

Sustainable Groundwater Management Act Portal

Monitoring Network Module

Survey History Table

User Manual



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1. User Manual Purpose and Process Overview

This user manual describes the SGMA Portal's Monitoring Network Module's (MNM) new Survey History Table (Survey History). The purpose of the Survey History is to retain a historical record of a well's changing ground surface elevation (GSE) and reference point elevation (RPE). Additionally, well's surveys are used to identify the GSE and RPE associated with a groundwater level measurement (measurement). *Table 1* includes the names and descriptions of the fields associated with the Survey History.

Table 1. Survey History Field Names and Descriptions

Field Name	Field Description
Survey Type	A general description type related to the survey. This is selected from a dropdown list.
Survey Organization	The organization responsible for the survey.
Start Date	The date when the survey was taken. Either entered when submitting a new survey or based on the measurement date during the initial survey table population.
End Date	Calculated, always one day before the start date of the subsequent survey. For current surveys there is no end date.
Reference Point Elevation	The elevation of a well's reference point. Reference point elevations shall be measured and reported in feet to an accuracy of at least 0.5 feet, relative to NAVD 88 or using the best available information.
Ground Surface Elevation	The elevation of a well's ground surface. Ground surface elevations shall be measured and reported in feet to an accuracy of at least 0.1 feet, relative to NAVD 88 or using the best available information.
Reference Point Description	Description of the location of the well's reference point and any other notes used to identify the well's reference point.
Elevation Method	The method used to define a survey's GSE and RPE. This is selected from a dropdown list.
Elevation Accuracy	The accuracy of the method used to define GSE and RPE. This is selected from a dropdown list.
Comments	Additional comments related to the survey.

2. Initial Survey History Population

Each well's Survey History has been prepopulated based on the well's historical measurements. The initial Survey History population was based on two scenarios: 1) a well with no historical measurements or 2) a well with one or more historical measurements.



2a. Survey History Population – Wells with No Historical Measurements

The Survey History associated with these wells only have one entry. The GSE, RPE, Reference Point Description, Elevation Method, and Elevation Accuracy fields are based on the information from a well's current Well Details page. The Survey Type is *Initial Elevation*, and the Survey Organization is the *Department of Water Resources*. The Start Date is *01/01/1900* which is the default date for all initial elevations.

2b. Survey History Population – Well with Historical Measurements

The Survey History associated with these wells have one or more entries based on a well's historical measurements. The Survey History was prepopulated based on the changing GSE and RPE associated with a well's historical measurements. The initial survey entry is based on the well's first measurement. This initial survey has a Start Date of *01/01/1900*, the Survey Type is *Initial Elevation*, the GSE and RPE are the elevations associated with the earliest measurement, and the Elevation Method and Elevation Accuracy are *Unknown*.

Subsequent survey entries are created every time the GSE and/or RPE changes between two measurements. The subsequent survey has a State Date equal to the measurement date when the GSE and/or RPE changed, and the previous survey has an End Date equal to one day prior to the new survey's Start Date. For example, if the second survey entry has a Start Date of *01/02/2020*, then the End Date of the initial survey will be *01/01/2020*. Additionally, the new survey has a Survey Type of *Other*, the GSE and RPE are the elevations associated with the measurement, the Elevation Method and Elevation Accuracy are *Unknown*, and the Survey Organization is the *Department of Water Resources*.

Each well's final survey entry is partially based on information in its Well Details page, similar to the process used for the single survey created for a well with no historical measurements. This survey has no End Date as it is the well's active survey.

Tables 2 and 3 below are an example of a well's historical measurements and the initial Survey History which would be populated based on the historical measurements.

Table 2. Example of a well's historical groundwater level measurements.

Historical Measurements		
Measurement Date	Measurement GSE	Measurement RPE
1/1/2010	100.5	101.5
1/1/2015	100.5	101.5
1/1/2018	100.5	102.5
1/1/2020	101.5	102.5
1/1/2022	101.5	102.5
1/1/2024	101.5	102.5
1/1/2025	102.5	103.5



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Table 3. Example of a well's initially populated survey history.

Initially Populated Survey History			
Start Date	End Date	GSE	RPE
1/1/2025		102.5	103.5
1/1/2020	12/31/2024	101.5	102.5
1/1/2018	12/31/2019	100.5	102.5
1/1/1900	12/31/2017	100.5	101.5

3. How Modifications to the Survey Table Affects Historical Measurements

The MNM uses a measurement's *Measurement Date* to look up the corresponding survey and determine the GSE and RPE associated with the measurement.

As a result, as new surveys are added or existing surveys are edited/deleted, the GSE and/or RPE associated with a measurement might be affected. Changes to a well's Survey History **will not** change the *Reading at RP* or *Reading at WS* values associated with a measurement. However, if the GSE and/or RPE associated with a measurement are affected then the measurement's *Groundwater Elevation* will be re-calculated.

During the process of modifying the Survey History the MNM will inform the user of which measurements will be affected, this is further described in later sections of this user manual. *Figure 1* below illustrates how measurements might be affected when modifying a well's Survey History.

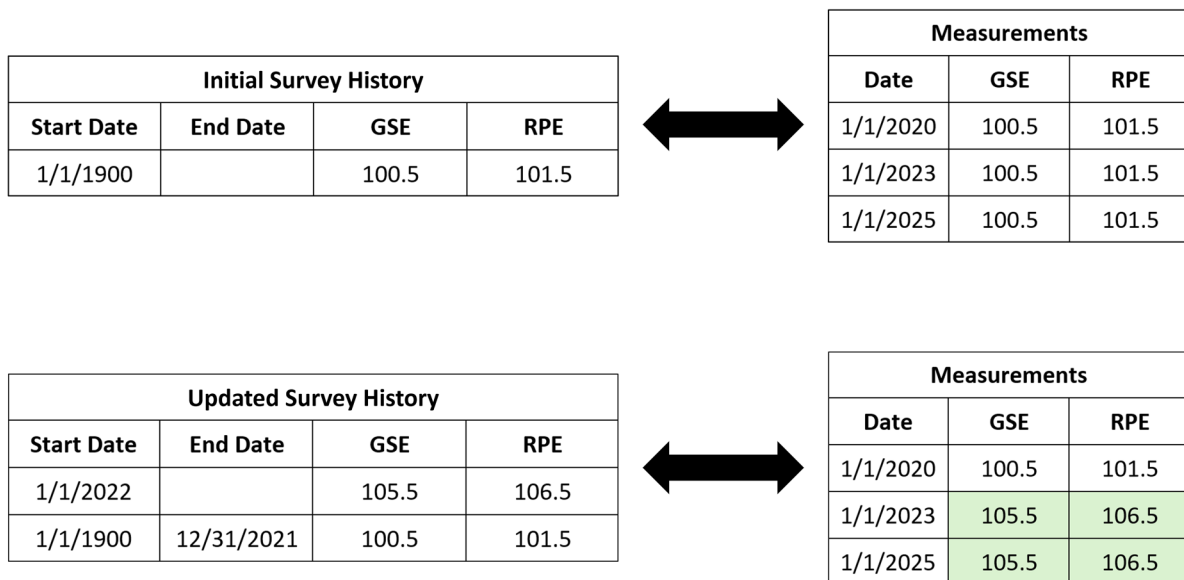


Figure 1. Example of the connection between a well's historical measurements and Survey History.



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4. Survey History Processes Overview

The sections below provide the step-by-step processes associated with the Survey History.

4a. Viewing a Well's Survey History

1. Click the **View/Edit My Wells** icon. The **List of Wells** page opens.

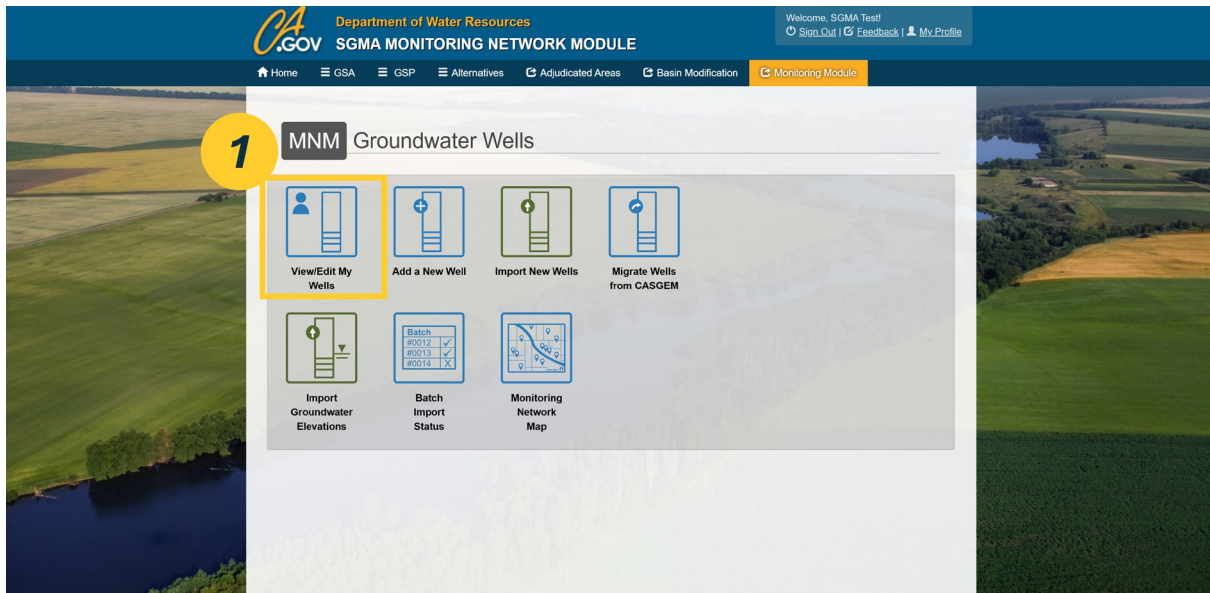


Figure 2. A screenshot of the MNM's Groundwater Wells homepage.

2. Search for the desired well and select the well's hyperlink. The well's **Well Details** page opens.

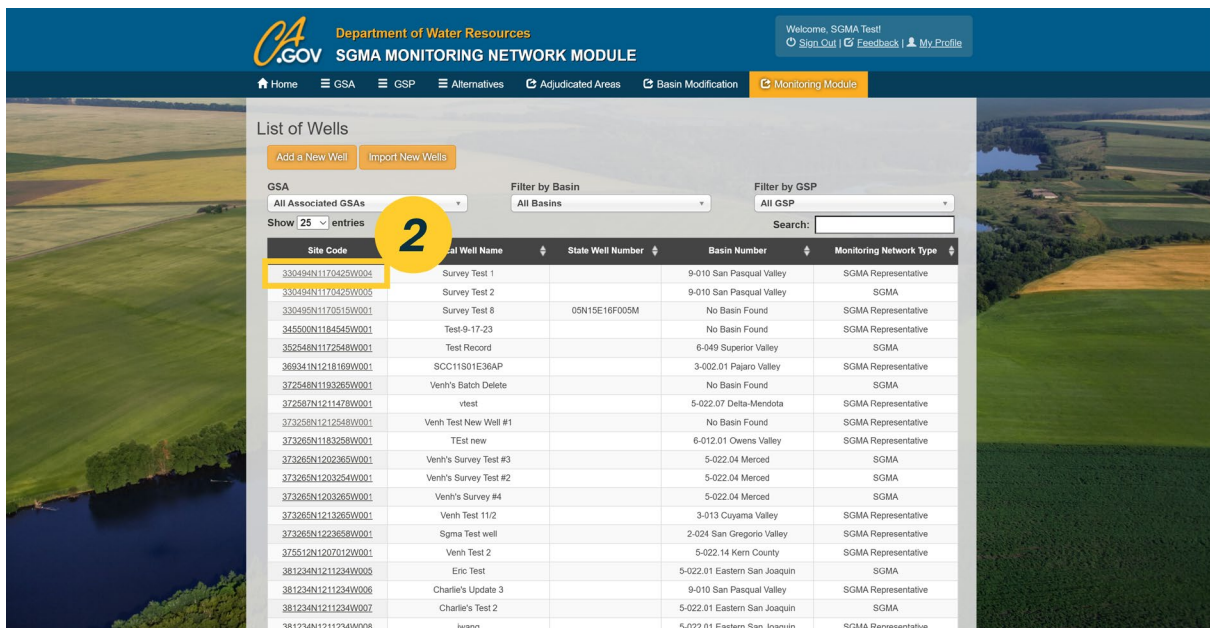


Figure 3. A screenshot highlighting a hyperlink to a well's Well Details page.



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3. Click the **View Survey History** button. The well’s **Survey History** window opens.

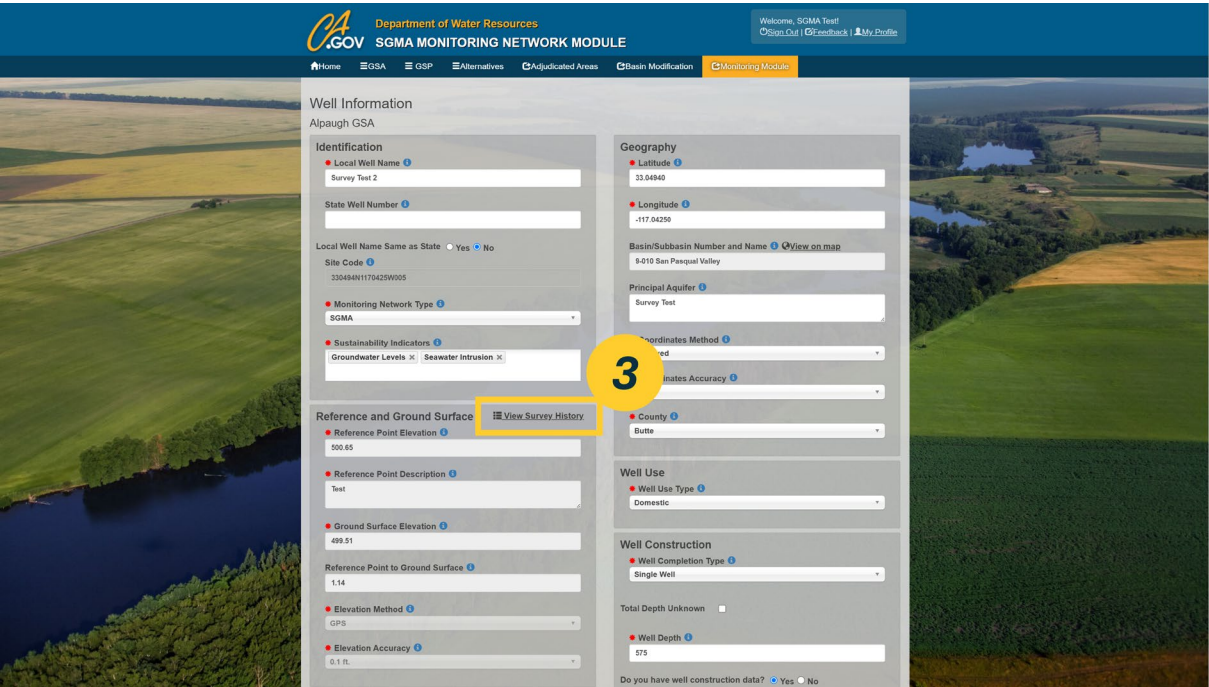


Figure 4. A screenshot highlighting the View Survey History button.

4. The **Survey History** window contains the initial surveys based on the well’s historical measurements.

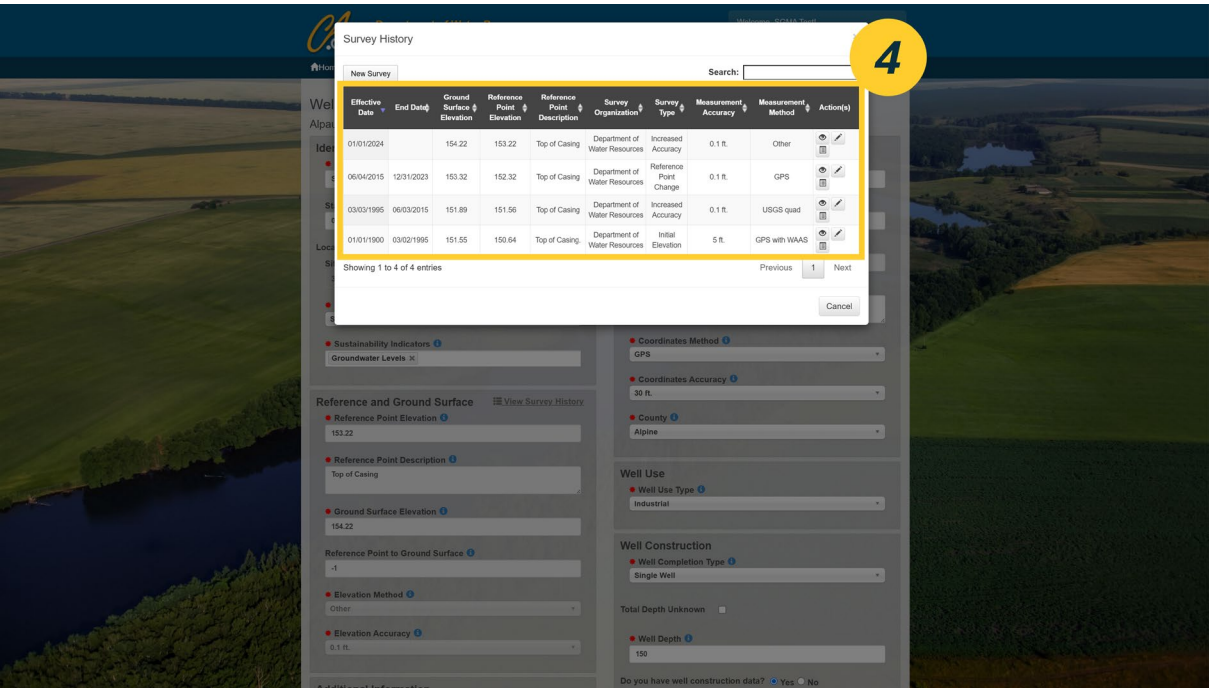


Figure 5. A screenshot highlighting the Survey History window.



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4b. Viewing the Measurements Associated with a Survey

1. From the **Survey History** window, click the **Associated Readings** button.

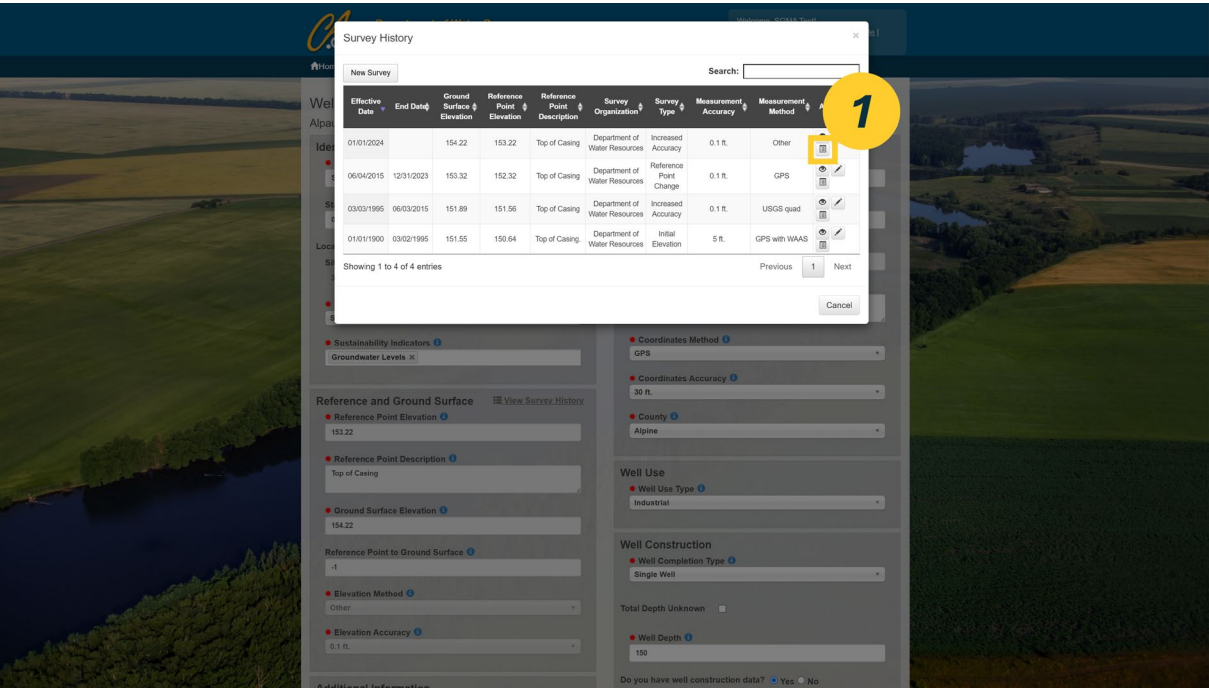


Figure 6. A screenshot highlighting the Associated Readings button.

2. The **Associated Readings** window opens.

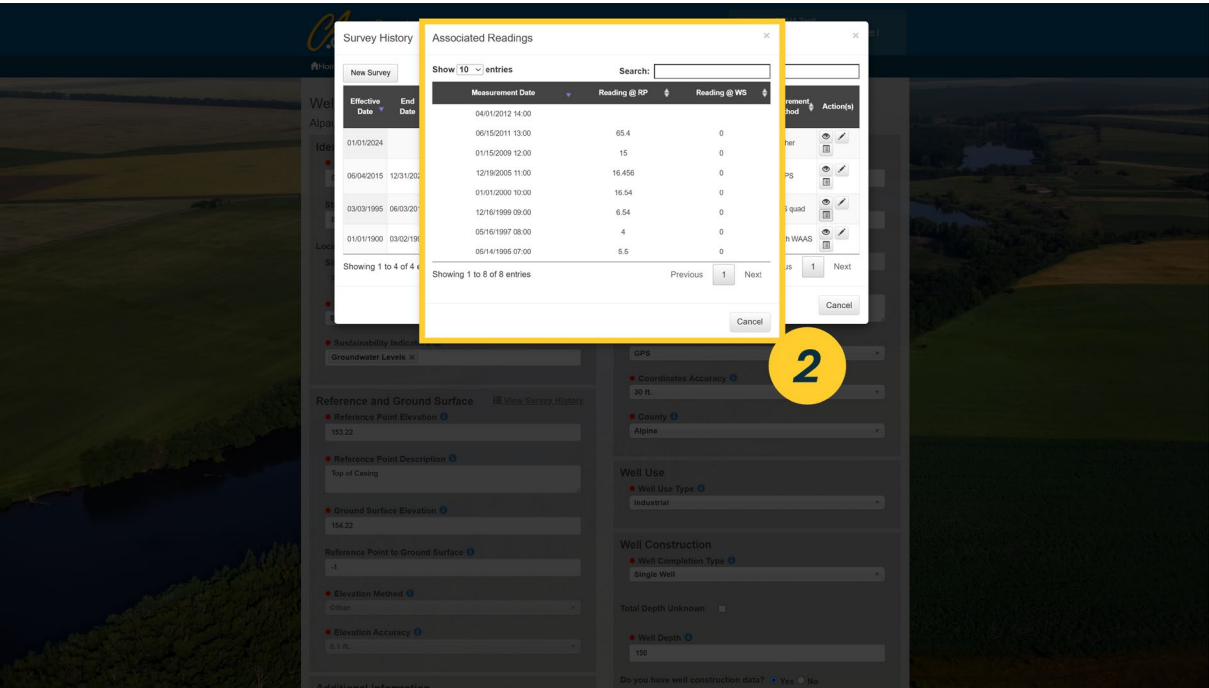


Figure 7. A screenshot highlighting the Associated Readings window.



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4c. Adding a New Survey

1. From the **Survey History** window, click the **New Survey** button. The **Add New Survey** window opens.

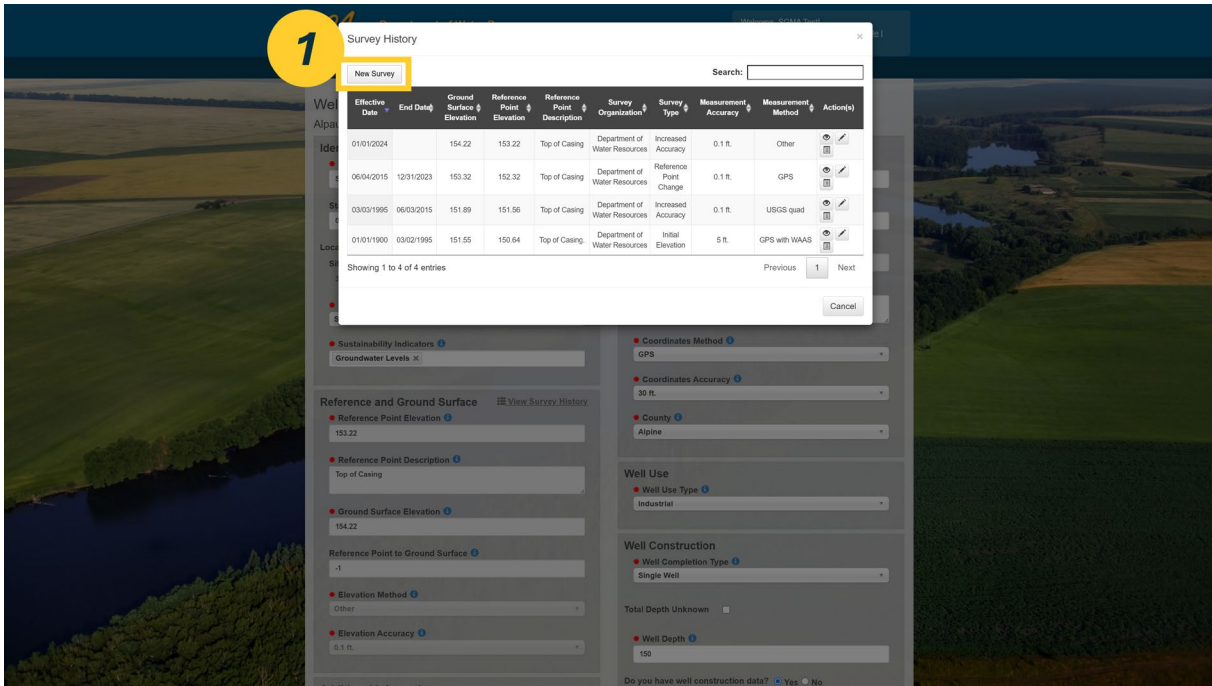


Figure 8. A screenshot highlighting the New Survey button.

2. Complete all required fields then click the **Save** button. The **Affected Records** window opens.

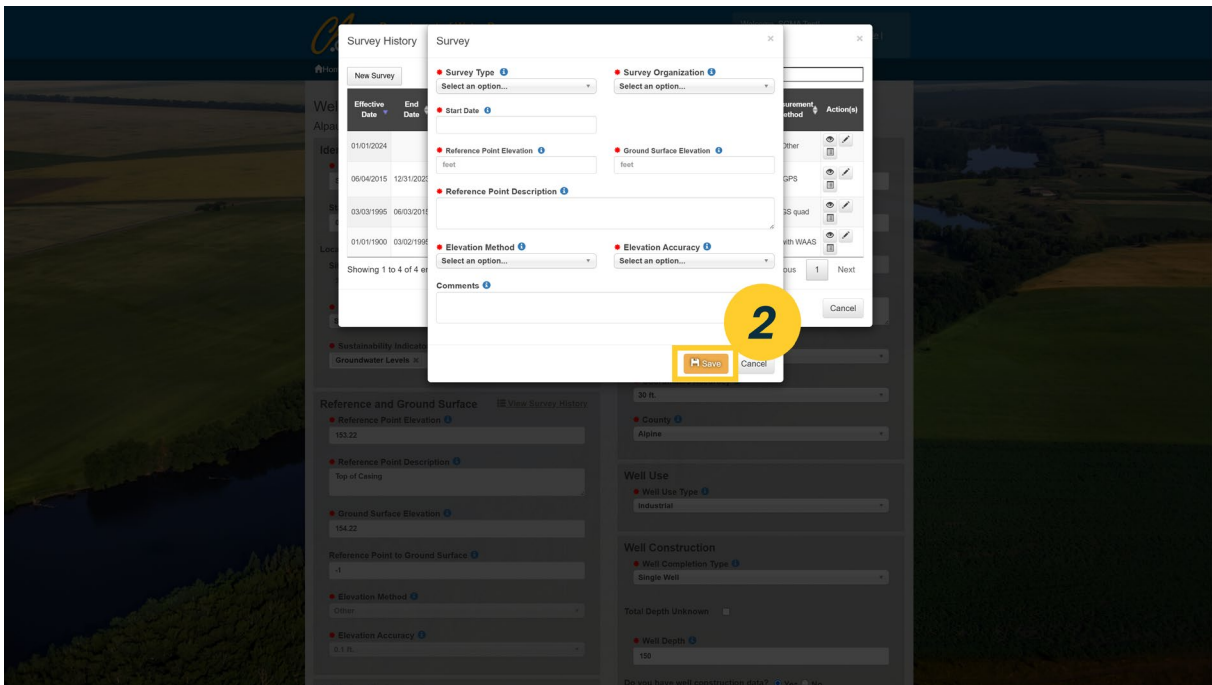


Figure 9. A screenshot highlighting the Add New Survey window and the Save button.



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3. If the affected records are acceptable, click the **Save** button. A new survey is saved.

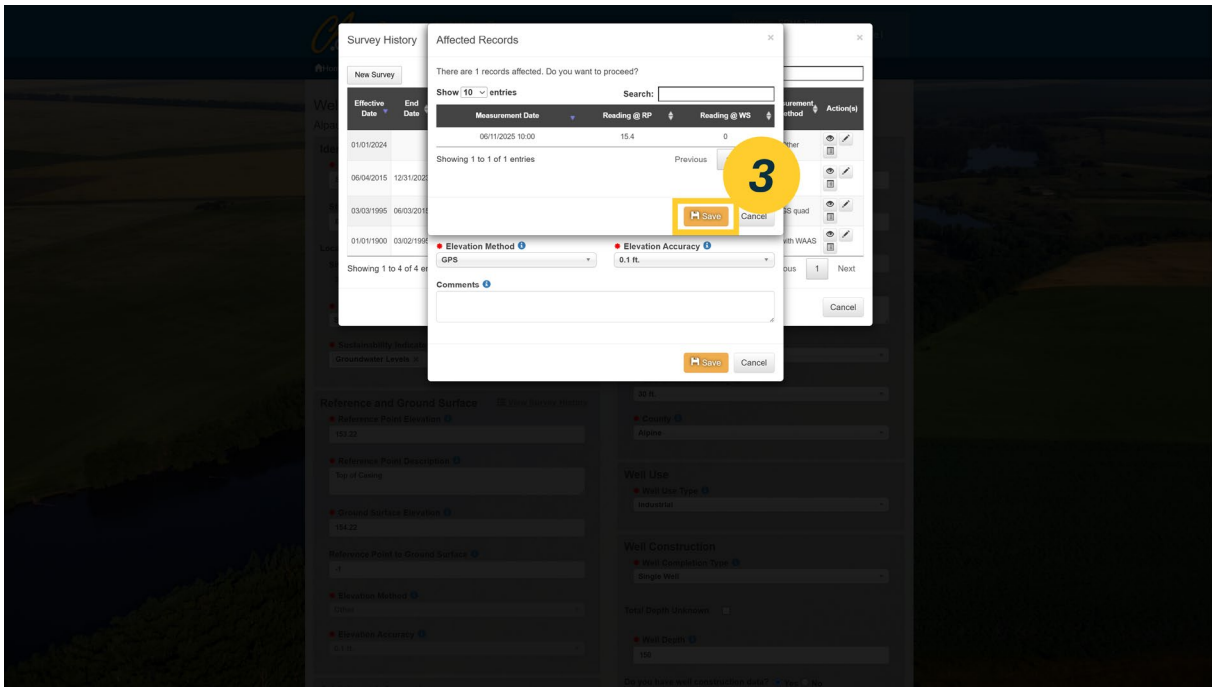


Figure 10. A screenshot highlighting the Affected Records window and the Save button.

4d. Editing an Existing Survey

1. From the **Survey History** window, click the **Edit** button. The **Edit Survey** window opens.

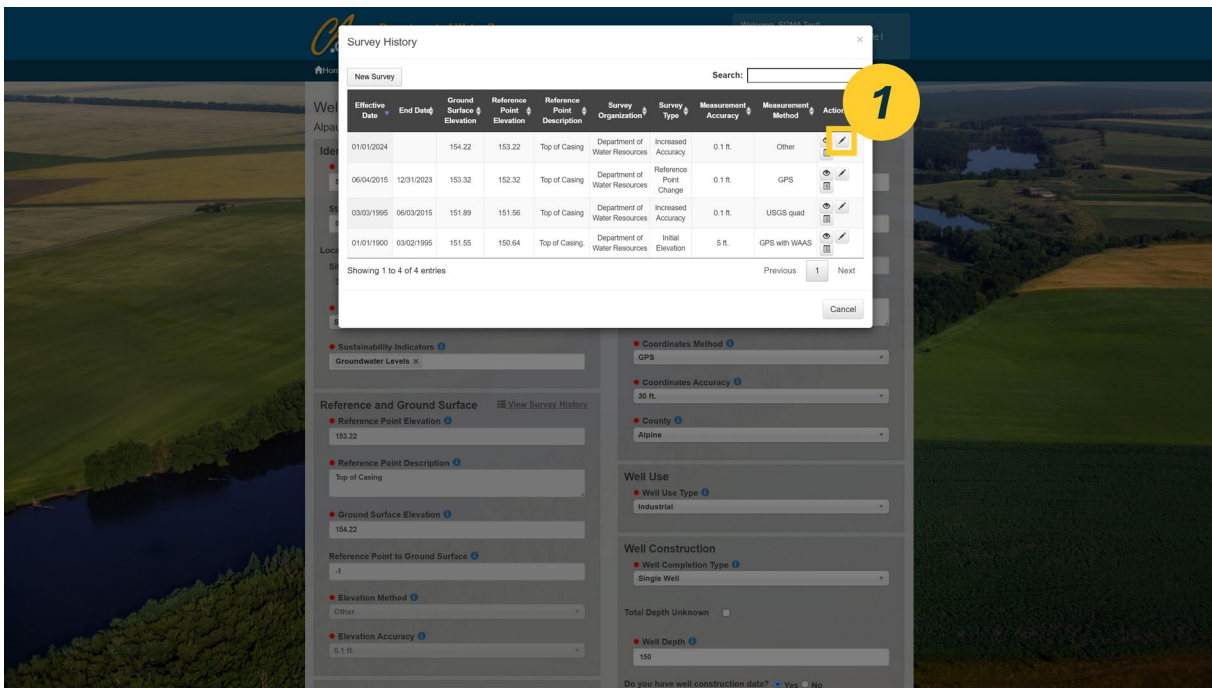


Figure 11. A screenshot of the Edit Survey button.



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2. Update desired fields then click the **Save** button. The **Affected Records** window opens.

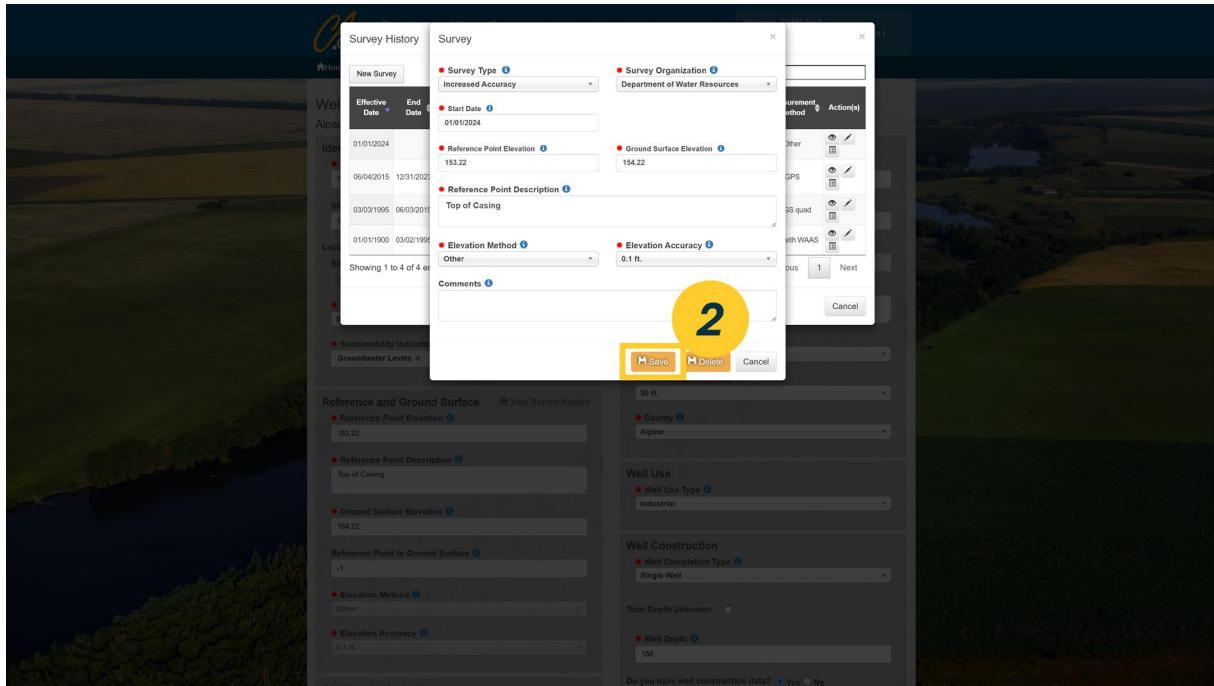


Figure 12. A screenshot of the Edit Survey window and the Save button.

3. If the affected records are acceptable, enter a reason for change in the **Reason for Change** field and then click the **Save** button.

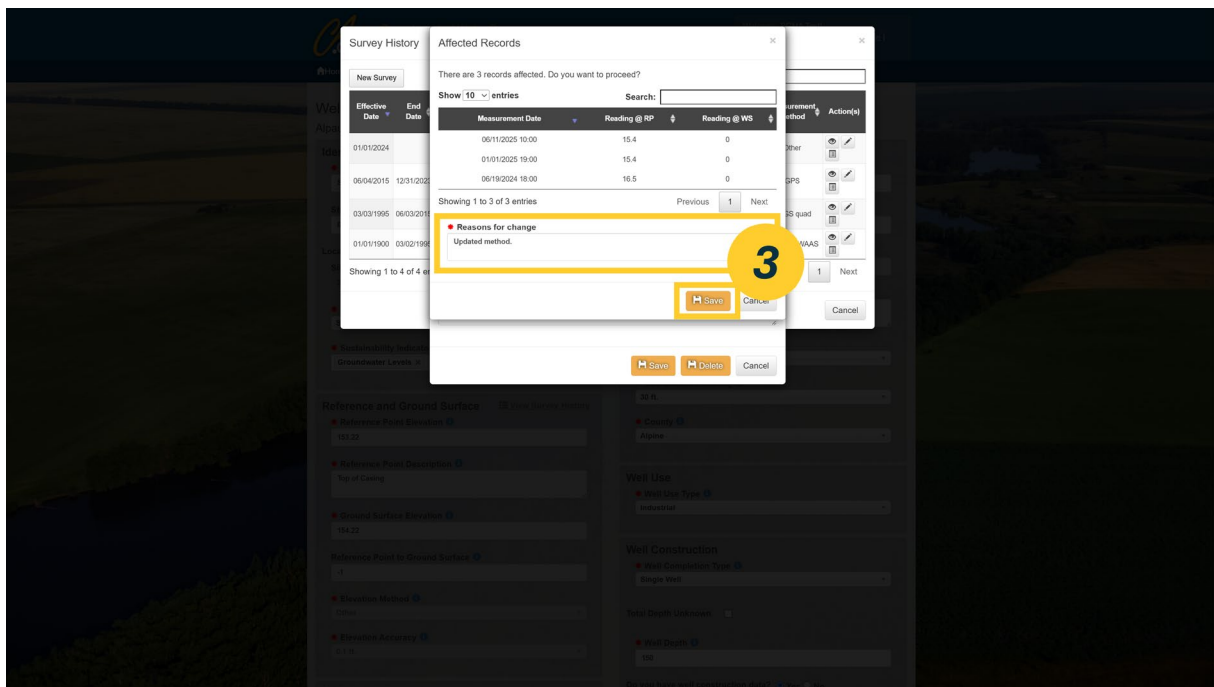


Figure 13. A screenshot of the Affected Records window, the Reason for Change box, and the Save button.



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4e. Deleting an Existing Survey

1. From the **Survey History** window, click the **Edit** button. The **Edit Survey** window opens.

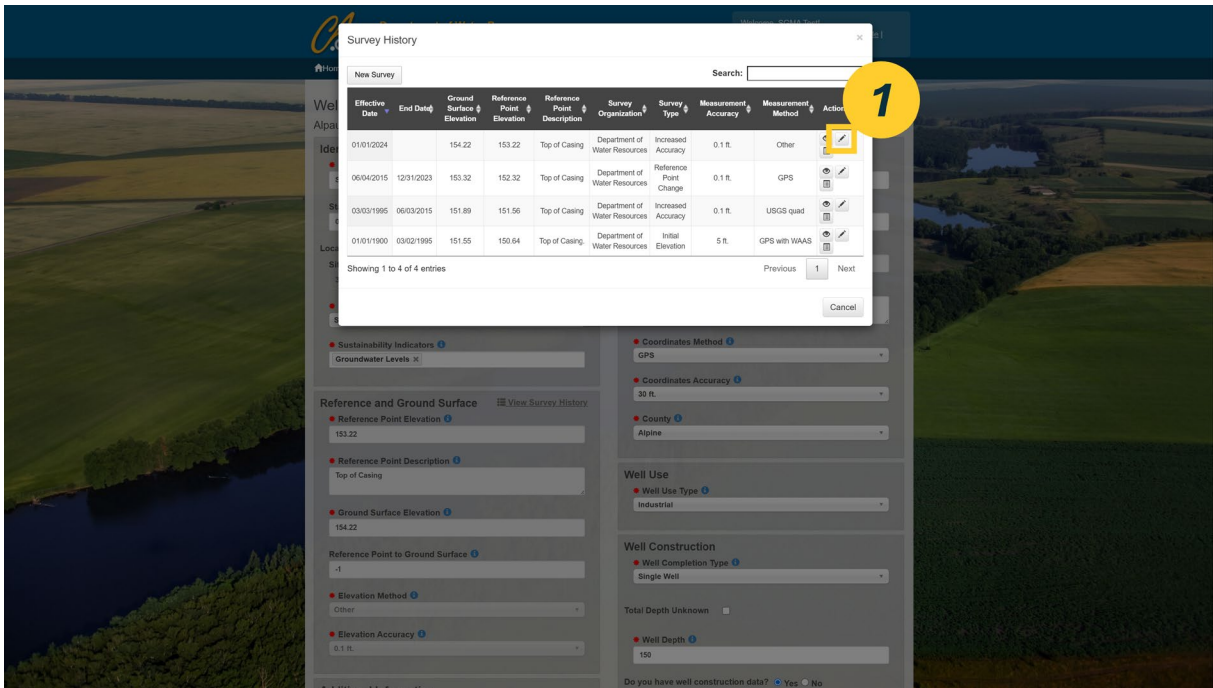


Figure 14. A screenshot of the Edit Survey button.

2. Click the **Delete** button. The **Affected Records** window opens.

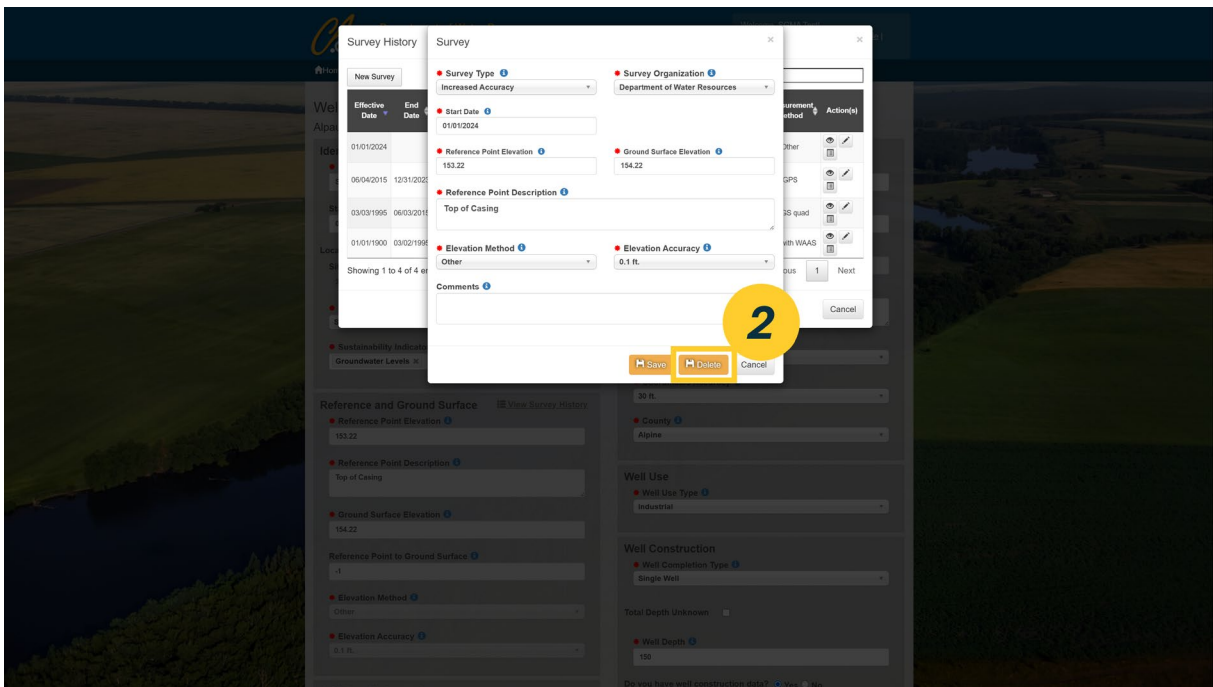


Figure 15. A screenshot of the Delete survey button.



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3. If the affected records are acceptable, enter a reason for change in the **Reason for Change** field and then click the **Save** button. The survey is now deleted.

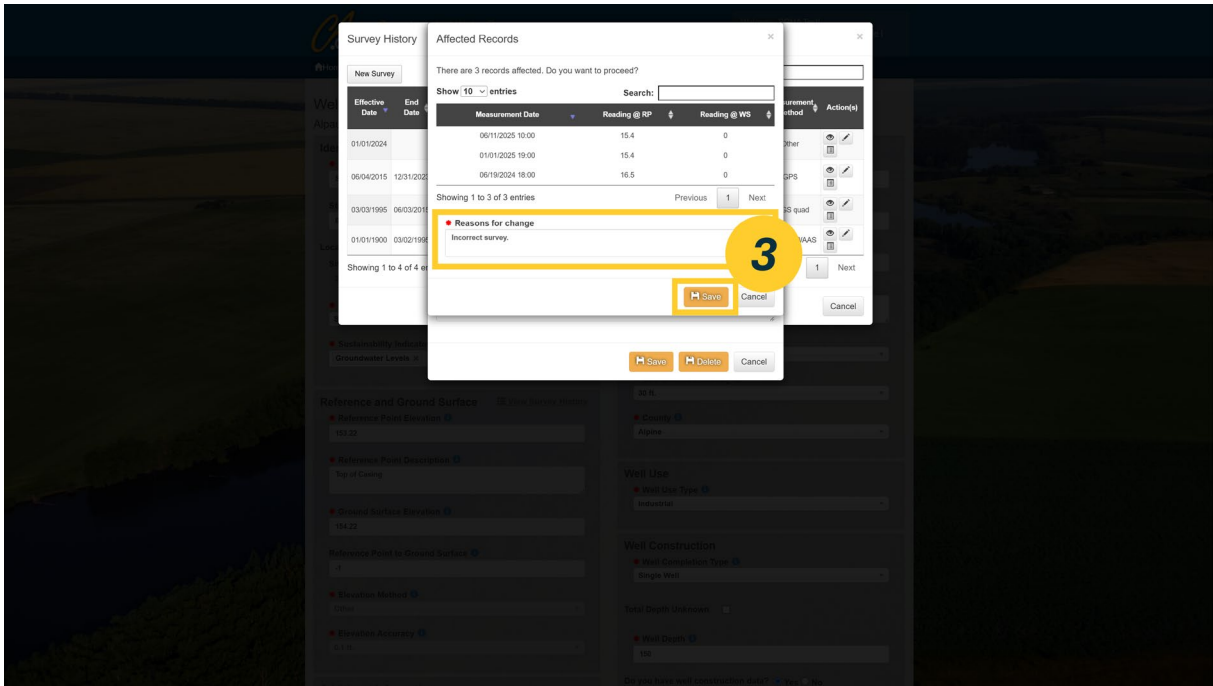


Figure 16. A screenshot of the Affected Records window, the Reason for Change box, and the Save button.

