**	ND	**0.110**	0.015	ND	0.032	**21**	-	-	-	ND	ND	ND	ND	ND
TA-14	4/14/2004	-	0.250	ND	0.130	ND	ND	ND	**0.410**	ND	0.021	ND	ND	ND	2.2	-	-	-	ND	ND	ND	ND	ND
TA-14	9/28/2004	*Well goes dry during purging. No sample retrieved.*																					
TA-14	4/14/2005	*Well goes dry during purging. No sample retrieved.*																					
TA-14	9/15/2005	-	<0.050	<0.0050	0.130	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**320**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-14	4/26/2006	-	**1.60**	<0.0050	0.160	<0.010	<0.010	<0.010	**1.40**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**87**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-14	9/11/2006	-	0.920	<0.0050	0.160	<0.010	<0.010	<0.010	**1.00**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**15**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	290	<0.50 - <1.0
TA-14	9/28/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-
TA-14	3/20/2007	*Well is dry. No sample retrieved.*																					
TA-14	9/6/2007	-	**2.00**	0.0096	0.140	<0.010	0.014	<0.010	**2.00**	<0.00020	**0.051**	<0.0050	<0.0050	<0.020	**280**	-	-	-	0.28[12]	<0.2 - <250	<50	270	<0.50 - <1.0
TA-14	3/12/2008	*Well goes dry during purging. No sample retrieved.*																					
TA-14	9/11/2008	*Insufficient water in well. No sample retrieved.*																					
TA-14	9/15/2009	*Insufficient water in well. No sample retrieved.*																					
TA-14	3/22/2010	*Well is dry. No sample retrieved. Biennial sampling conducted in September 2010*																					
TA-14	9/16/2010	-	0.18	<0.0050	0.150	<0.010	<0.010	<0.010	0.240	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**14**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-14	4/4/2012	*No metals or organicsanalyses required under post-reclamation conditions.*																					
TA-17	Spring '92	ND	1.1	ND	0.15	ND	ND	ND	**1.5**	ND	0.022	ND	ND	ND	-	ND	-	-	-	-	-	-	-

Table A3
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties
(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
TA-25	9/15/2009	-	0.410	<0.0050	0.110	<0.010	0.014	<0.010	**0.560**	<0.00020	0.031	<0.0050	<0.0050	<0.020	**40**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	3/23/2010	-	0.180	<0.0050	0.150	<0.010	<0.010	<0.010	0.210	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**7.6**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	9/14/2010	-	0.065	<0.0050	0.220	<0.010	0.040	<0.010	0.210	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**35**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50	<0.50 - <1.0
TA-25	4/7/2011	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.55	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	9/15/2011	-	0.150	<0.0050	0.260	<0.010	<0.010	<0.010	0.220	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.7	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	5/1/2012	-	0.240	<0.0050	0.210	<0.010	<0.010	<0.010	0.250	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.8	-	-	-	<0.05 - <0.2	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	9/10/2012	-	0.480	<0.0050	0.220	<0.010	<0.010	<0.010	0.700	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**40**	-	-	-	<0.05 - <0.1	<0.2 - <250	57[18a]	<50	<0.50 - <1.0
TA-25	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	310[18a]	-	-
TA-25	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[18b]	-	-
TA-25	4/16/2013	-	<0.050	<0.0050	<0.020	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	6/2/2014	-	<0.050	<0.0050	0.220	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	3/26/2015	-	0.890	<0.0050	0.220	<0.010	<0.010	<0.010	0.820	<0.00020	<0.020	<0.0050	<0.0050	0.030	**93**				<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Plant Dom	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	ND	ND	ND	ND	-	ND
Plant Pond	Summer '95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	-	-	-	-	-
Stephens	9/16/2009	-	<0.050	<0.0050	0.320	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.54	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	3/24/2010	-	<0.050	<0.0050	0.270	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	9/14/2010	-	<0.050	<0.0050	0.240	<0.010	0.030	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50	<0.50 - <1.0
Stephens	4/7/2011	*Farmers's crop growing around the wellhead; difficult access. No sample retrieved.*											-	-	-	-	-	-	-	-	-	-	-
Stephens	9/21/2011	-	<0.050	<0.0050	0.220	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	4/5/2012	-	<0.050	<0.0050	0.240	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.64	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	9/12/2012	-	<0.050	<0.0050	0.230	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	4/17/2013	-	<0.050	<0.0050	0.170	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	6/2/2014	-	<0.050	<0.0050	0.190	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	3/26/2015	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.54				<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
TA-18	9/11/2012	-	0.065	<0.0050	0.130	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	4/16/2013	-	0.76	<0.0050	0.150	<0.010	0.010	<0.010	**0.840**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	4.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	9/11/2013	-	0.66	<0.0050	0.120	<0.010	0.010	<0.010	**1.100**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**28**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	6/2/2014	*Well is dry. No sample retrieved.*																					
TA-18	10/6/2014	*Well is dry. No sample retrieved.*																					
TA-18	3/26/2015	-	0.810	<0.0050	0.140	<0.010	<0.010	<0.010	**0.750**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**27**				<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Schwarzgruber	9/11/2012	-	<0.050	<0.0050	0.190	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	4/16/2013	-	<0.050	<0.0050	0.160	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	9/11/2013	-	<0.050	<0.0050	0.150	<0.010	0.010	<0.010	0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.97	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	6/2/2014	*Well is dry. No sample retrieved.*																					
Schwarzgruber	10/6/2014	*Well is dry. No sample retrieved.*																					
Schwarzgruber	3/26/2015	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.3				<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Rodgers Dom (N)	9/11/2012	-	<0.050	<0.0050	0.180	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom (N)	6/2/2014	-	<0.050	<0.0050	0.170	<0.0005	<0.010	0.013	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.028	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom (N)	3/26/2015	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.075	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0

Table A3
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
Rodgers Dom New (S)	9/11/2012	-	<0.050	<0.0050	0.180	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom New (S)	6/2/2014	-	<0.050	<0.0050	0.180	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.040	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom New (S)	3/26/2015	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Muller Pond	4/14/2005	-	<0.050	<0.0050	0.100	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**5.0**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
Muller Pond	9/15/2005	*Pond is Dry. No sample retrieved.*																					
Muller Pond	3/29/2006	-	0.260	<0.0050	0.100	<0.010	<0.010	<0.010	0.240	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**7.8**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
Muller Pond	9/11/2006	-	0.670	<0.0050	0.160	<0.010	0.013	<0.010	**0.820**	<0.00020	0.021	<0.0050	<0.0050	<0.020	**15**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	270	<0.50 - <1.0
Muller Pond	9/28/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-
Muller Pond	3/20/2007	-	0.170	<0.0050	0.098	<0.010	<0.010	<0.010	0.180	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.9	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/7/2007	-	**2.20**	<0.0050	0.081	<0.010	<0.010	<0.010	**3.300**	<0.00020	**0.110**	<0.0050	<0.0050	<0.020	**140**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	3/11/2008	-	0.068	<0.0050	0.110	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/11/2008	*Pond is Dry. No sample retrieved.*																					
Muller Pond	3/17/2009	-	0.057	<0.0050	0.120	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/16/2009	*Pond is Dry. No sample retrieved.*																					
Muller Pond	3/25/2010	-	0.100	<0.0050	0.120	<0.010	<0.010	<0.010	0.140	<0.00020	<0.020	<0.0050	<0.0050	<0.020	4.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/15/2010	-	<0.050	<0.0050	0.024	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.98	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50[14]	<0.50 - <1.0
Muller Pond	4/4/2012	*No metals or organics analyses required under post-reclamation conditions*																					
Coors Pond	9/7/2007	-	<0.050	<0.0050	0.060	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**17**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	3/11/2008	-	0.150	<0.0050	0.076	<0.010	<0.010	<0.010	0.170	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**6.4**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/11/2008	-	0.180	<0.0050	0.096	<0.010	<0.010	<0.010	0.170	<0.00020	0.027	<0.0050	<0.0050	<0.020	**12**	-	-	-	<0.05 - <0.1	2.9[13]	<50	<50	<0.50 - <1.0
Coors Pond	3/17/2009	-	0.085	<0.0050	0.051	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**9.3**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/16/2009	-	0.054	0.0077	0.070	<0.010	<0.010	<0.010	<0.100	<0.00020	**0.068**	<0.0050	<0.0050	<0.020	4.1	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	3/25/2010	-	0.078	<0.0050	0.059	<0.010	<0.010	<0.010	0.130	<0.00020	<0.020	<0.0050	<0.0050	<0.020	4.7	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/15/2010	-	<0.050	<0.0050	0.055	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**7.5**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50[14]	<0.50 - <1.0
Coors Pond	4/6/2011	-	<0.050	<0.0050	0.033	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/12/2011	-	<0.050	<0.0050	0.037	<0.010	0.012	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.7	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	120[15]	<0.50 - <1.0
Coors Pond	10/14/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[15]	-
Coors Pond	3/29/2012	-	<0.050	<0.0050	0.068	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	210[16]	<0.50 - <1.0
Coors Pond	5/1/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[16]	-
Coors Pond	9/10/2012	-	<0.050	0.0065	0.110	<0.010	<0.010	<0.010	<0.100	<0.00020	0.023	<0.0050	<0.0050	<0.020	2.4	-	-	-	<0.05 - <0.1	<0.2 - <250	120[18a]	<50	<0.50 - <1.0
Coors Pond	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	540[18a]	-	-
Coors Pond	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[18b]	-	-
Coors Pond	4/17/2013	-	0.130	<0.0050	0.065	<0.010	0.010	<0.010	0.140	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.8	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/11/2013	-	0.110	0.0058	0.059	<0.010	0.010	<0.010	0.150	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**5.7**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	6/2/2014	-	0.250	0.0083	0.066	<0.0005	<0.010	<0.010	0.360	<0.00020	0.024	<0.0050	<0.0050	0.140	2.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	10/6/2014	-	**2.700**	0.0140	0.120	<0.010	<0.010	<0.010	**3.900**	<0.00020	**0.110**	<0.0050	<0.0050	<0.020	**49**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	430[19]	<0.50 - <1.0
Coors Pond	10/20/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180[19]	-
Coors Pond	3/27/2015	*Wet-pit filled in. No sample retrieved, or to be retrieved in future.*																					
Storz Pond	4/6/2011	-	0.130	<0.0050	0.190	<0.010	<0.010	<0.010	0.130	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.5	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	9/12/2011	-	<0.050	<0.0050	0.069	<0.010	<0.010	<0.010	<0.100	<0.00020	0.028	<0.0050	<0.0050	<0.020	3.4	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	3/29/2012	-	<0.050	<0.0050	0.250	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.8	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	120[16]	<0.50 - <1.0
Storz Pond	5/1/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[16]	-

Table A3
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

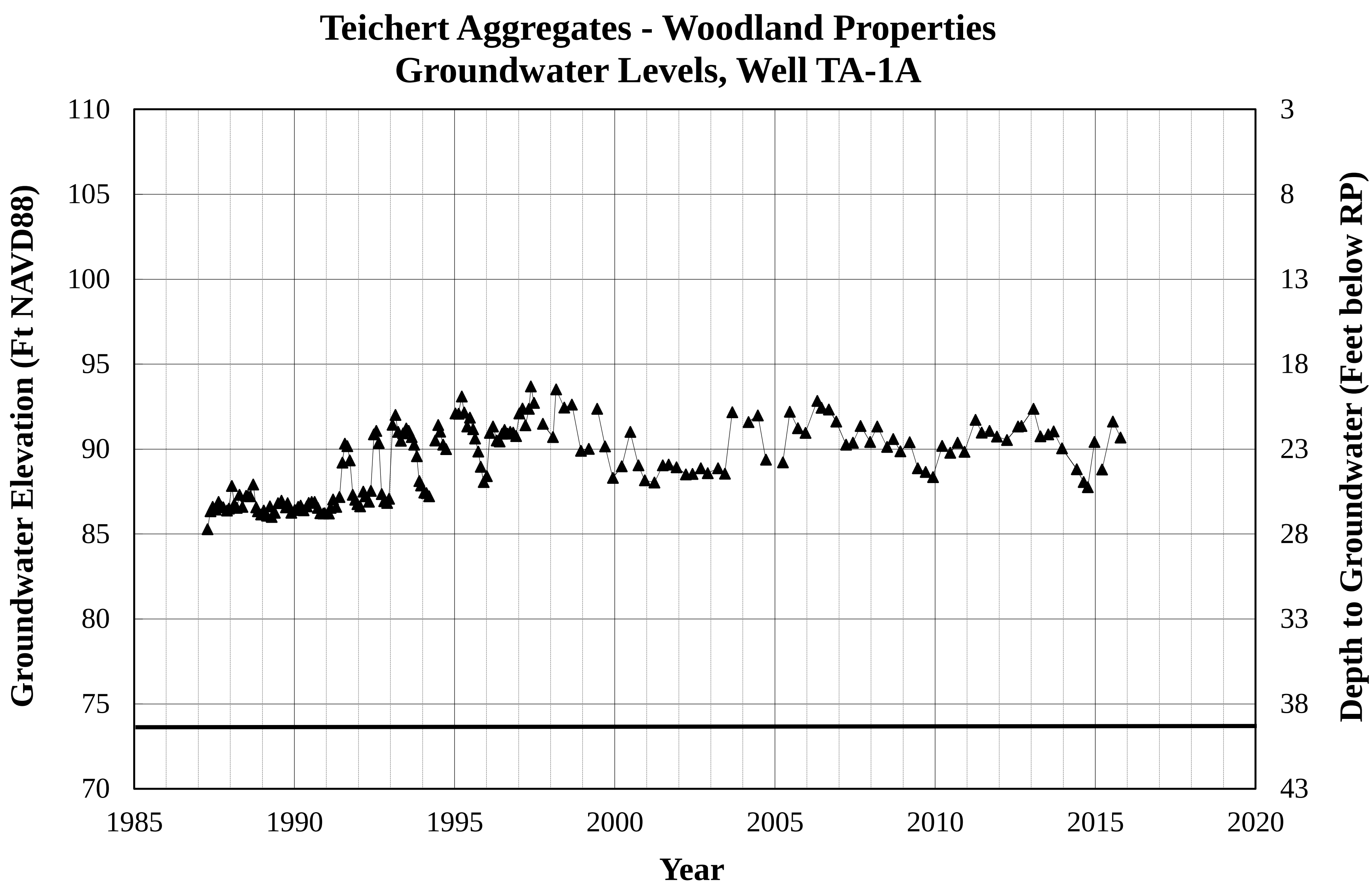
(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
Storz Pond	9/10/2012	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	0.0054	<0.020	1.4	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	4/17/2013	-	<0.050	<0.0050	0.150	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.1	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	9/11/2013	-	<0.050	<0.0050	0.054	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.72	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	6/2/2014	-	<0.050	<0.0050	0.033	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.77	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	10/6/2014	-	<0.050	<0.0050	0.240	<0.010	<0.010	<0.010	0.15	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	150[19]	<0.50 - 0.91[20]
Storz Pond	10/20/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130[19]	<0.50[20]
Storz Pond	3/26/2015	-	<0.050	<0.0050	0.091	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	**12**	<0.50 - <1.0
Storz Pond	10/28/2015	-	<0.050	<0.0050	0.034	<0.010	<0.010	<0.010	0.17	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.5	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0

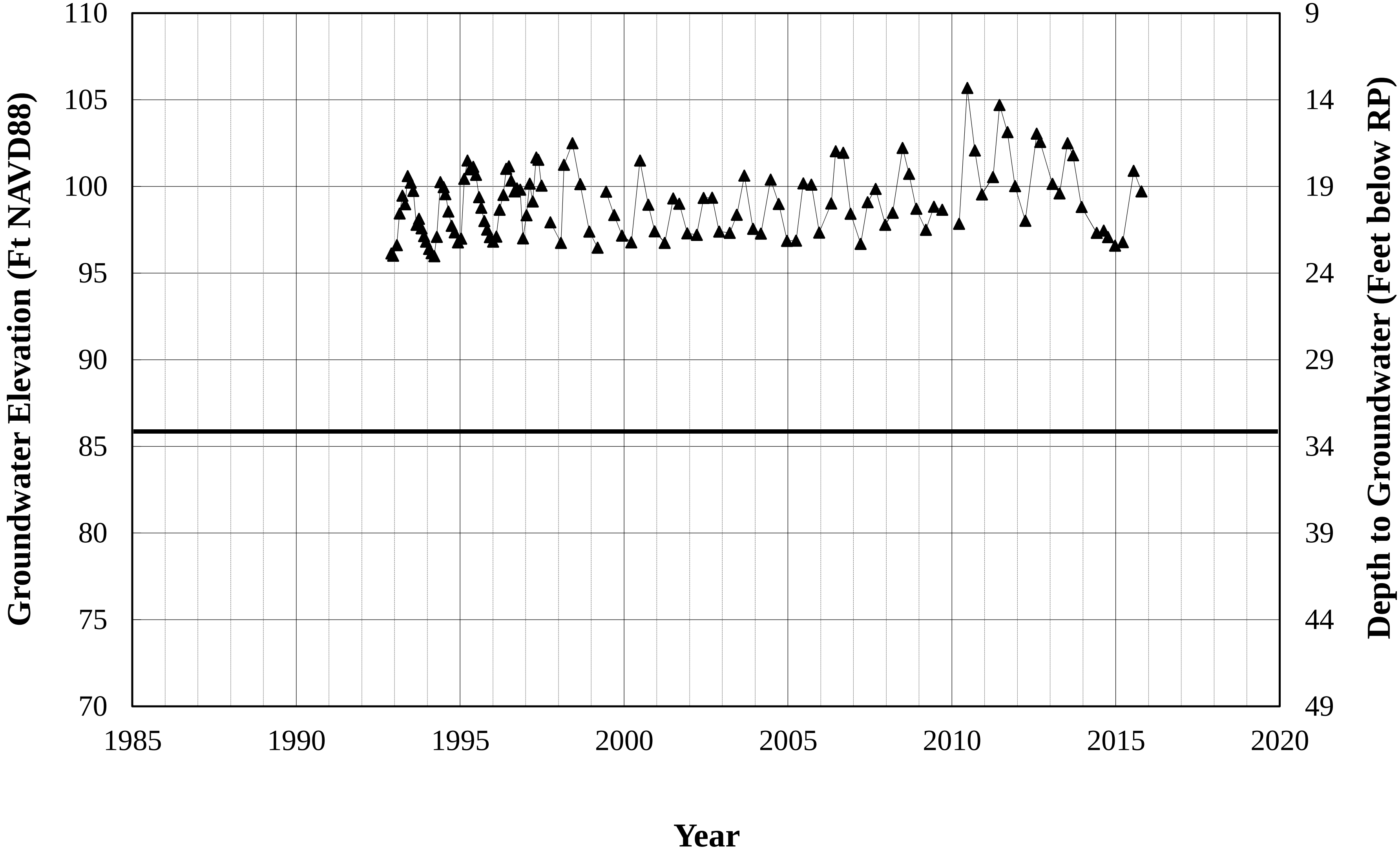
Notes:

Beginning in 2005, all non-detected (ND) values are given as "<reporting limit".

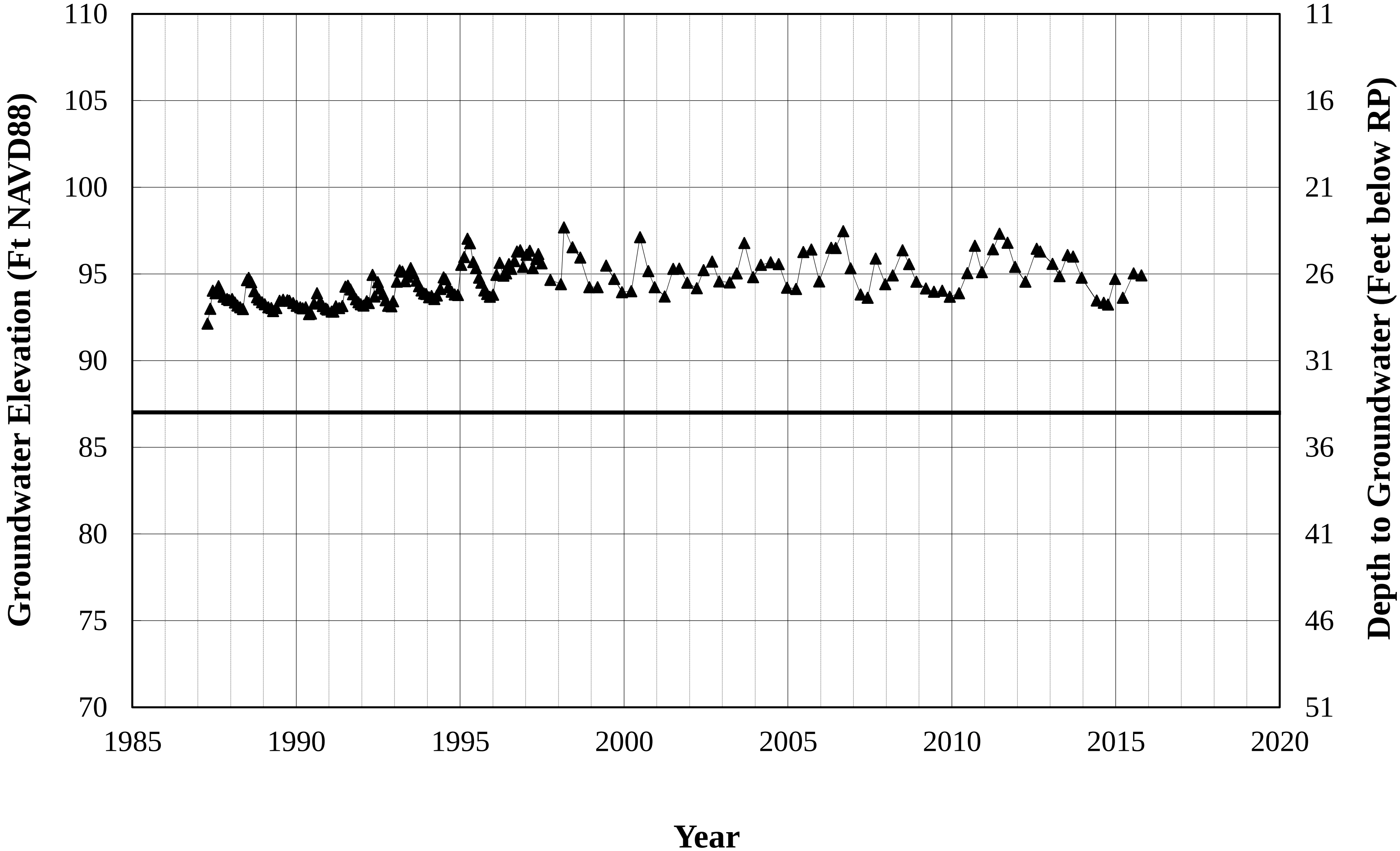
1. Maximum Contaminant Levels for drinking water standards; italic font style indicates secondary, i.e., consumer acceptance limits. Measured constituent concentrations at or exceeding the MCL are highlighted with bold font style.
2. Volatile Organics, EPA 502.2, includes BTEX.
3. Volatile Organics, EPA 8260.
4. Polynuclear Aromatic Hydrocarbons, EPA 8310.
5. Organophosphorus Pesticides, EPA 8141A (previously EPA 8140).
6. Organochlorine Herbicides, EPA 8151A (previously EPA 8150).
7. Total petroleum hydrocarbons, modified EPA 8015; MO = motor oil.
8. Previously EPA 8020.
9. Hydrocarbons reported as TPH-Motor Oil do not exhibit a typical motor oil chromatographic pattern.
10. A sample was retrieved prior to purging of the well (8:45 AM) and after purging of multiple wet casing volumes (9:45 AM). In the 8:45 AM sample, TPH-diesel was identified (82 µg/L), however, it did not exhibit a typical diesel chromatographic pattern. After the removal of polar constituents in the 8:45 AM sample (EPA method 3630), TPH-diesel was not detected. TPH-diesel was not detected in the 9:45 AM sample.
11. Dichloroprop detected at 2.1 µg/L; other constituents below detection limits (<0.2 - <250 µg/L).
12. Fensulfothion detected at 0.28 µg/L; other constituents below detection limits (<0.05 - <0.1µg/L).
13. Dichloroprop detected at 2.9 µg/L; other constituents below detection limits (<0.2 - <250 µg/L).
14. Initial analytical results were identified as laboratory contamination.
15. Hydrocarbons reported for September 12, 2011, as TPH-Motor Oil questionable (CLS Labs, James Liang, October 3, 2011); Resample on October 14, 2011, indicated ND.
16. Hydrocarbons as TPH-Motor Oil reported for March 29, 2012; on May 1, 2012, resample with and without Silica Gel Treatment indicated ND.
17. (a) Toluene reported for May 1, 2012; (b) resample with duplicates on June 6, 2012, indicated ND.
18. (a) Hydrocarbons as TPH-Diesel reported for Sept 10, 2012, ; on Sept 25, 2012, (a) resample without Silica Gel Treatment was TPH-Diesel detected and (b) with SGT indicated ND.
19. TPH-Motor Oil reported 10/6/2014 and 10/20/2014 is questionable (CLS Labs, James Liang, October 28, 2014).
20. Toluene reported for Oct 6, 2014; resample with duplicates on Oct 20, 2014, indicated ND.

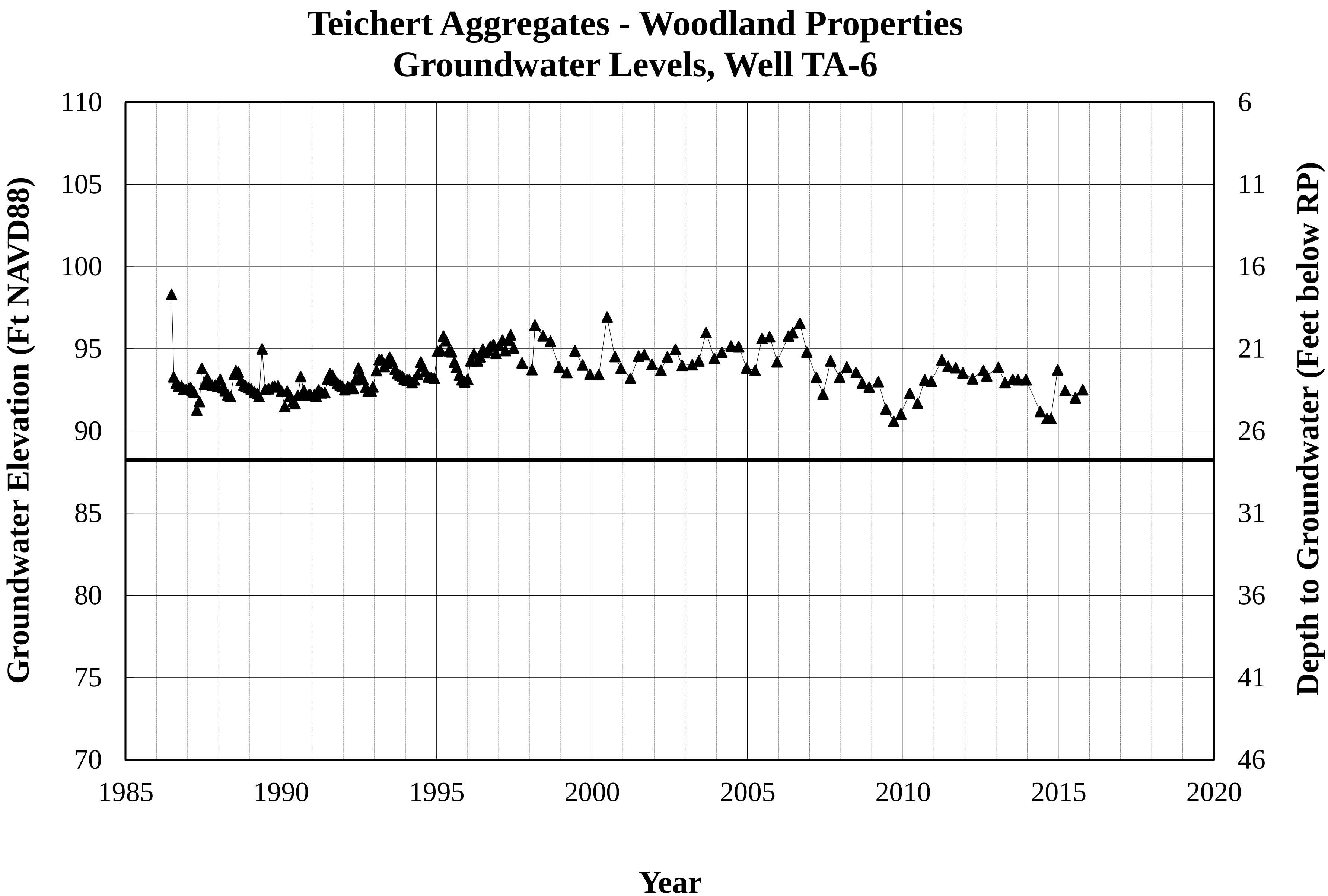

Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-1A
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
3
8
13
18
23
28
33
38
43
1985
1990
1995
2000
2005
2010
2015
2020

Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-3A

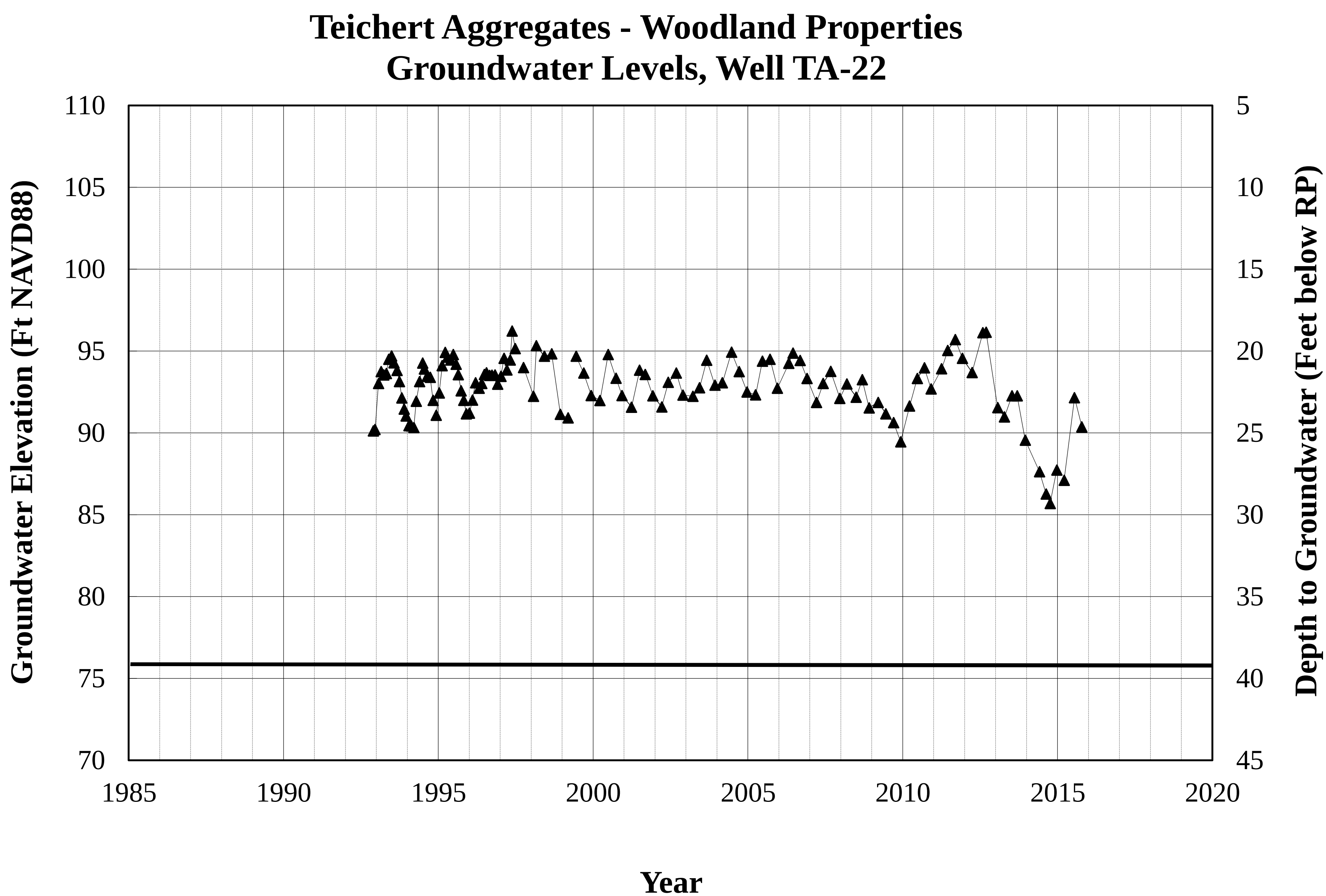


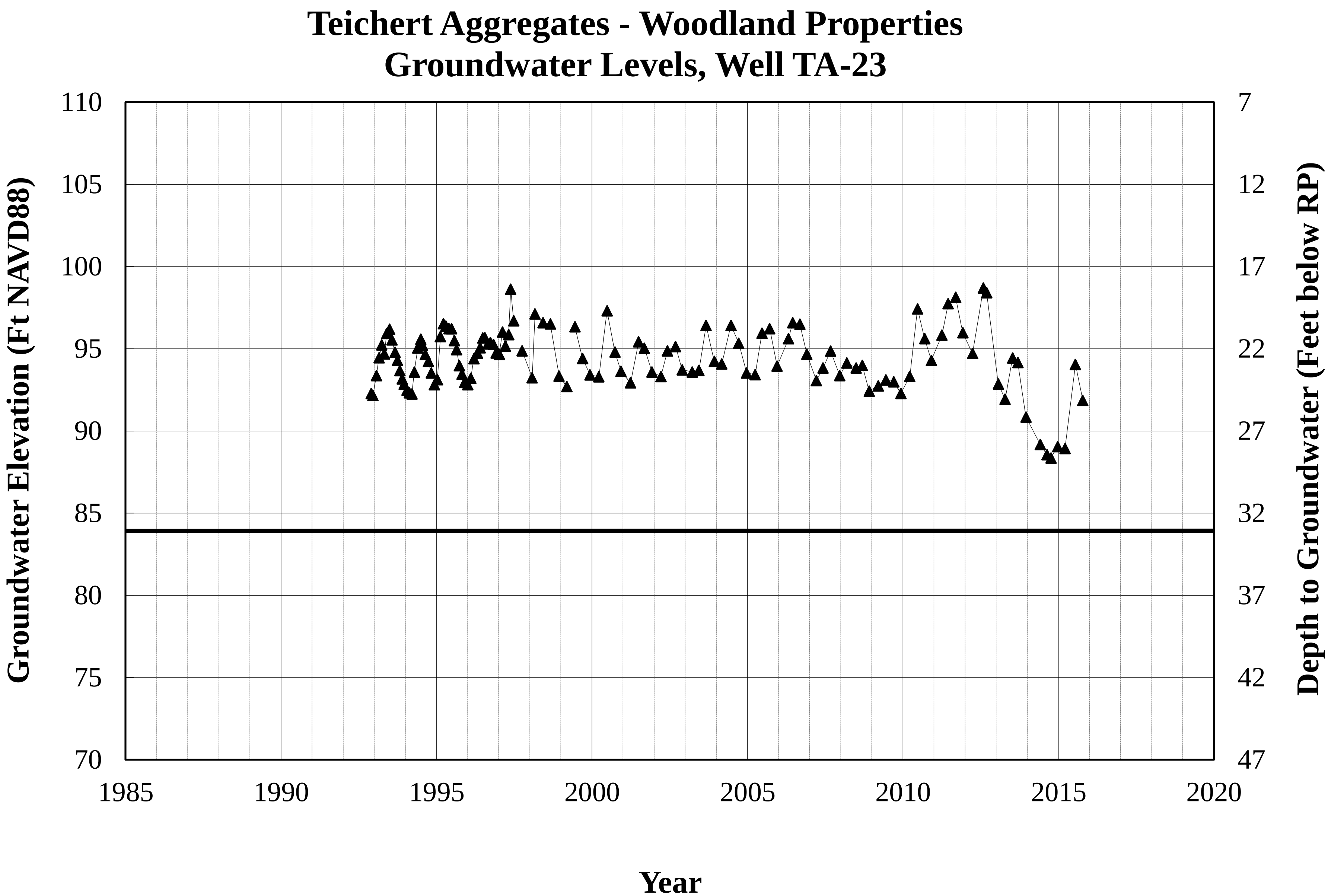
Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-5A



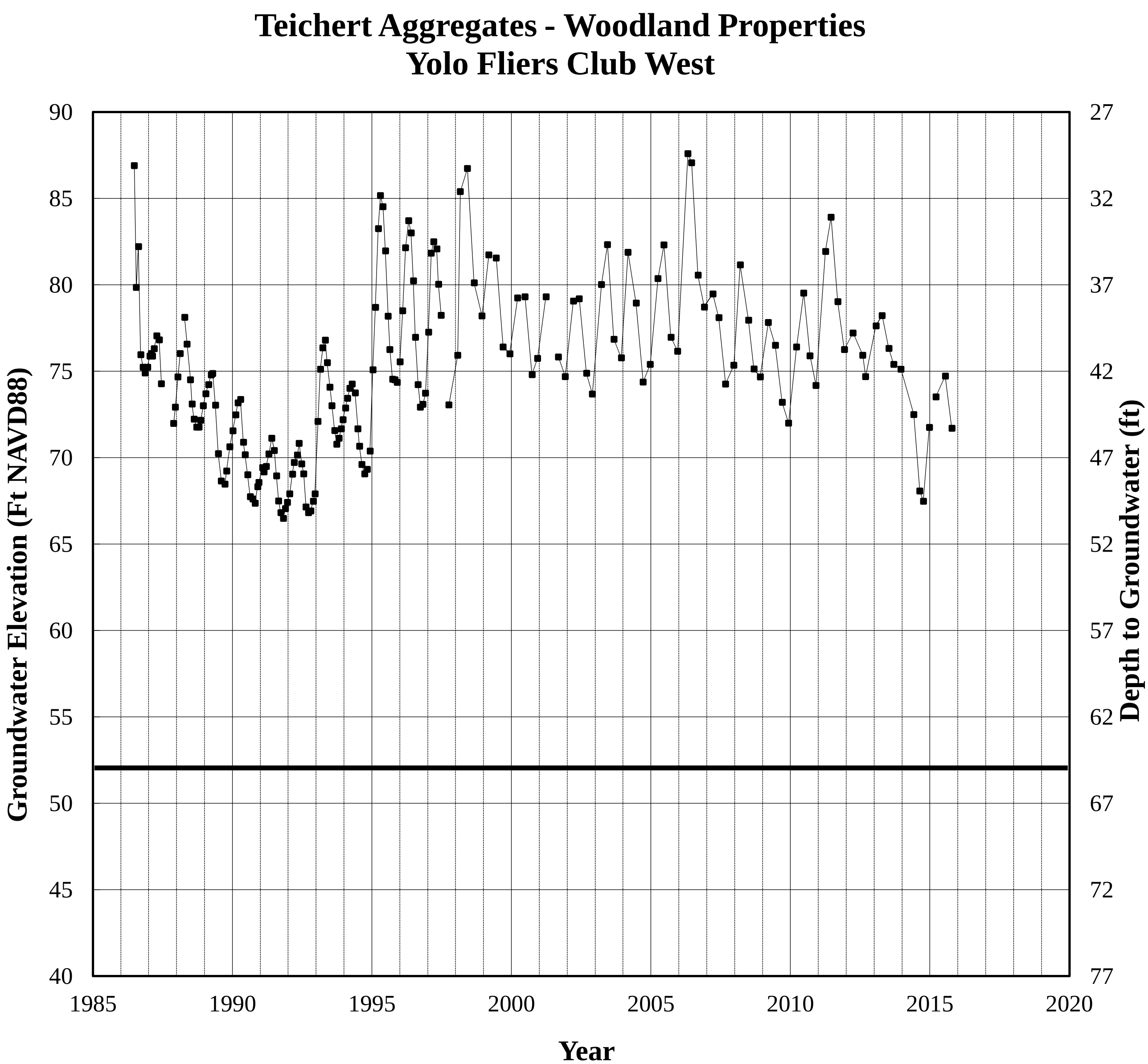


Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-6
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
6
11
16
21
26
31
36
41
46
1985
1990
1995
2000
2005
2010
2015
2020


Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-22
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
5
10
15
20
25
30
35
40
45
1985
1990
1995
2000
2005
2010
2015
2020

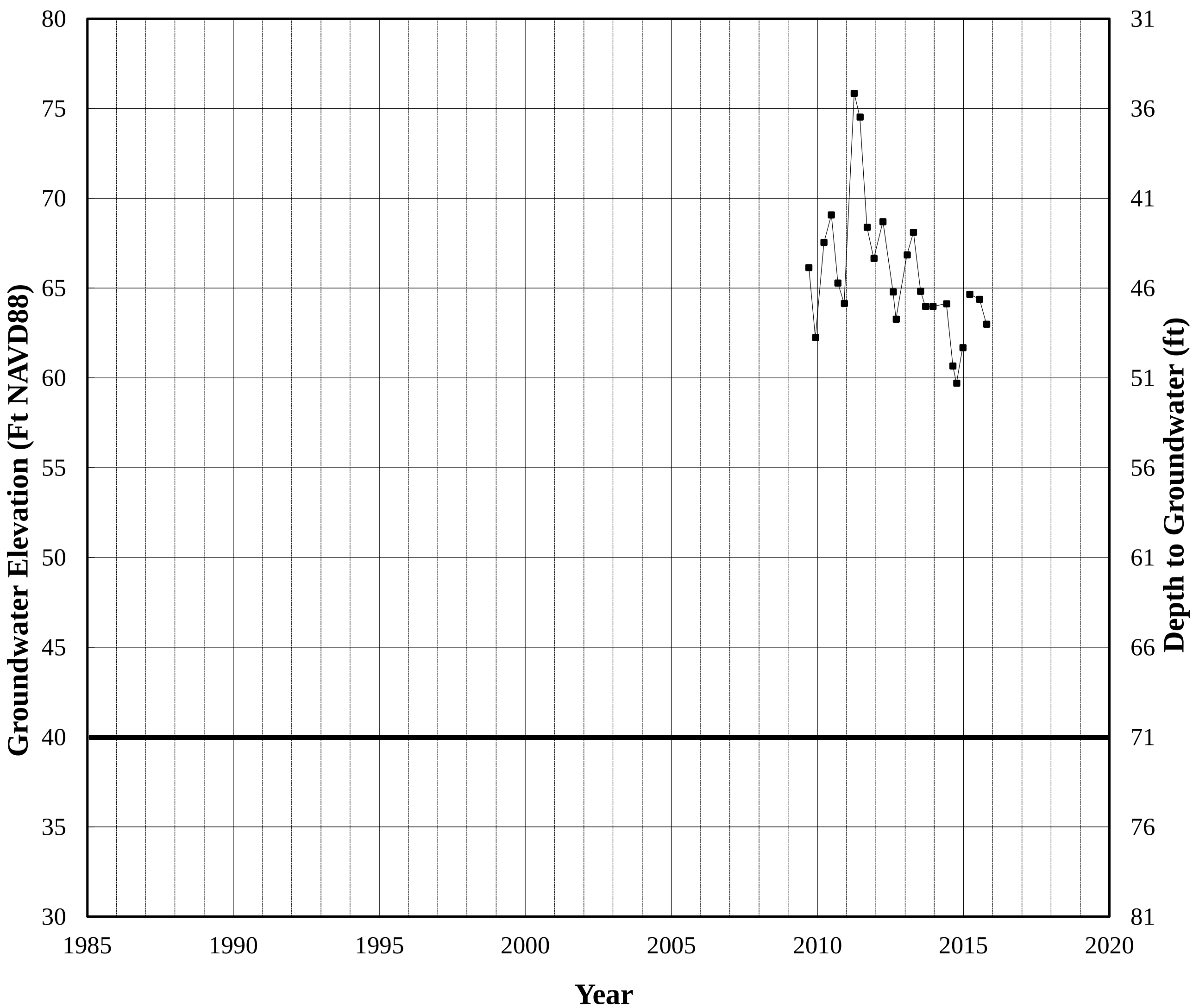


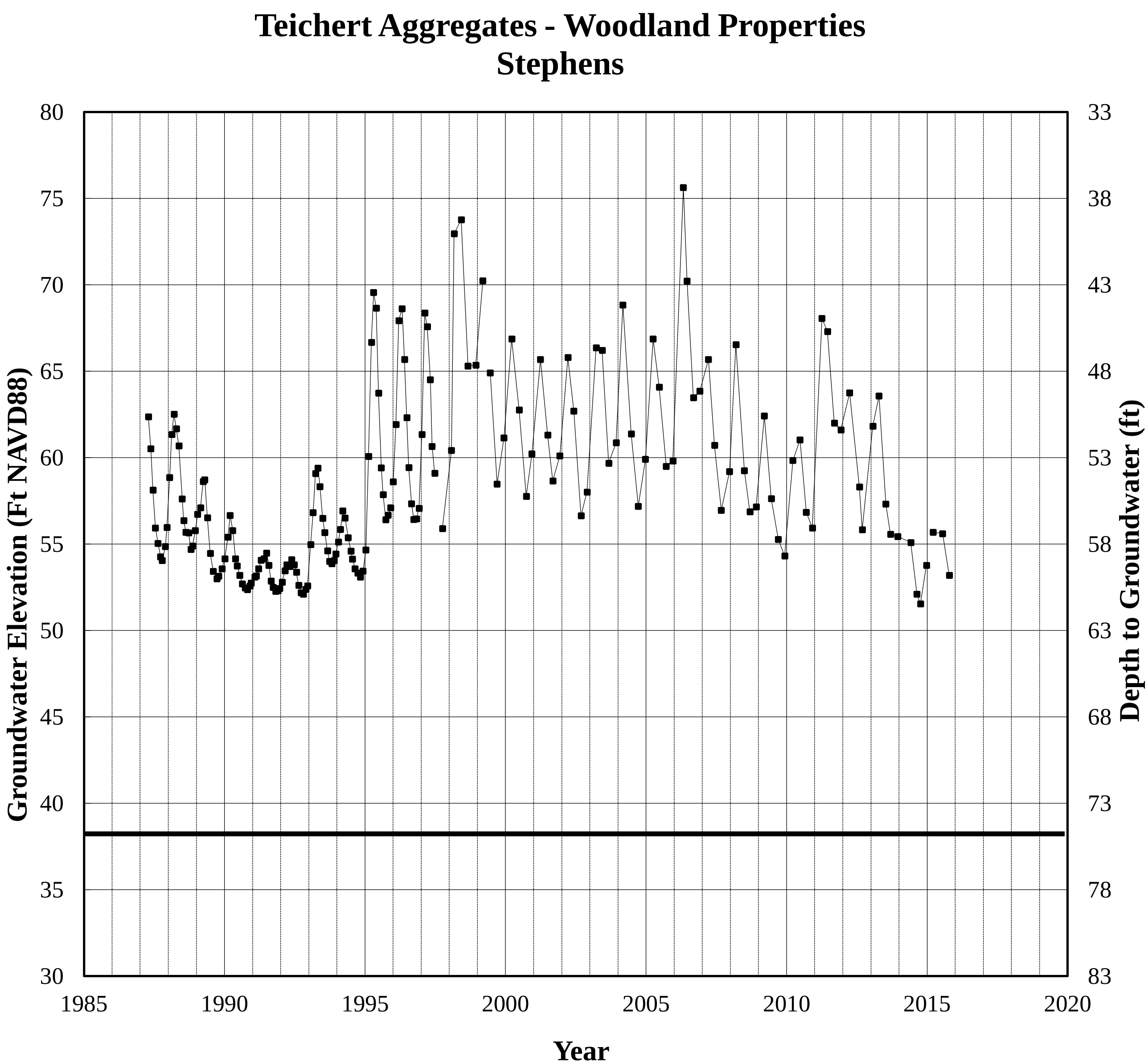
Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-23
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
7
12
17
22
27
32
37
42
47
1985
1990
1995
2000
2005
2010
2015
2020



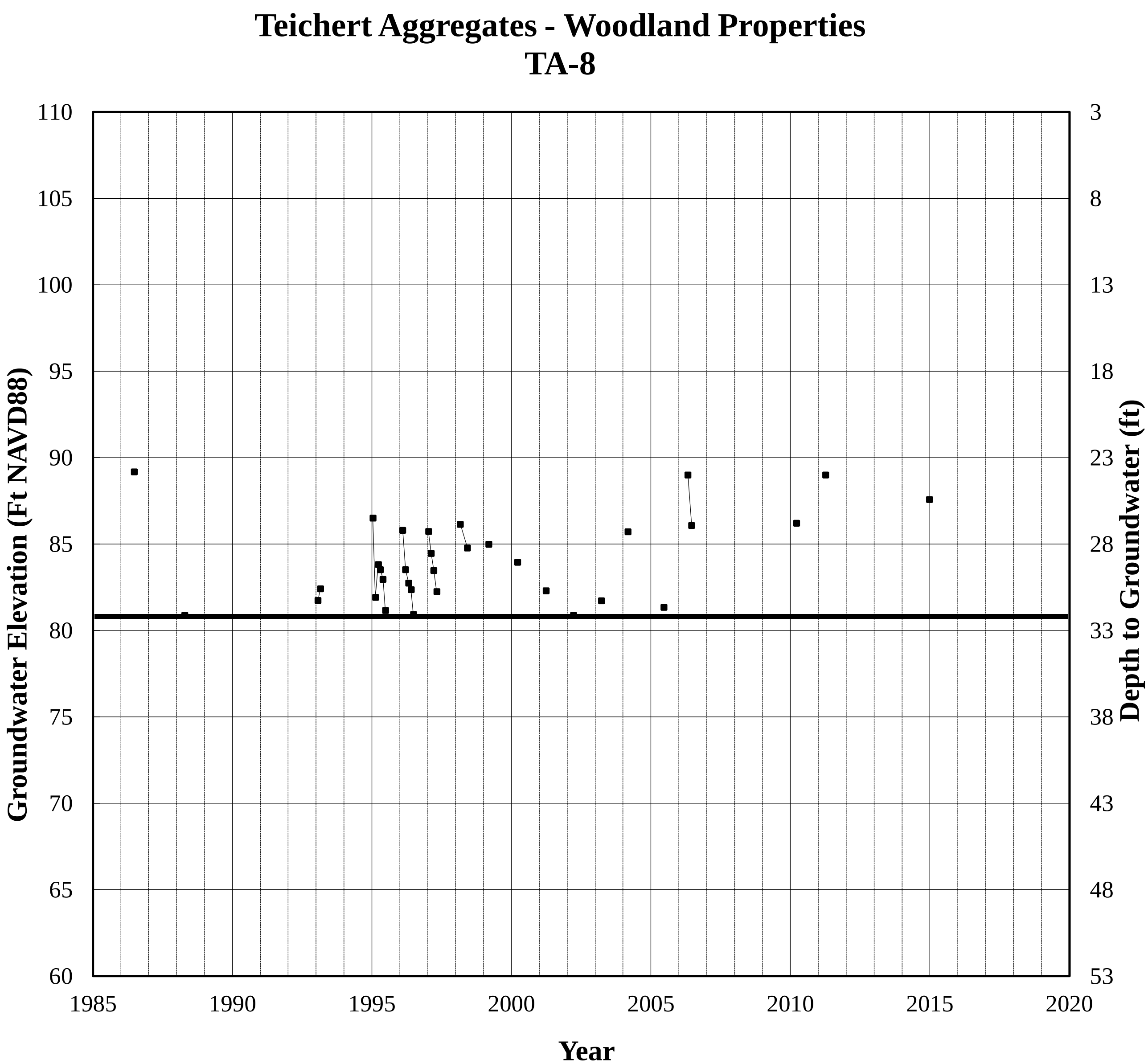
Teichert Aggregates - Woodland Properties
Yolo Fliers Club West
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
90
85
80
75
70
65
60
55
50
45
40
27
32
37
42
47
52
57
62
67
72
77
1985
1990
1995
2000
2005
2010
2015
2020

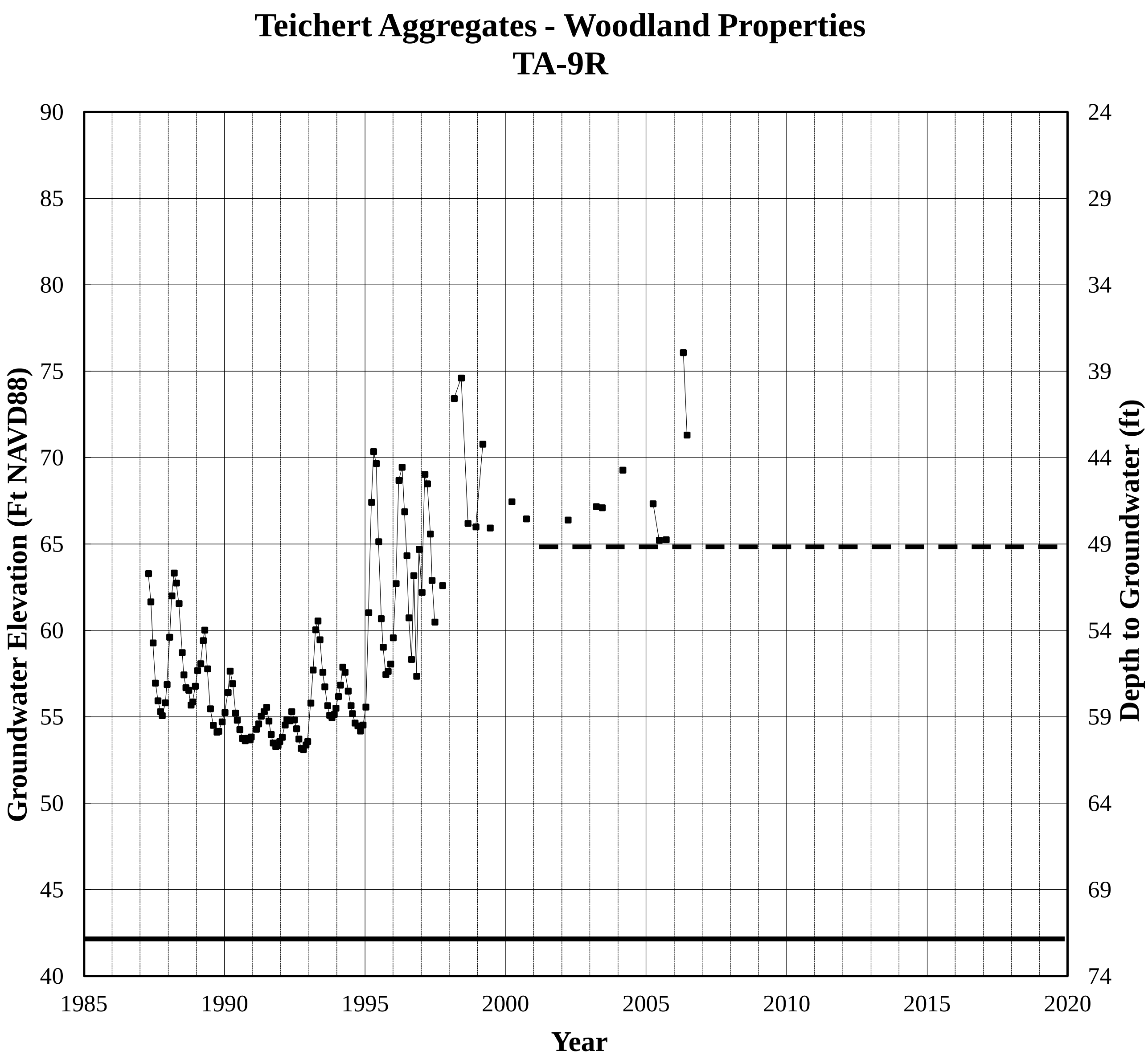
Teichert Aggregates - Woodland Properties
TA-25



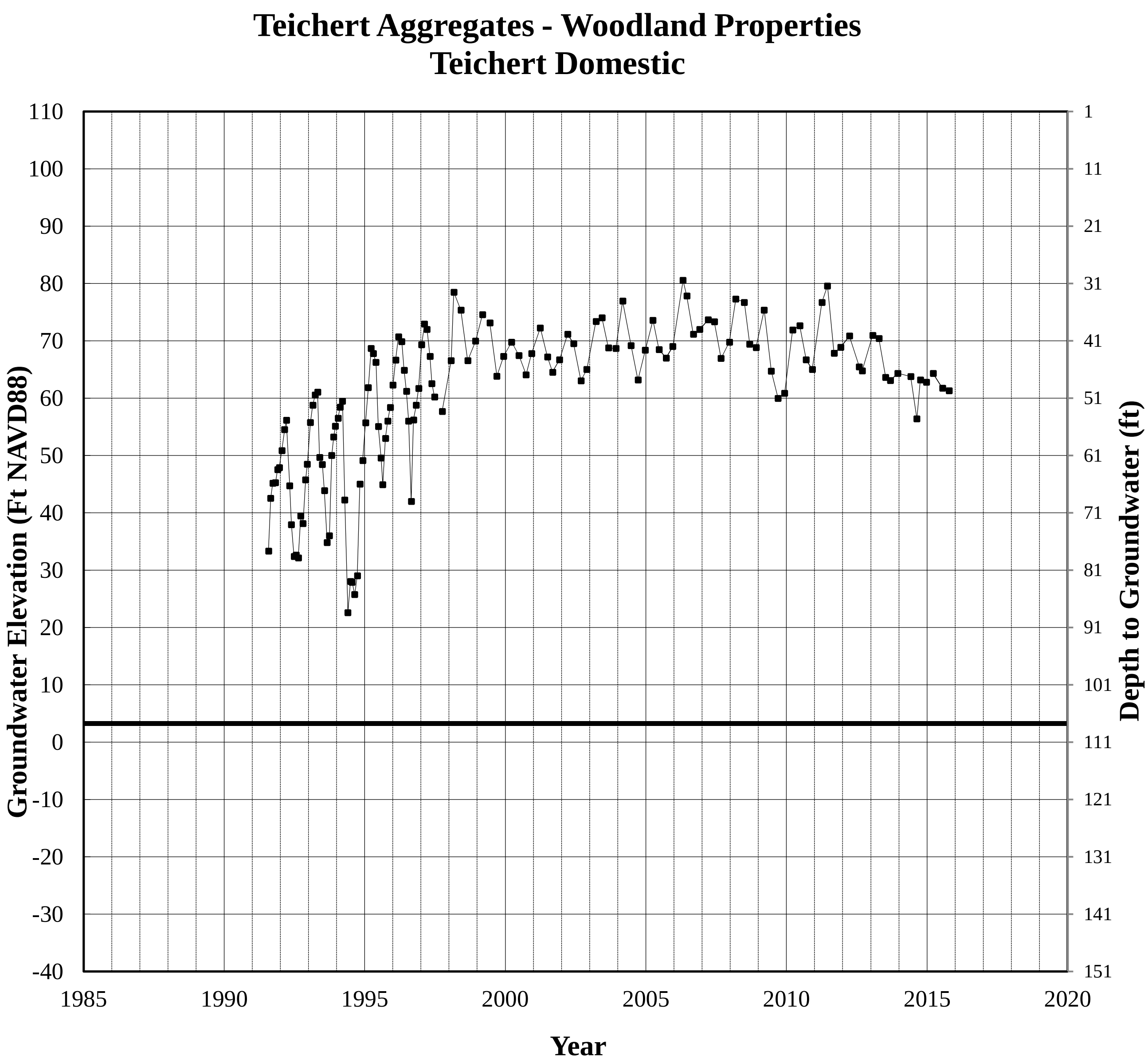


Teichert Aggregates - Woodland Properties
Stephens
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
80
75
70
65
60
55
50
45
40
35
30
33
38
43
48
53
58
63
68
73
78
83
1985
1990
1995
2000
2005
2010
2015
2020

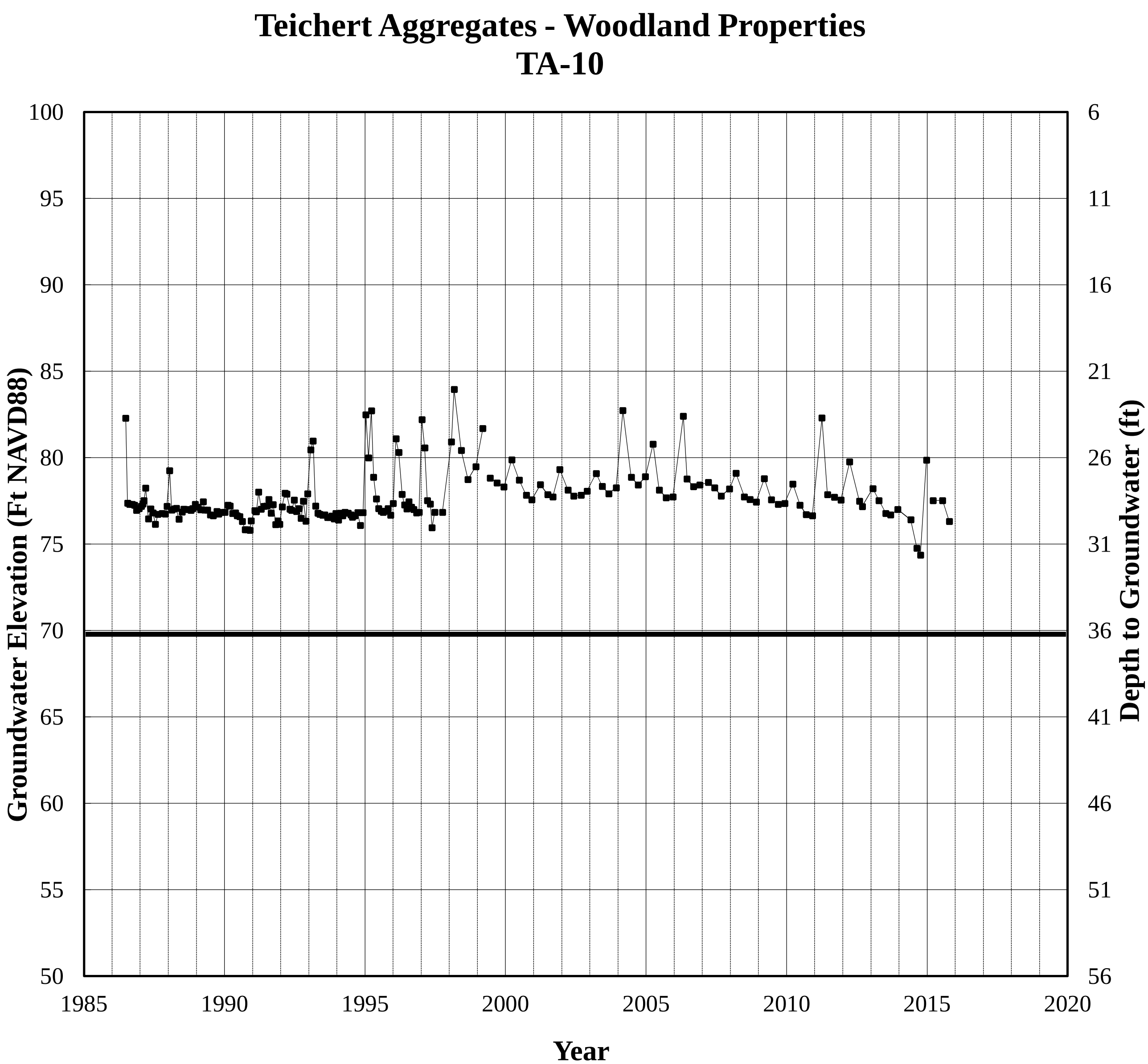

Teichert Aggregates - Woodland Properties
TA-8
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
110
105
100
95
90
85
80
75
70
65
60
3
8
13
18
23
28
33
38
43
48
53
1985
1990
1995
2000
2005
2010
2015
2020



Note: An obstruction at a depth of approximately 49 feet blocks access to water levels below that depth since 1999.



Teichert Aggregates - Woodland Properties
Teichert Domestic
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
1
11
21
31
41
51
61
71
81
91
101
111
121
131
141
151
1985
1990
1995
2000
2005
2010
2015
2020


Teichert Aggregates - Woodland Properties
TA-10
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
100
95
90
85
80
75
70
65
60
55
50
6
11
16
21
26
31
36
41
46
51
56
1985
1990
1995
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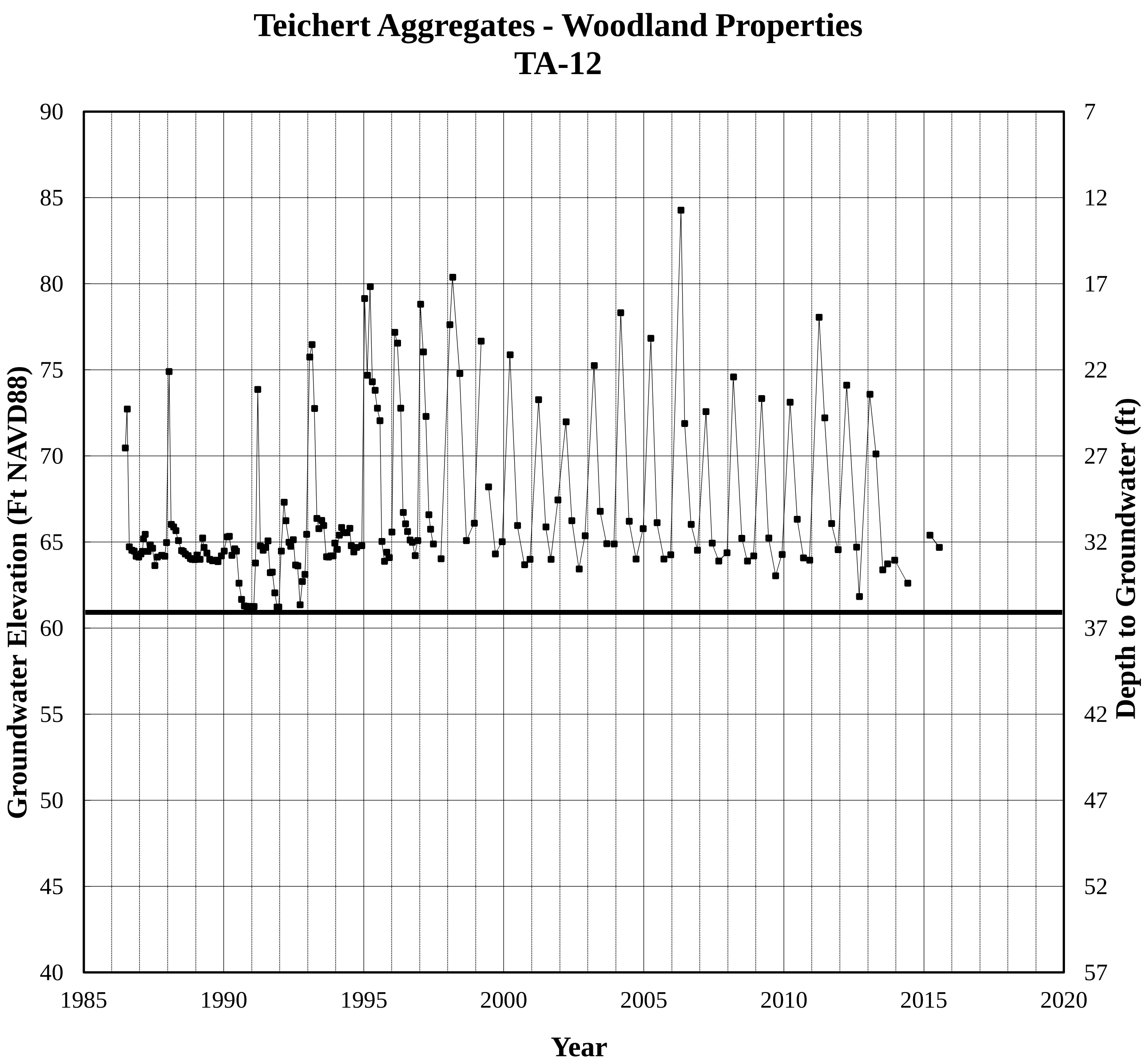
2005
2010
2015
2020



Teichert Aggregates - Woodland Properties
TA-12
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
90
85
80
75
70
65
60
55
50
45
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22
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32
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42
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52
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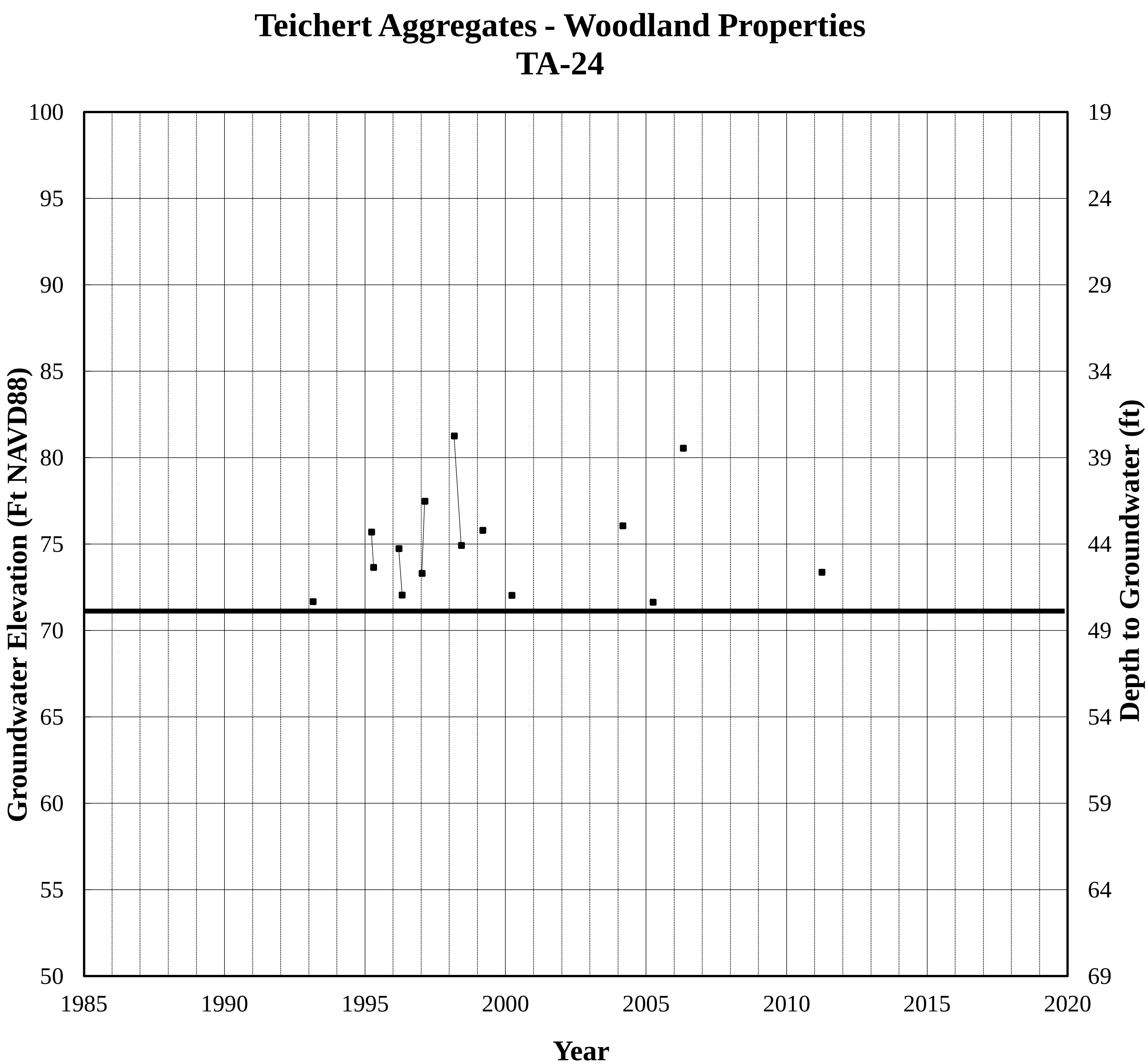
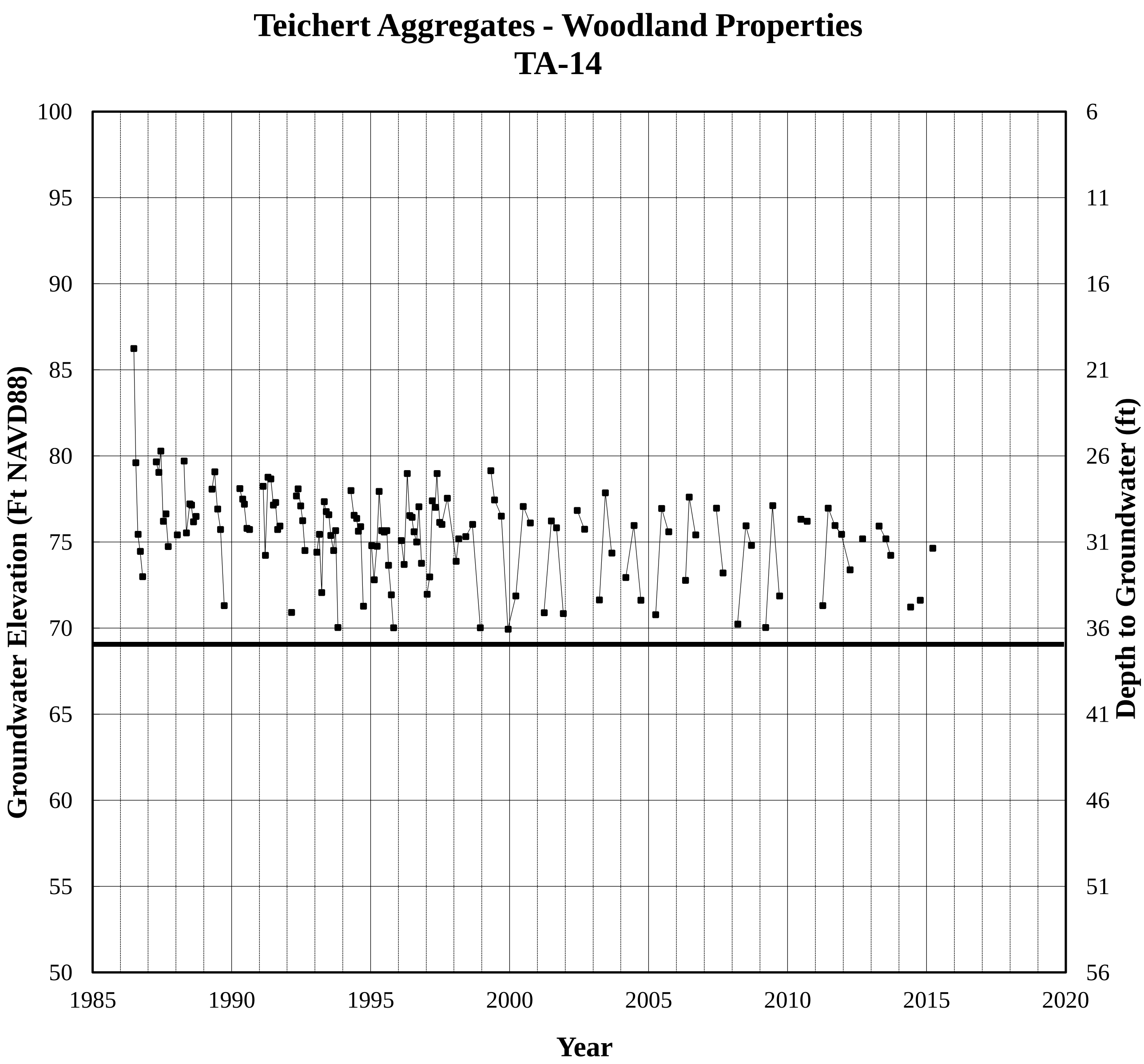
1985
1990
1995
2000
2005
2010
2015
2020



Teichert Aggregates - Woodland Properties
TA-24
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
100
95
90
85
80
75
70
65
60
55
50
19
24
29
34
39
44
49
54
59
64
69
1985
1990
1995
2000
2005
2010
2015
2020


Teichert Aggregates - Woodland Properties
TA-14
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
100
95
90
85
80
75
70
65
60
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1985
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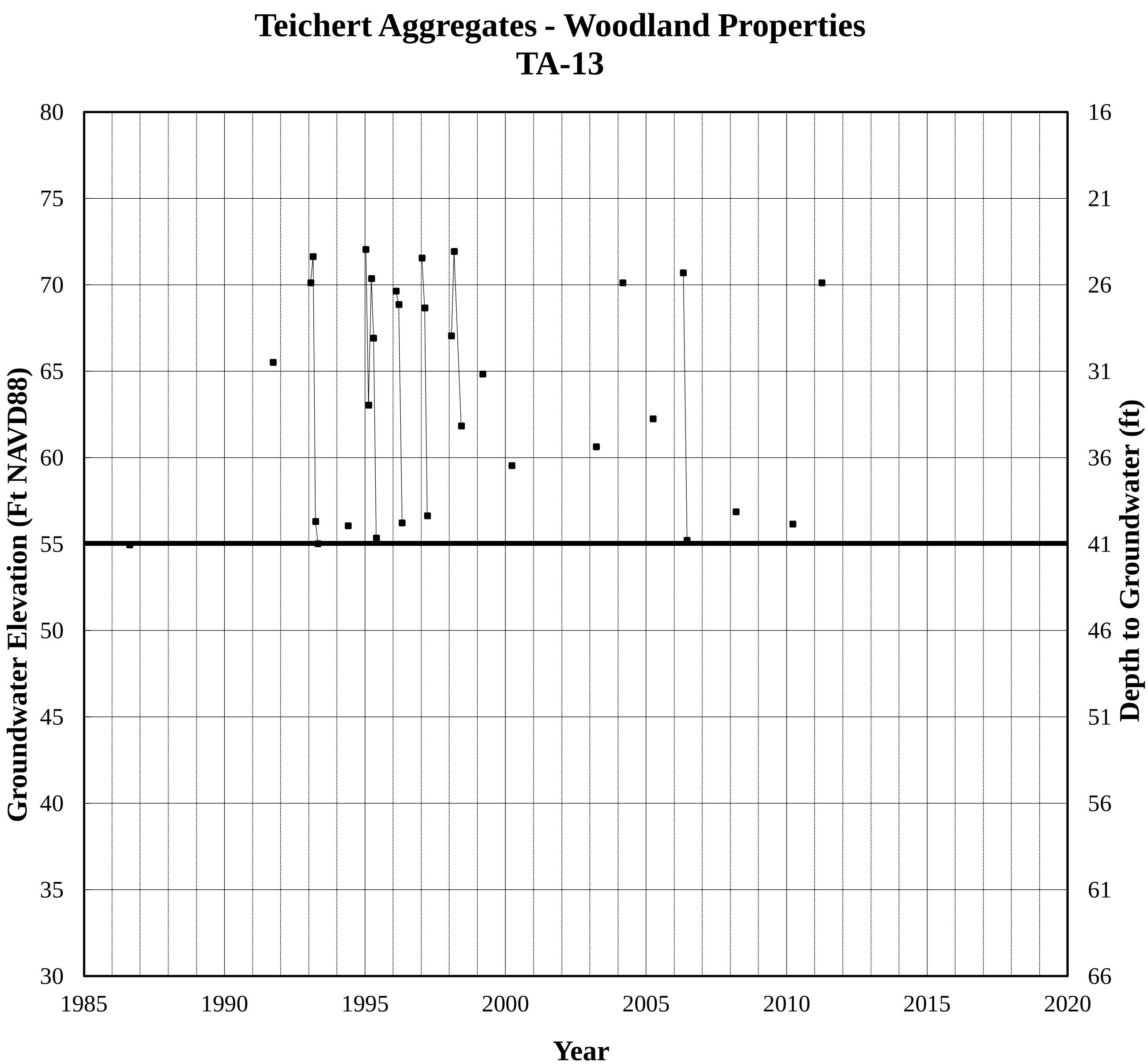
2005
2010
2015
2020



Teichert Aggregates - Woodland Properties
TA-13
80
75
70
65
60
55
50
45
40
35
30
16
21
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31
36
41
46
51
56
61
66
1985
1990
1995
2000
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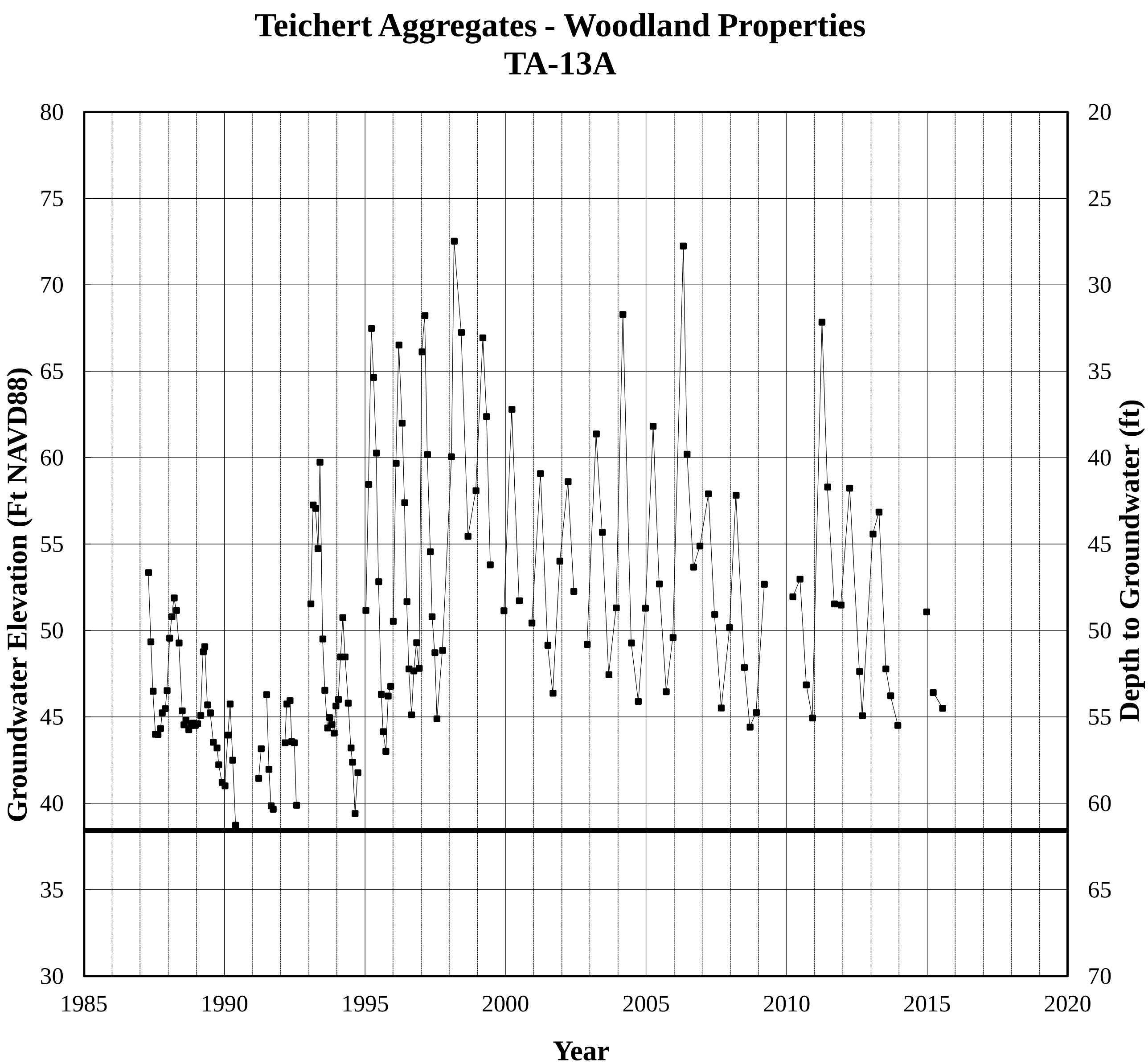
2010
2015
2020
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year


Teichert Aggregates - Woodland Properties
TA-13A
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
80
75
70
65
60
55
50
45
40
35
30
20
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1985
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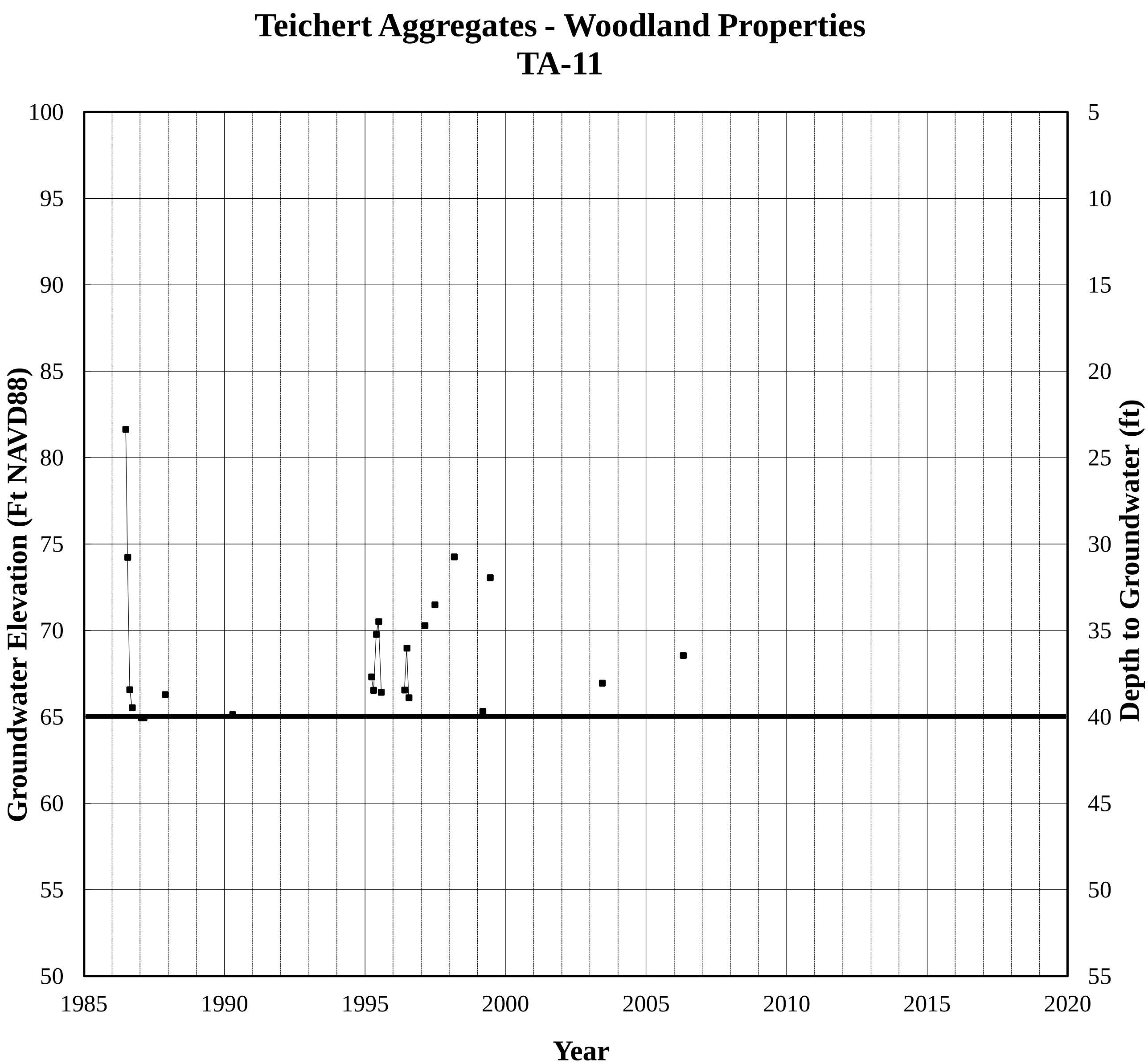
2015
2020


Teichert Aggregates - Woodland Properties
TA-11
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
100
95
90
85
80
75
70
65
60
55
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1985
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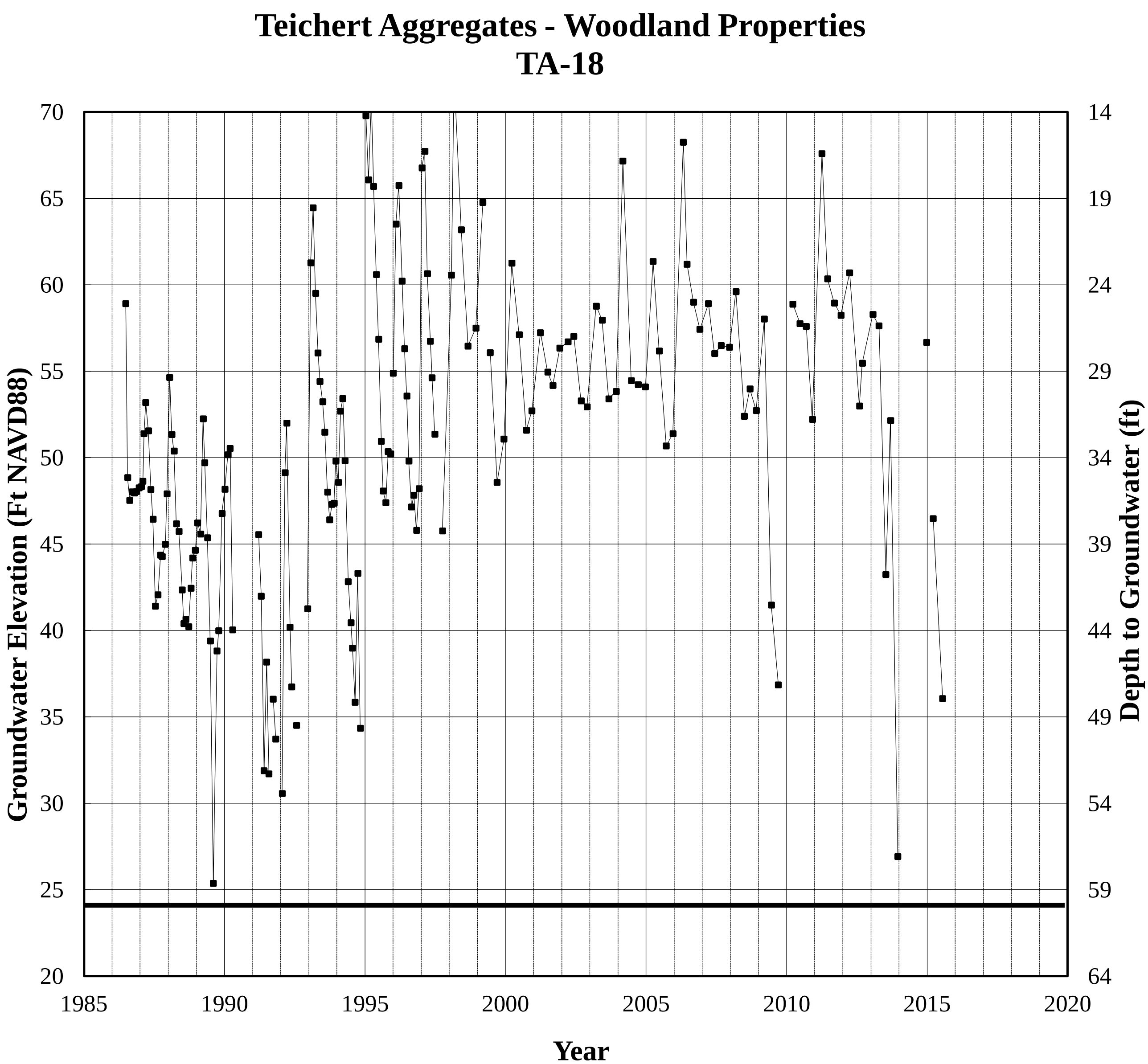
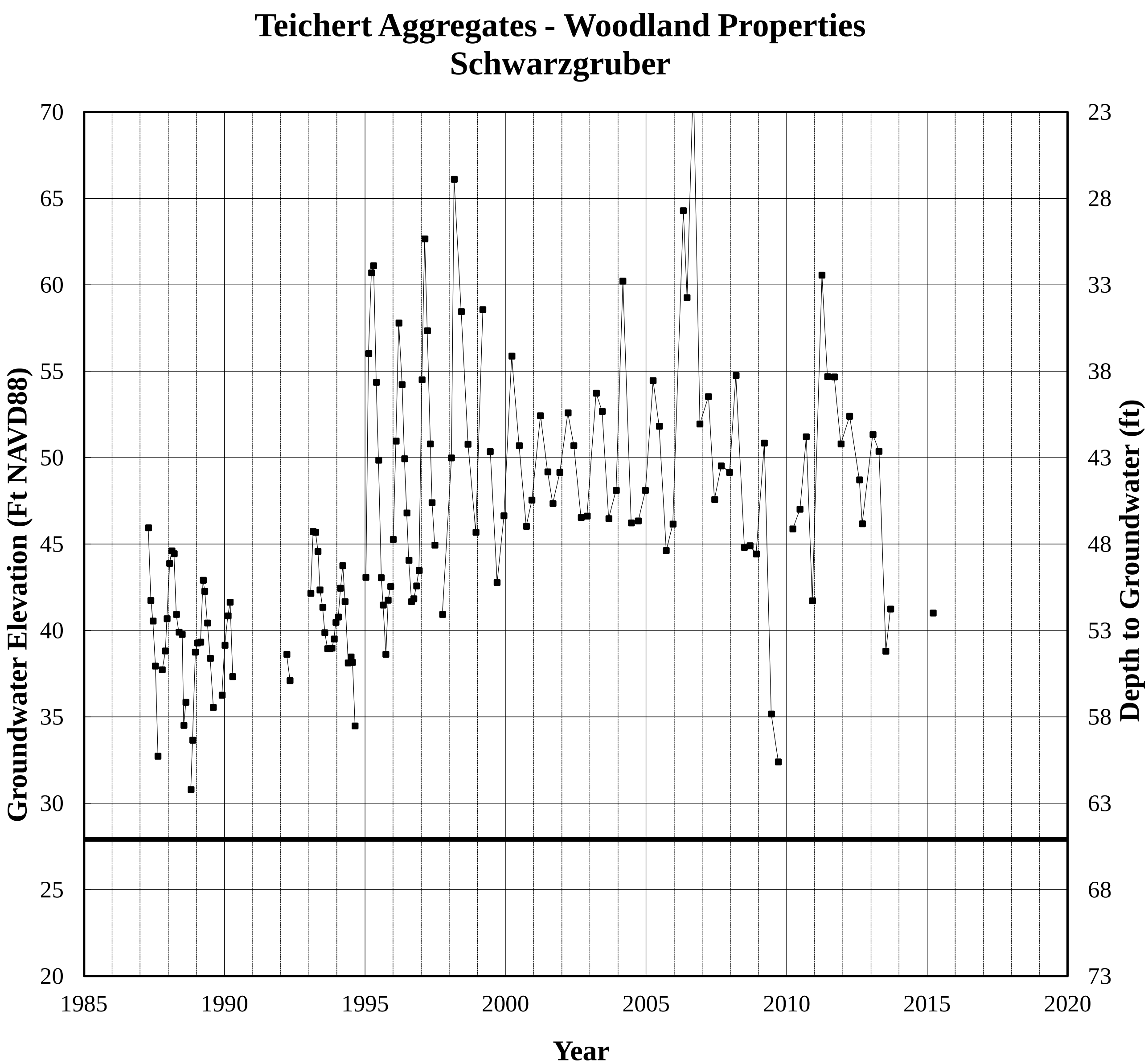
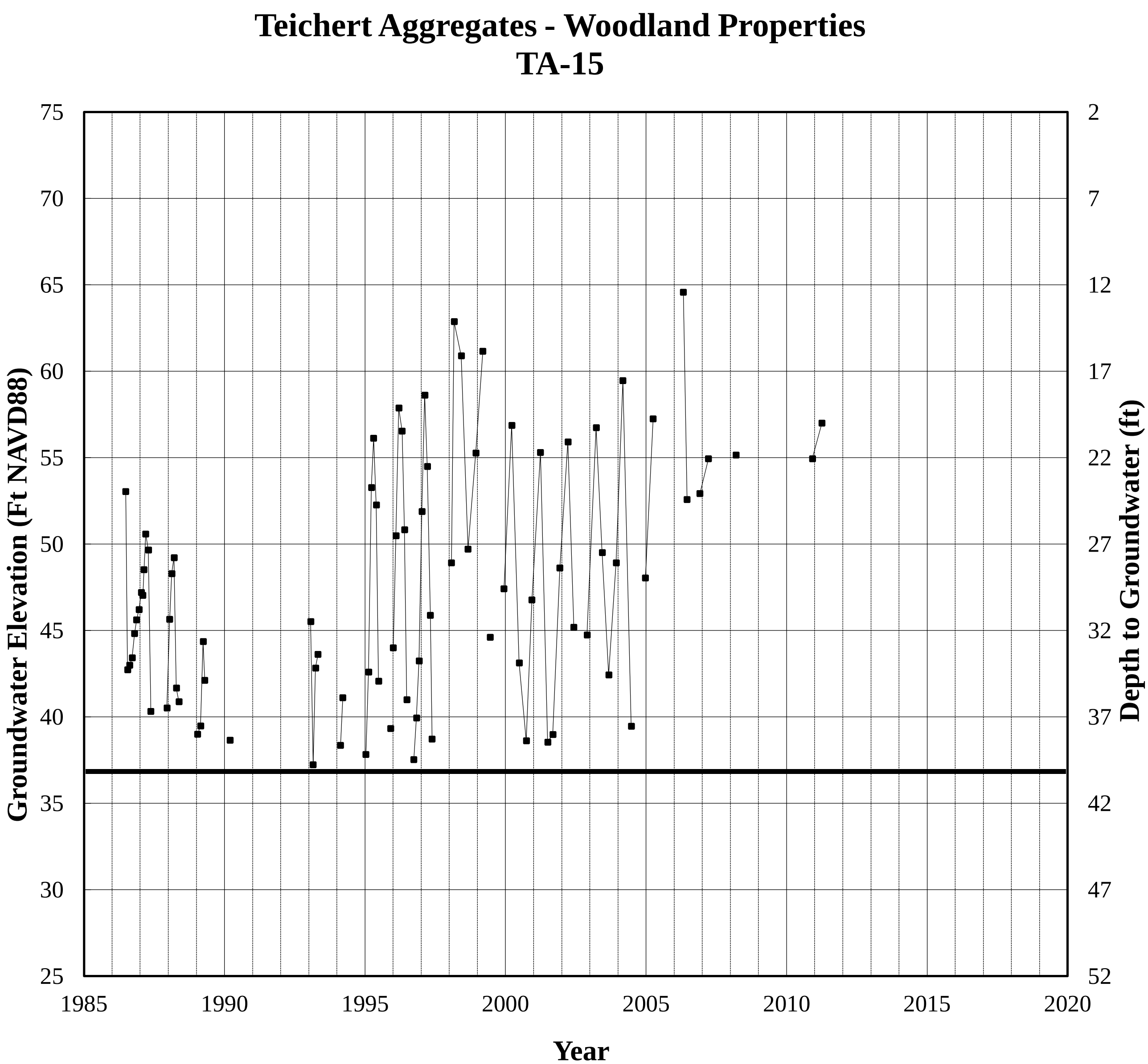
2010
2015
2020



Teichert Aggregates - Woodland Properties
TA-18
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
70
65
60
55
50
45
40
35
30
25
20
14
19
24
29
34
39
44
49
54
59
64
1985
1990
1995
2000
2005
2010
2015
2020


Teichert Aggregates - Woodland Properties
Schwarzgruber
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
70
65
60
55
50
45
40
35
30
25
20
23
28
33
38
43
48
53
58
63
68
73
1985
1990
1995
2000
2005
2010
2015
2020



Teichert Aggregates - Woodland Properties
TA-15
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
75
70
65
60
55
50
45
40
35
30
25
2
7
12
17
22
27
32
37
42
47
52
1985
1990
1995
2000
2005
2010
2015
2020

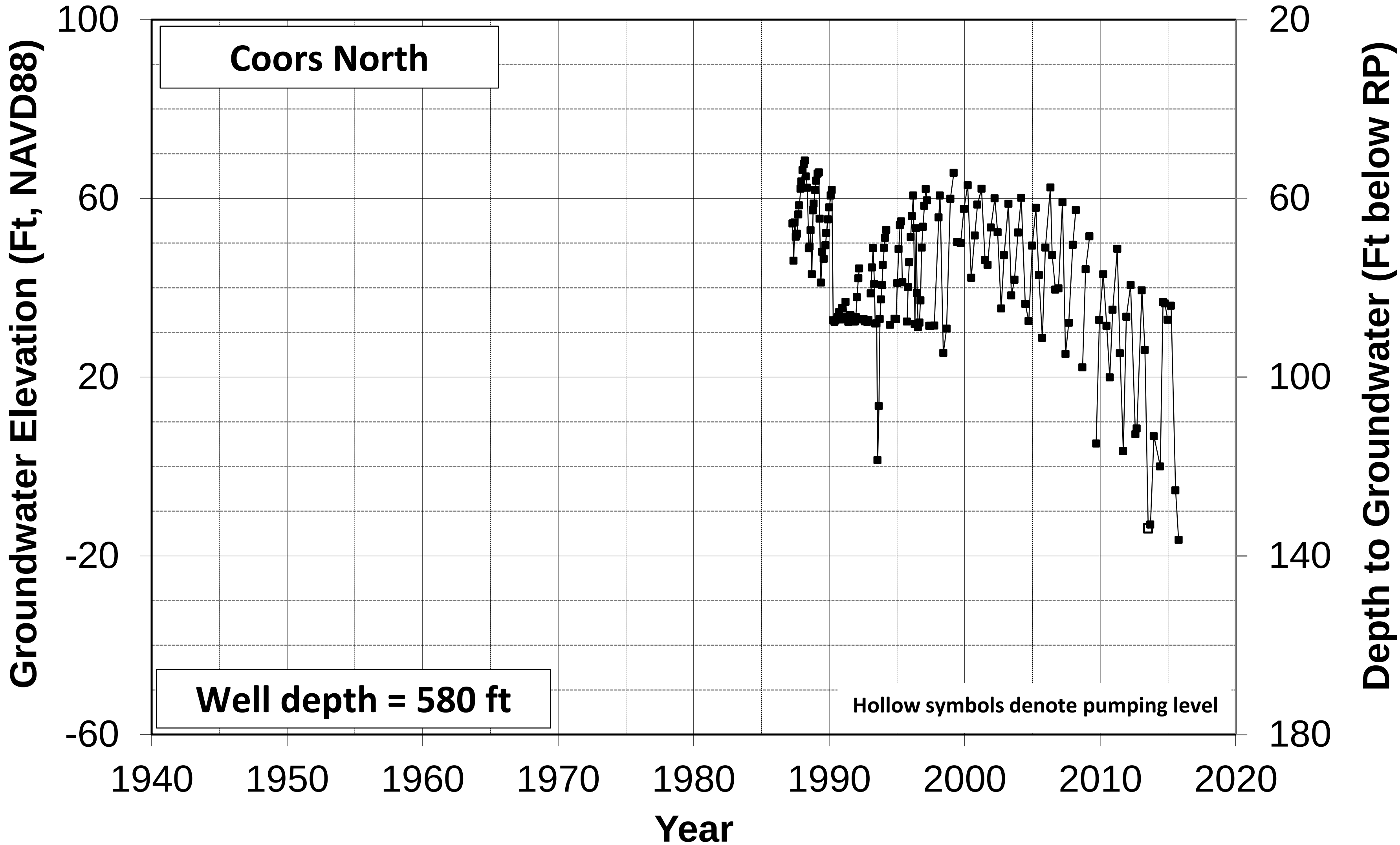


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Figure
Groundwater Levels

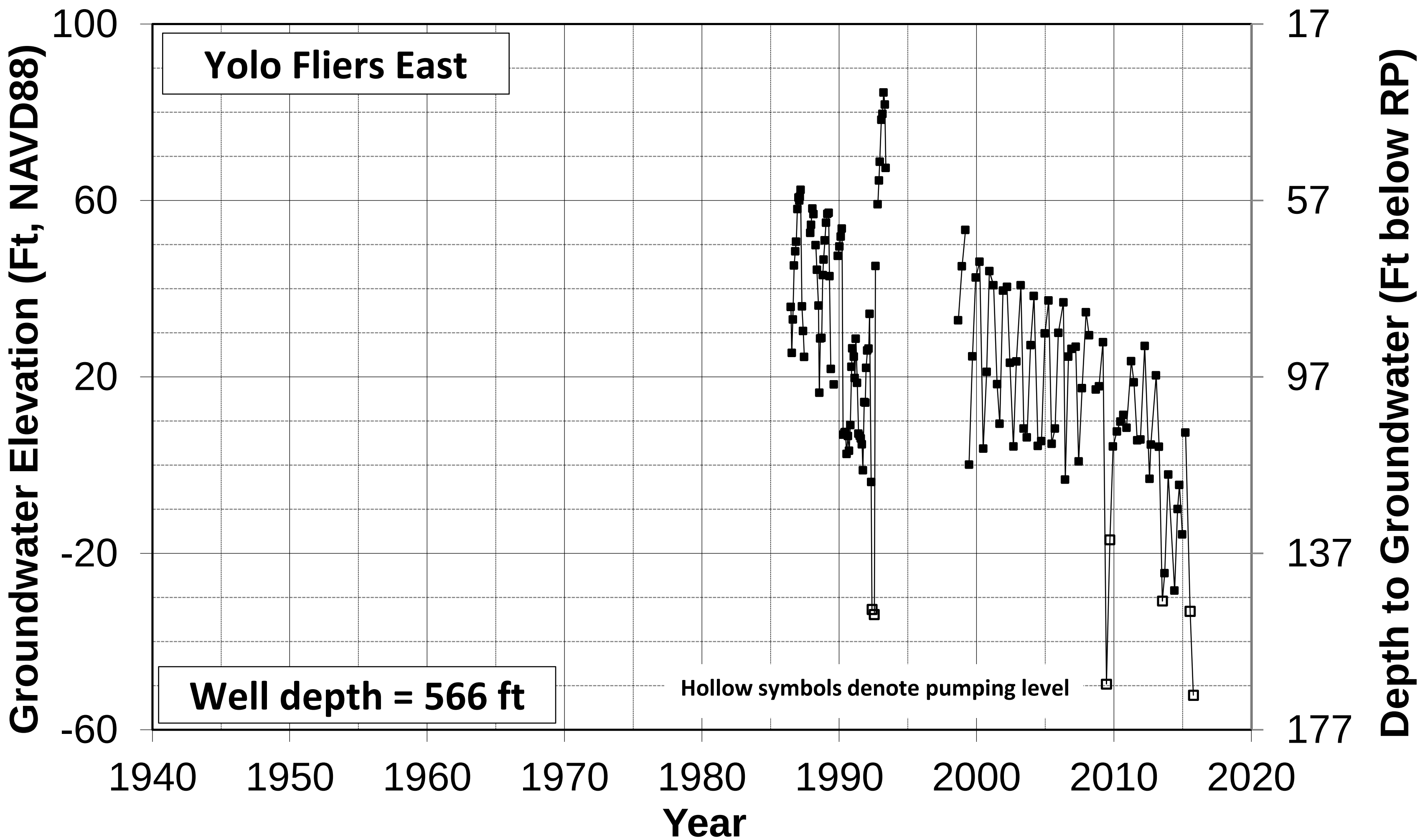

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Figure
Groundwater Levels

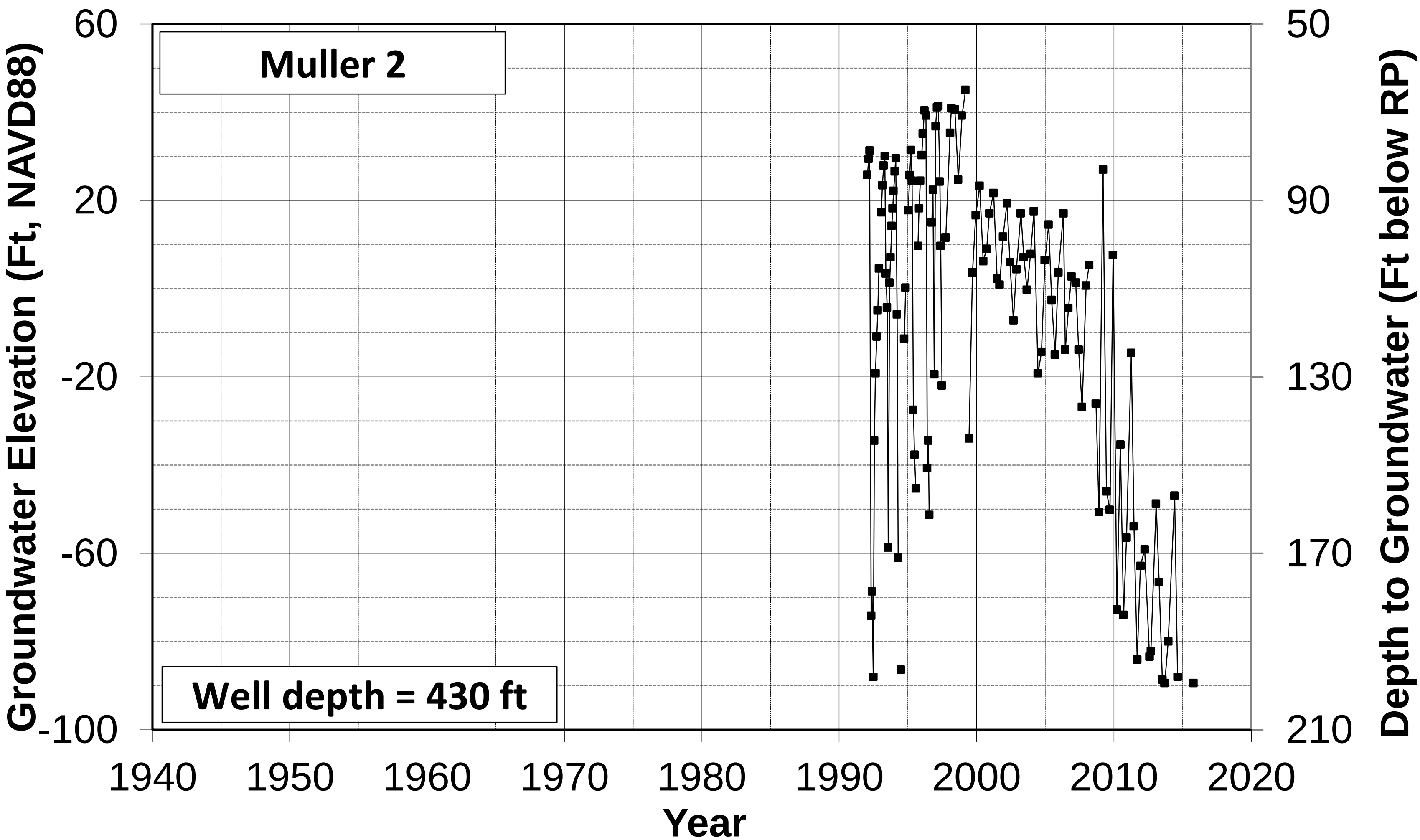

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Figure
Groundwater Levels

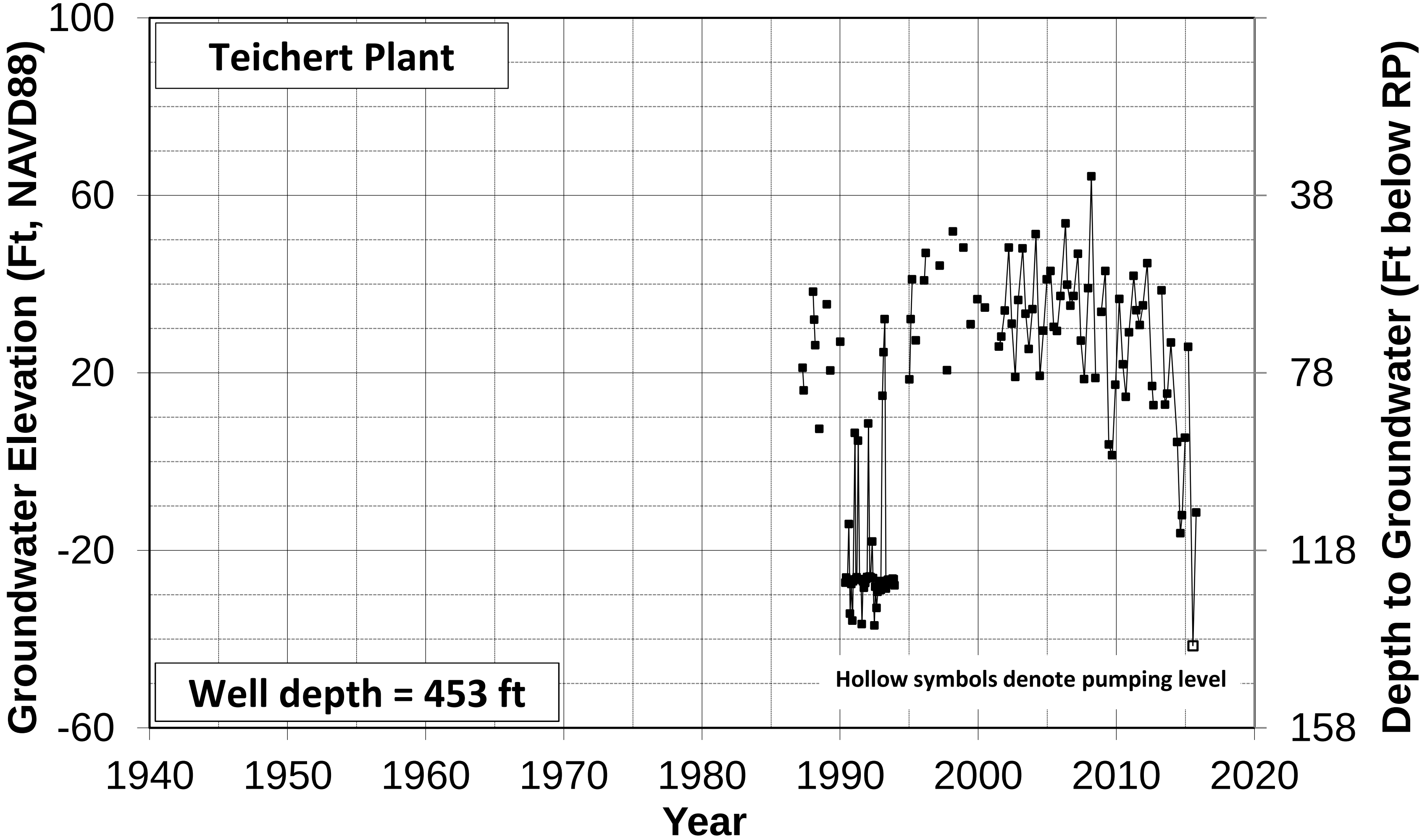

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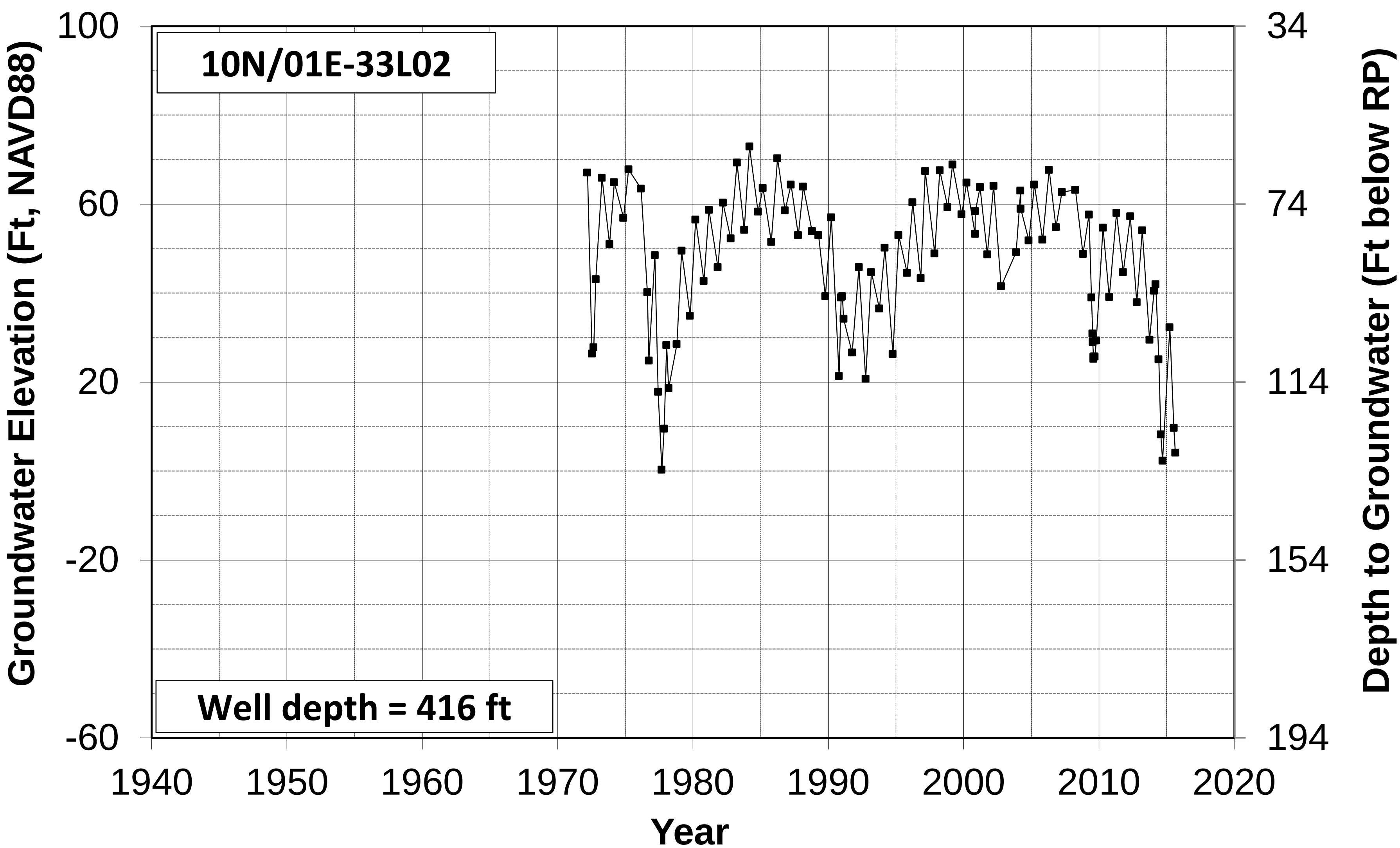
Figure
Groundwater Levels



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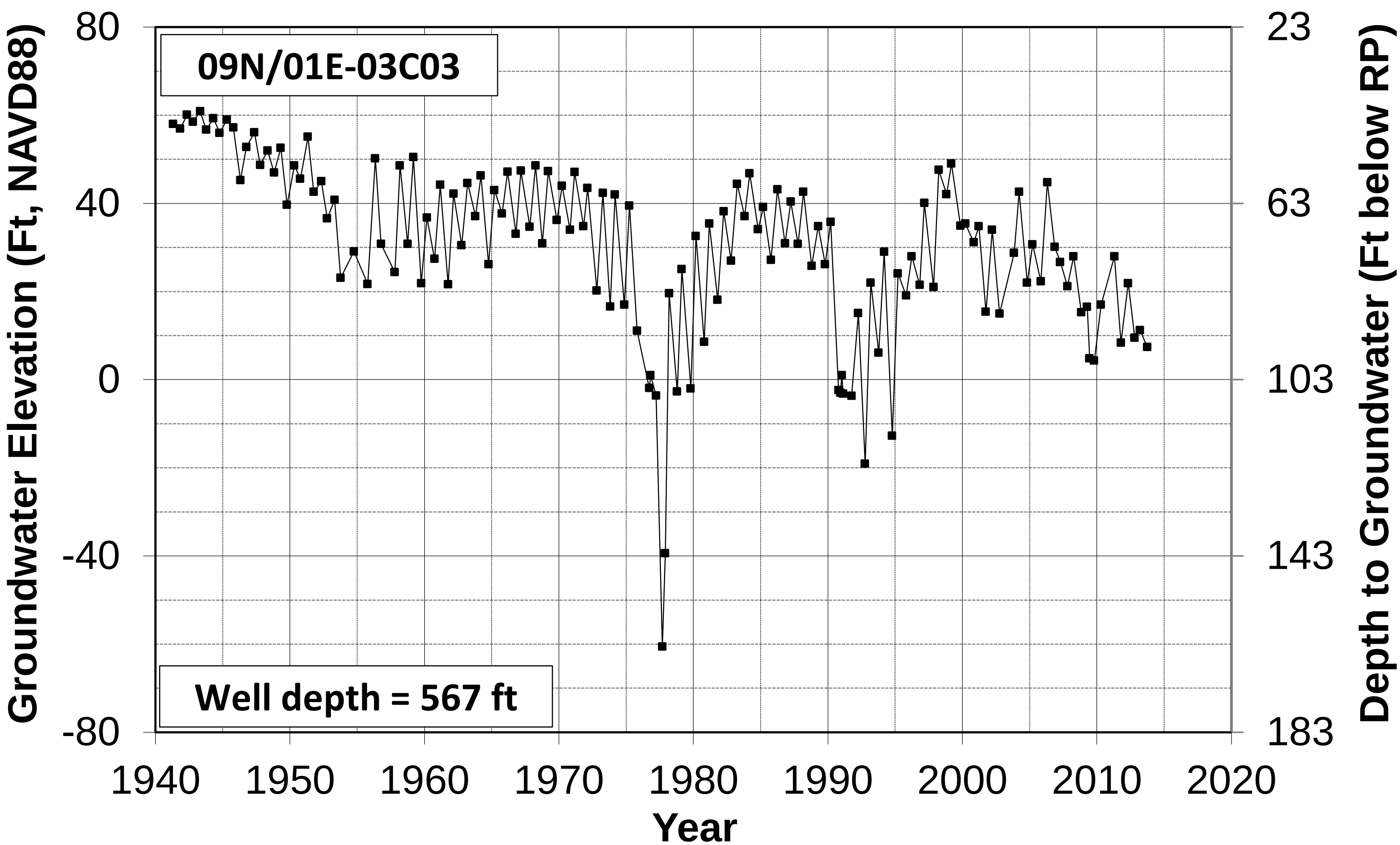
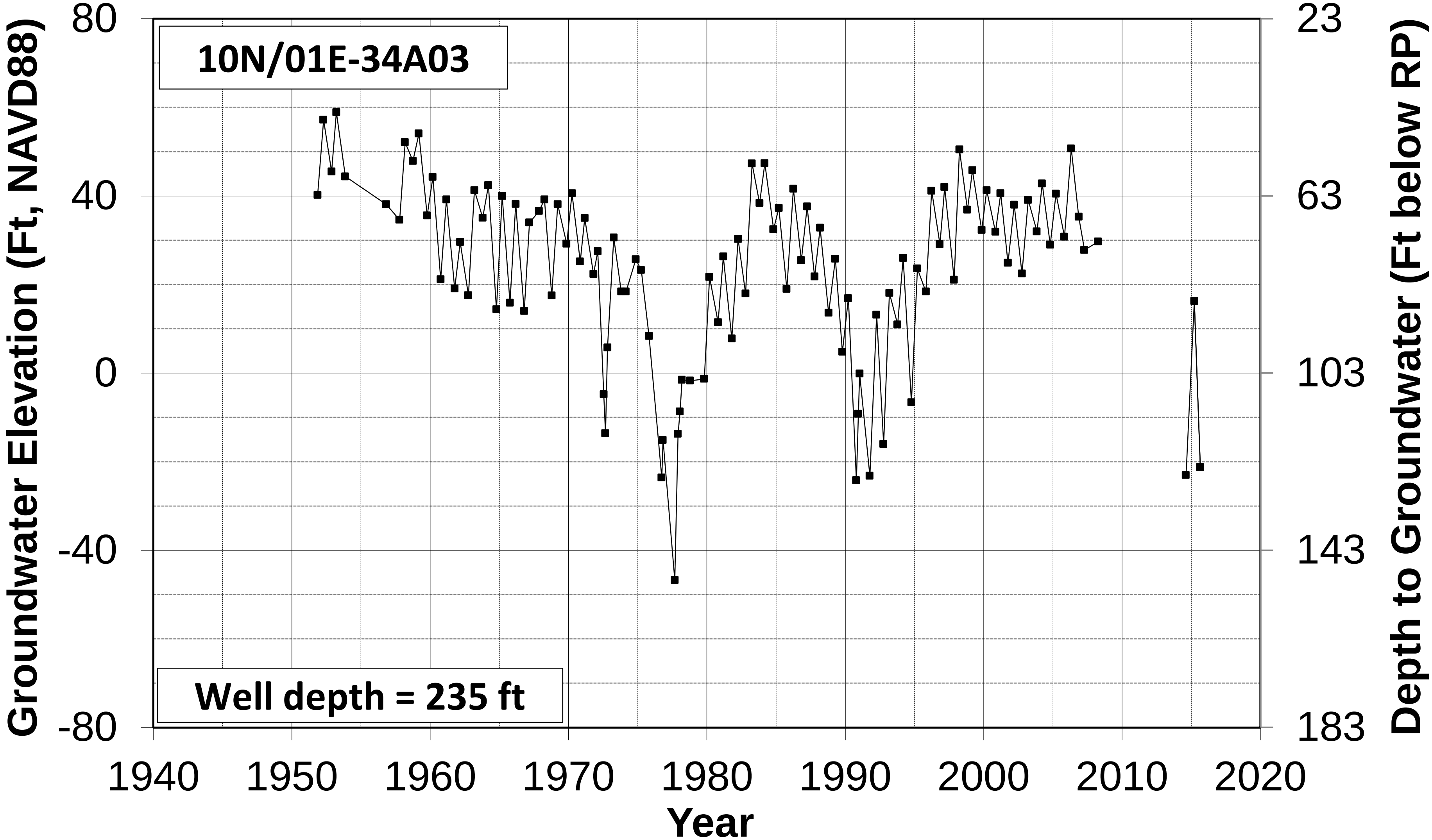
CONSULTING ENGINEERS

Figure
Groundwater Levels



09N/01E-03C03
Well depth = 567 ft
Groundwater Elevation (Ft, NAVD88)
Depth to Groundwater (Ft below RP)
Year
80
40
0
-40
-80
23
63
103
143
183
1940
1950
1960
1970
1980
1990
2000
2010
2020


10N/01E-34A03
Well depth = 235 ft
Groundwater Elevation (Ft, NAVD88)
Depth to Groundwater (Ft below RP)
Year
80
40
0
-40
-80
23
63
103
143
183
1940
1950
1960
1970
1980
1990
2000
2010
2020