The SGMA Data Series

What to Collect, Why it Matters, and How to Use It

Session 2

How to Collect the Right Data

MLJ ENVIRONMENTAL

Agenda and Goals

What We're Covering:

1. Session 1 Recap: What Data Do We Need?
2. Data Collection Strategies: Manual, Hybrid, and Automated
3. Case Studies

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Introductions

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Session 1 Recap:
What Data Do We Actually Need?

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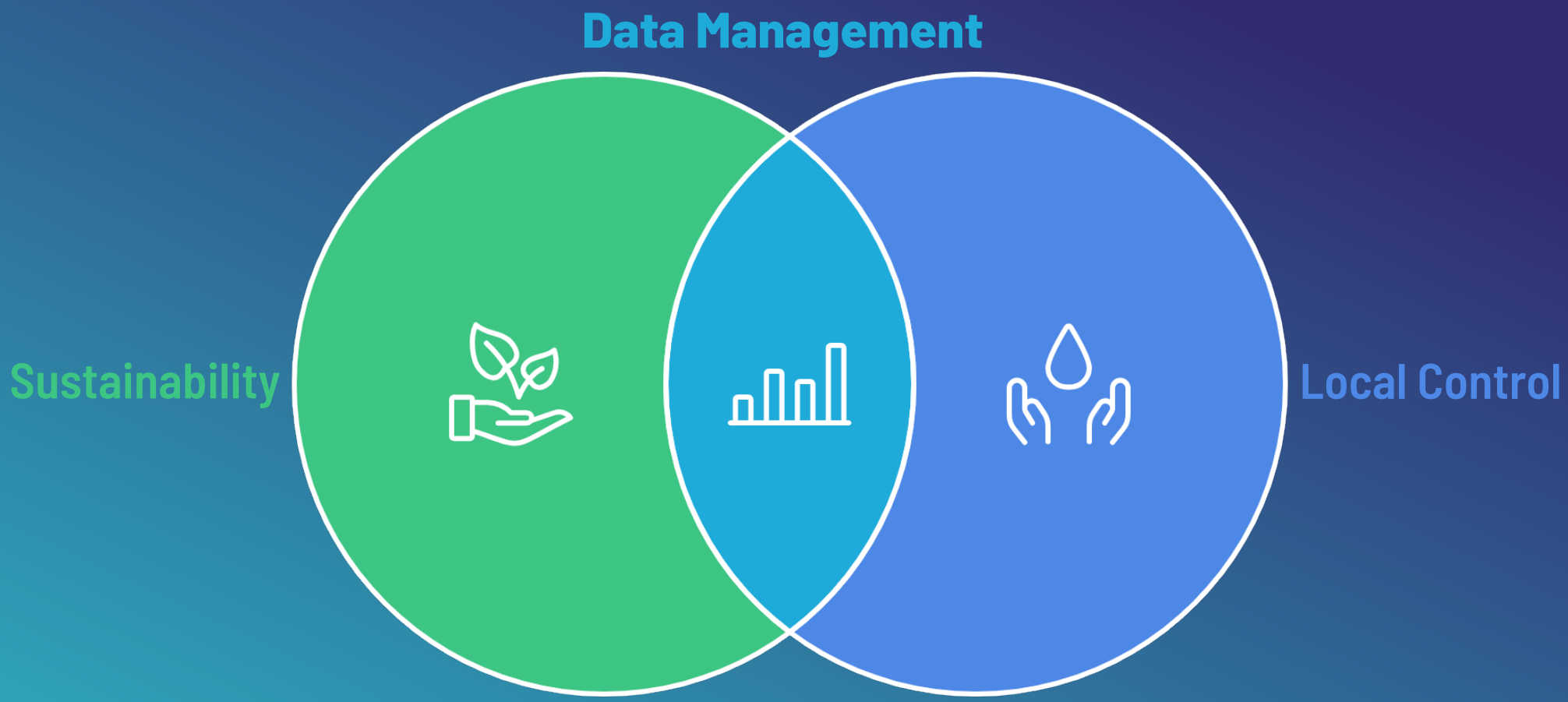
Session 1 Recap: What Data Do We Actually Need?



Session 1 Recap: What Data Do We Actually Need?

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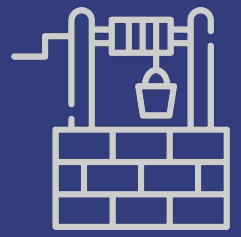
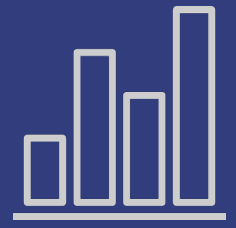


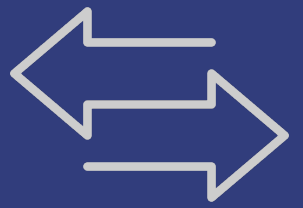
Well Registration

Metering & Reporting

Groundwater Allocations

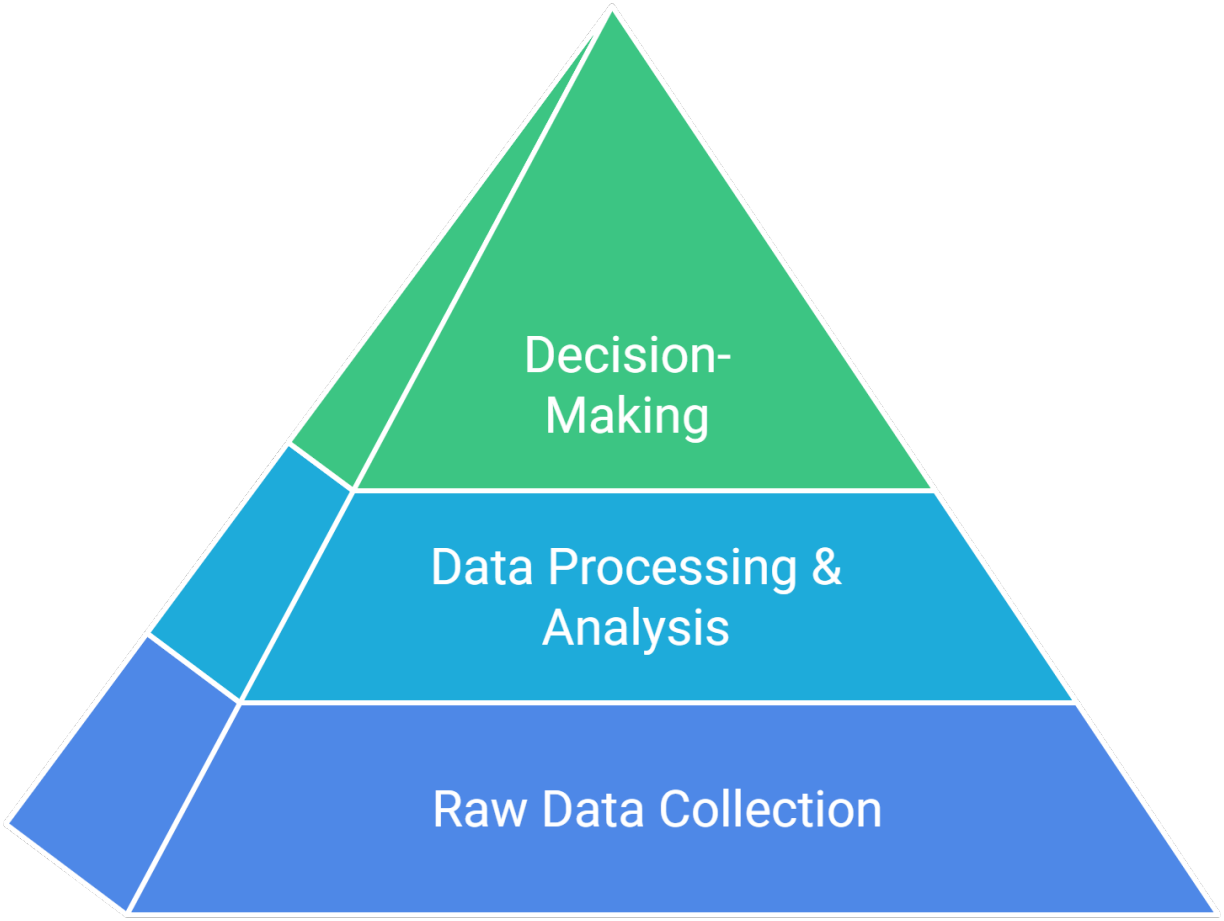


Water Usage Tracking



Credits Trading

Building Your Data Picture



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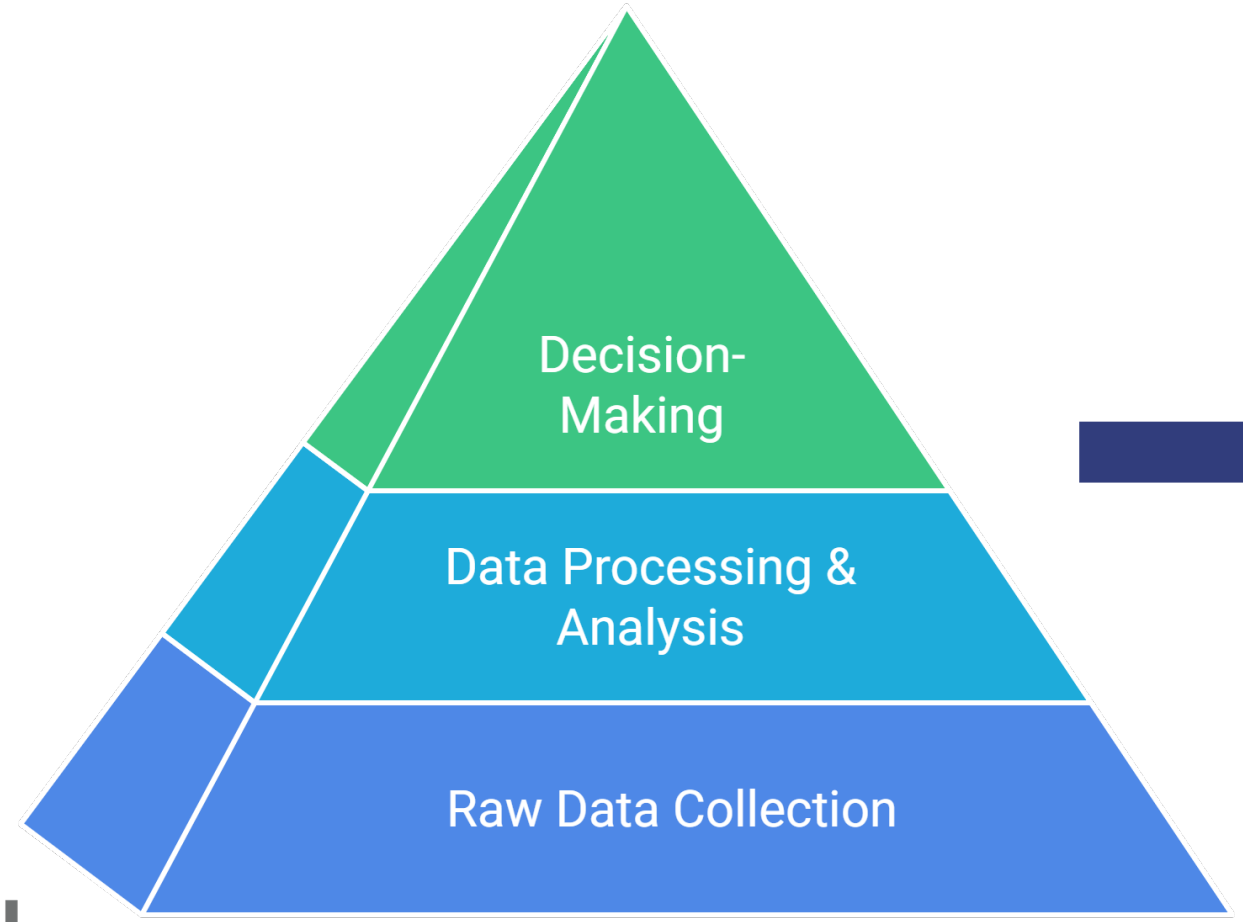
Building Your Data Picture



Frequency
(Enough Data)

Consistency
(Same Data)

Quality
(Good Data)

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Data Collection Strategies

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Data Collection Strategies

Manual:
The Baseline

Hybrid:
Digitizing
Workflows

Automated:
Streamlining
the Process

Join at menti.com | use code 8503 7470

Mentimeter

What are some critical pain points with data collection?

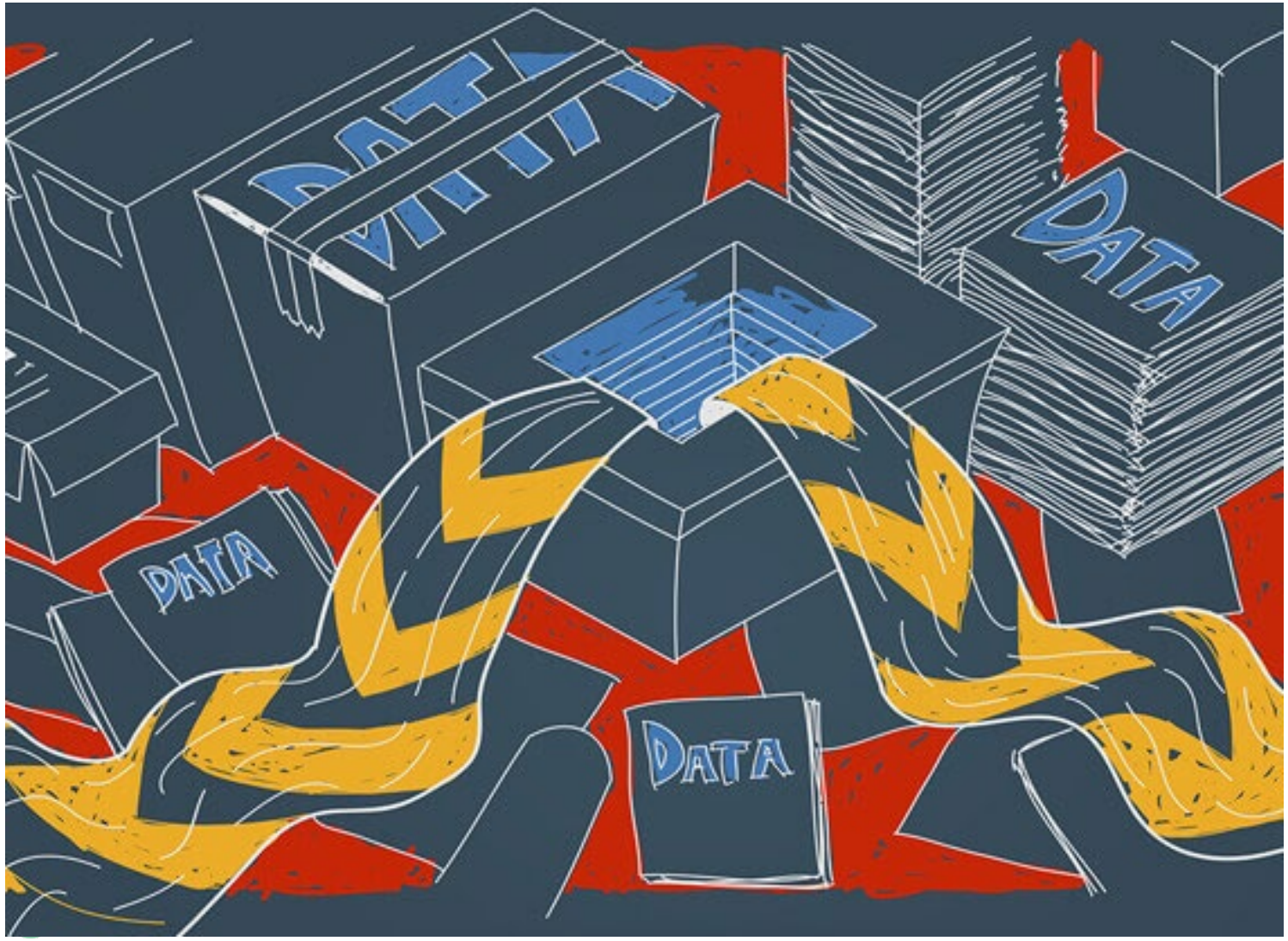
TK

Menti

Session 2: How to Colle...

Choose a slide to present

Manual Collection: The Baseline



3/1/2021

1161

Section 1 – Whole Farm Evaluation

Member Name: Brent Barton

Coalition Member ID#: 1161

1. Pesticide Application Practices: (Check all that apply)

- ☑ County Permit Followed
- ☑ Follow Label Restrictions
- ☐ Sensitive Areas Mapped
- ☑ Attend Trainings
- ☑ End of Row Shutoff When Spraying
- ☑ Avoid Surface Water When Spraying
- ☑ Reapply Rinsate to Treated Field
- ☐ Target Sensing Sprayer used
- ☑ Use Drift Control Agents
- ☑ Monitor Wind Conditions
- ☑ Use Appropriate Buffer Zones
- ☑ Use Vegetated Drain Ditches
- ☑ Monitor Rain Forecasts
- ☑ Use PCA Recommendations
- ☑ Chemigation
- ☐ No Pesticides Applied
- ☐ Other _____
- ☐ Other _____

2. Who assists with the development of your irrigation and crop fertility plan? (Check all that apply)

- ☑ Certified Crop Adviser (CCA)
- ☐ Pest Control Adviser (PCA)
- ☐ NRCS Technical Service Provider (TSP)
- ☐ Certified Professional Soil Scientist (CPSS)
- ☐ Certified Professional Agronomist (CPAg)
- ☑ Independently Prepared by Member *
- ☑ UCCE Farm Advisor
- ☐ Certified Agricultural Irrigation Specialist
- ☒ Other member manuf. has 2 BS degrees in agriculture and is NMP + SWEP certified

3. Does your farm have the potential to discharge sediment to off-farm surface waters?
Use the table on the next page to record your response per parcel.

4. Information on your on-farm drinking water supply wells located on enrolled parcels
Use the table on the next page to indicate the number of active drinking water supply wells on each of your enrolled parcels.
NOTE: This section is for active drinking water wells only. Abandoned or irrigation wells are addressed in Section 2.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel or represented Members properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment for violations.

Brent Barton	2/25/21	Brent Barton
Printed Name	*Date*	*Signature*

Manual Collection Pain Points

Data Entry Issues	• Multiple entry points • Inconsistent formats
Process Inefficiencies	• Manual Aggregation • Time-intensive workflows
Data Quality Challenges	• Lack of validation • Missed data points
Compliance and Scalability	• Data silos • High risk of error

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Manual Collection

- Data Entry Issues
- Process Inefficiencies
- Data Quality Challenges
- Compliance and Scalability

Hybrid: Digitizing Manual Workflows

- Single Point of Entry
- Less Staff Time
- Data Validation
- Relational Database

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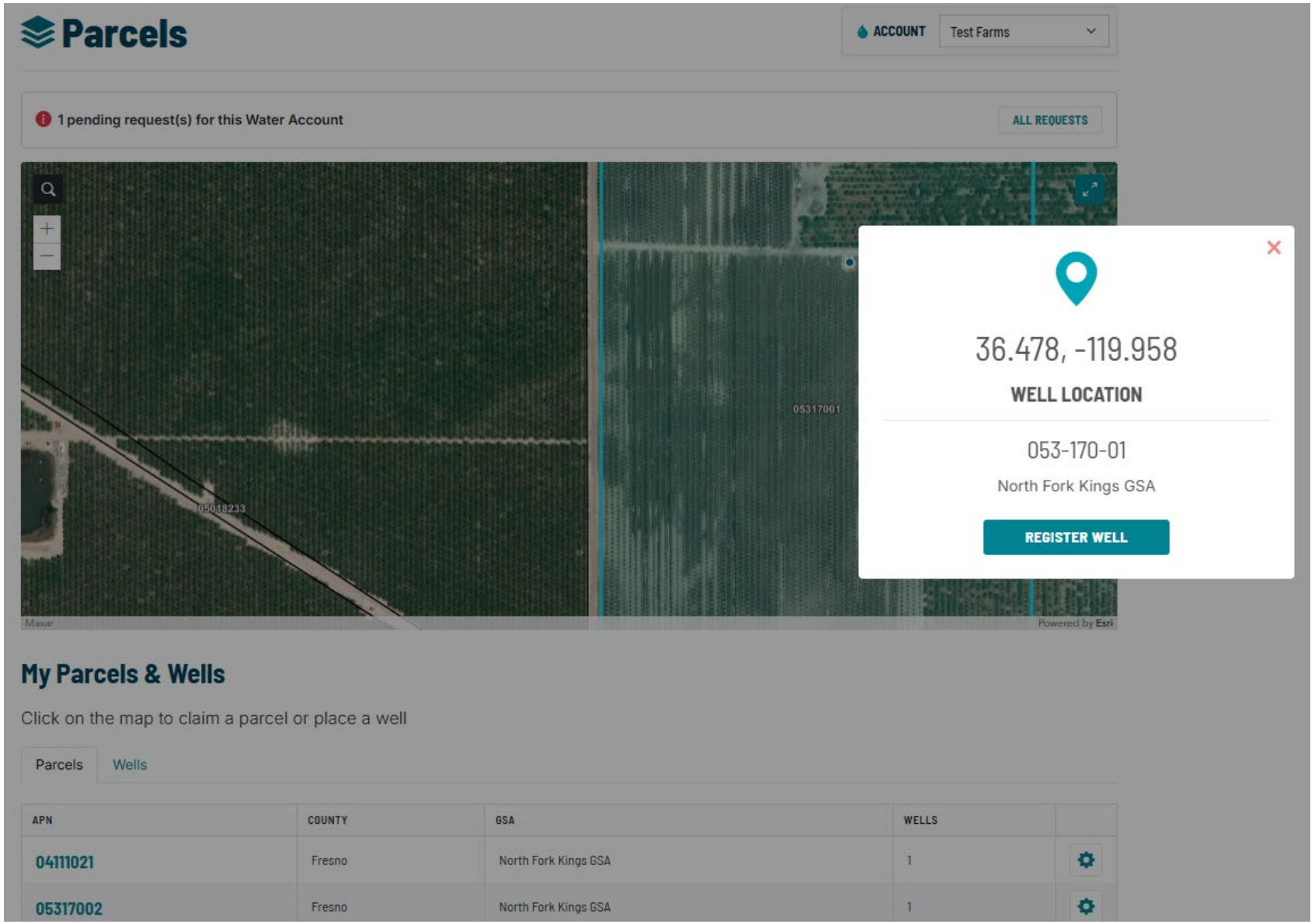
Case Study: Well Registration Forms



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Case Study: Well Registration Forms

Well Registration

- (•) Introduction
- ( ) Location
- ( ) Identification
- ( ) Type & Status
- ( ) Drilling Details
- ( ) Pump Details
- ( ) Extraction Volume

Let's get started!

Registering a well is easy with Watermark's simple multi-step process. Please take your time to fill out as many fields as you can. Your thoroughness will help us keep everything accurate and up to date.

Note: Registration information may vary on a GSA to GSA basis.

WHAT TYPES OF INFORMATION WILL I NEED?

TYPE & STATUS

Status, Well Type(s)

DRILLING DETAILS

Well Completion Report, Year Drilled, Driller, Well Depth, Screen Depth

PUMP DETAILS

Type, Size (horsepower), FlowMeter, Efficiency Testing

EXTRACTION VOLUME

Extraction Volume & Measurement Method

CANCEL

NEXT

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Case Study: Well Registration Forms

Well Registration

- Introduction
- Location
- Identification
- Type & Status
- Drilling Details
- Pump Details
- Extraction Volume

TYPE & STATUS INFORMATION

STATUS

Status
Active

Is the well abandoned?

Yes No

Well Type

- [ ] Agricultural Irrigation
- [ ] Agricultural Livestock
- [ ] Domestic

BACK

NEXT

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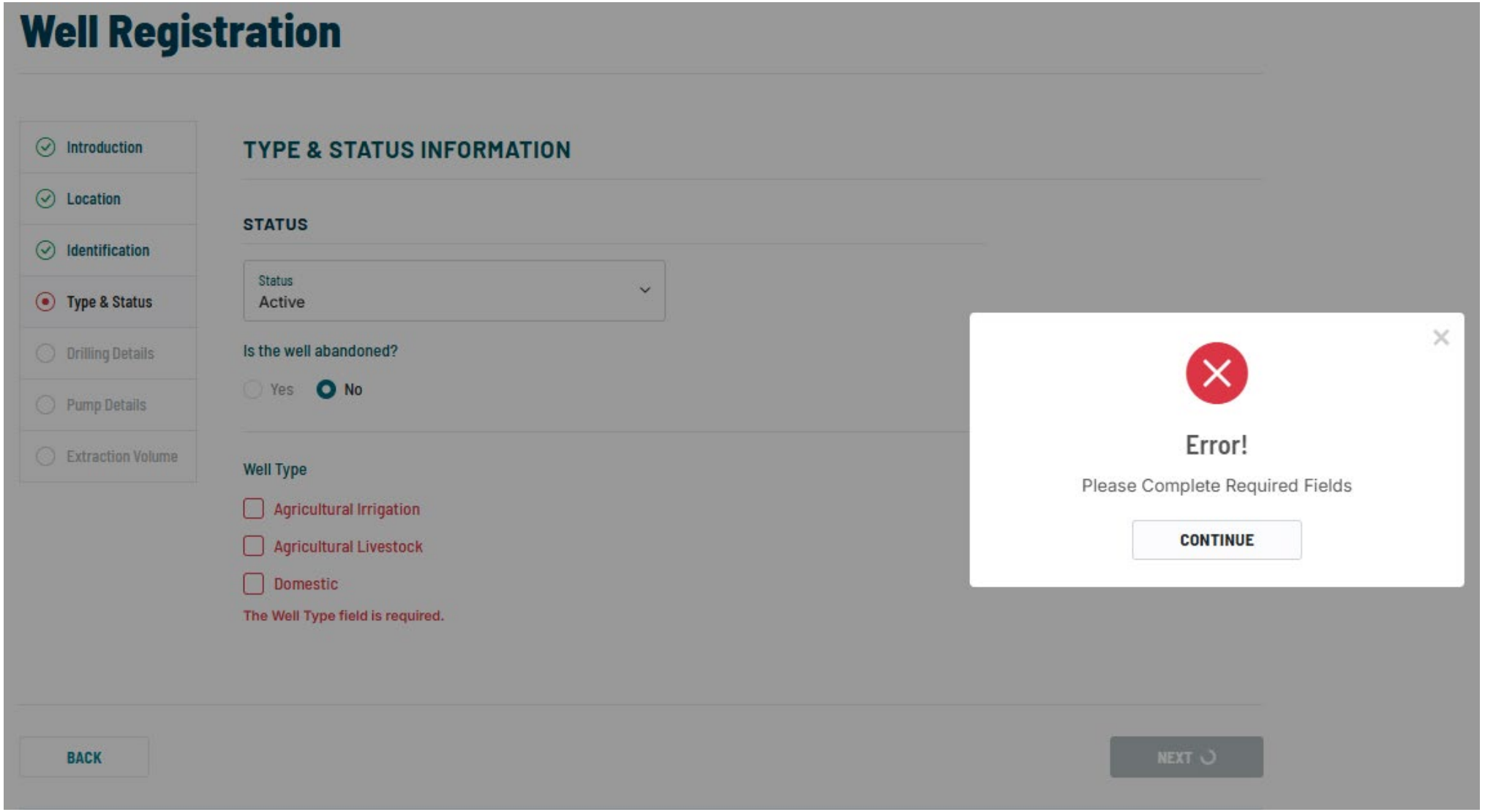
Case Study: Well Registration Forms



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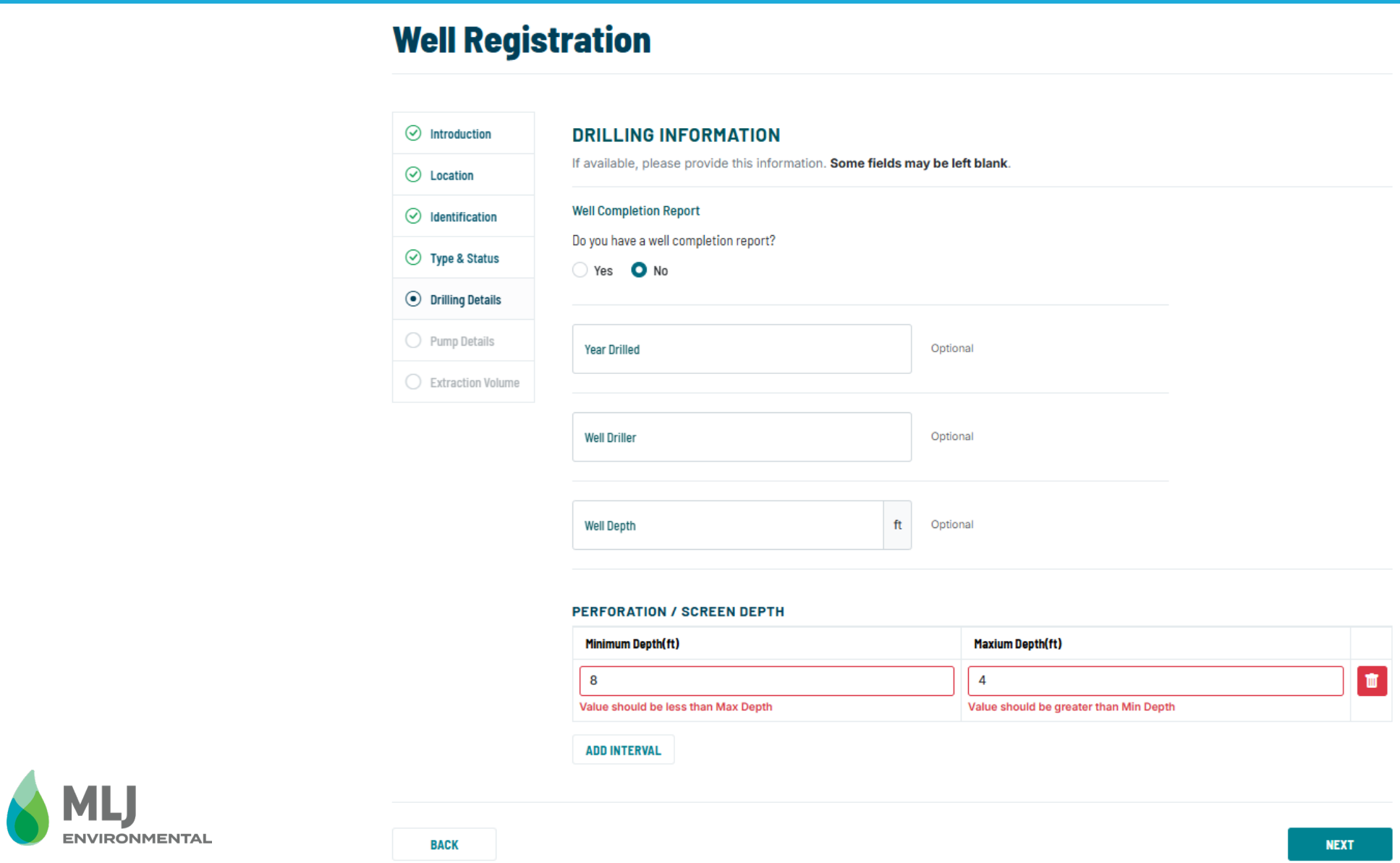
Case Study: Well Registration Forms



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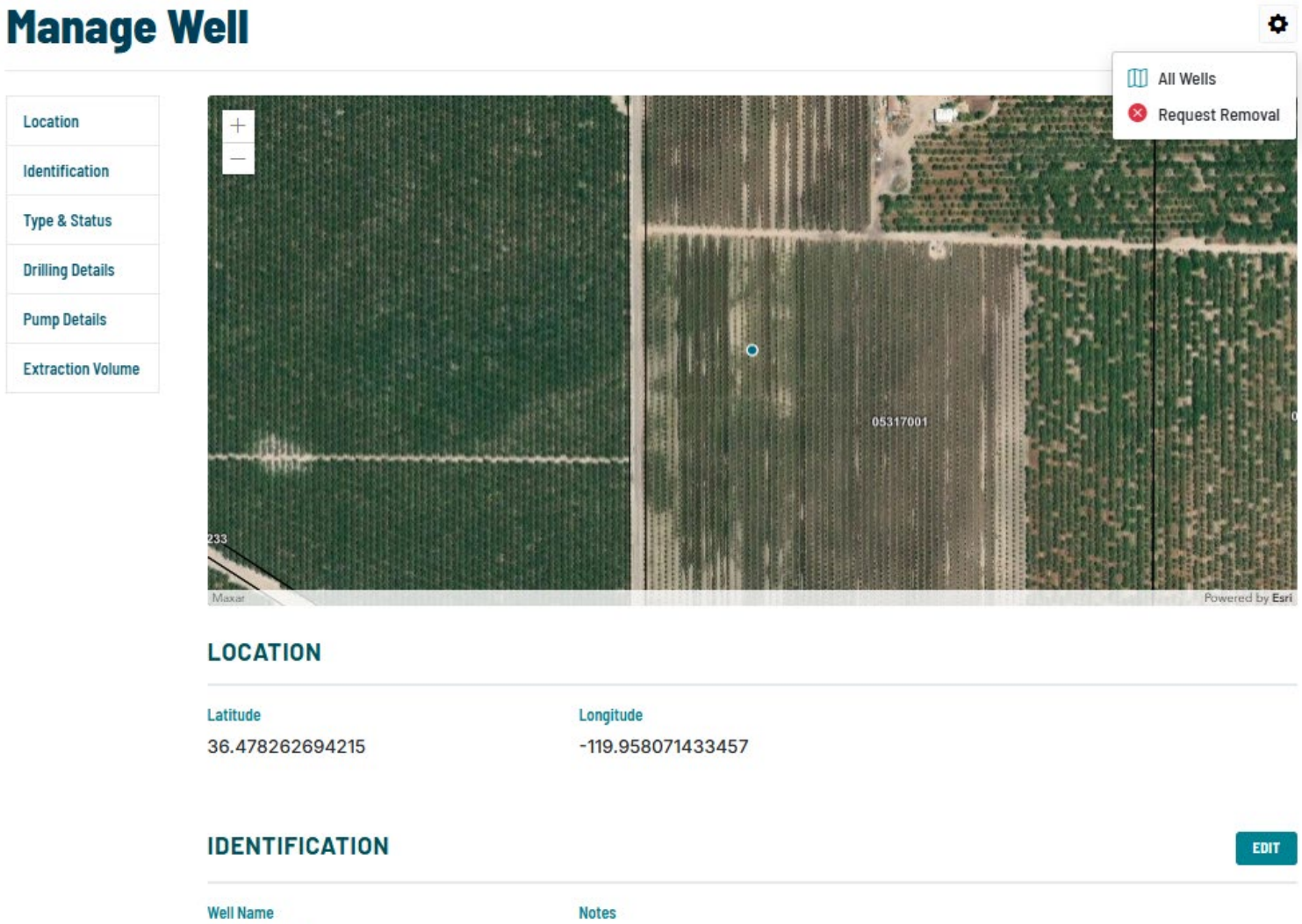
Case Study: Well Registration Forms



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Case Study: Well Registration Forms

Requests

ACCOUNT: Test Farms

ID	REQUEST DATE	REQUEST TYPE	STATUS
167	08/21/2025	Well Removal	Pending
18	08/01/2024	Well Removal	Approved
17	08/01/2024	Well Removal	Approved

Request Detail

BACK

Request Date
8/21/2025 5:18:26 PM

Request Type
Well Removal

Requested By
Marianne Recuenco
mrecuenco@mljenvironmental.com

Request Status
Pending

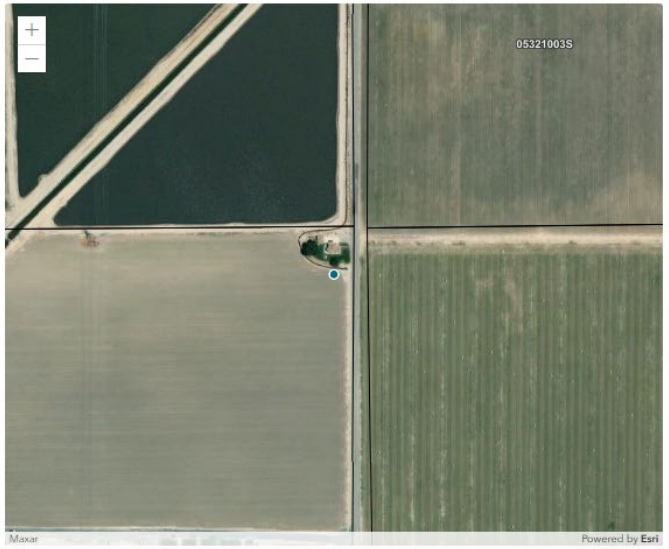
Parcel Owner
User500 Demo

Parcel APN
05315011S

Latitude/Longitude
36.4231281653168 / -119.88743713569

Reason For Request
NOT A WELL

APPROVE DECLINE



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Case Study: Ditch Tender UI

ATO

Meter: 0.61

OCT 21 - OCT 27

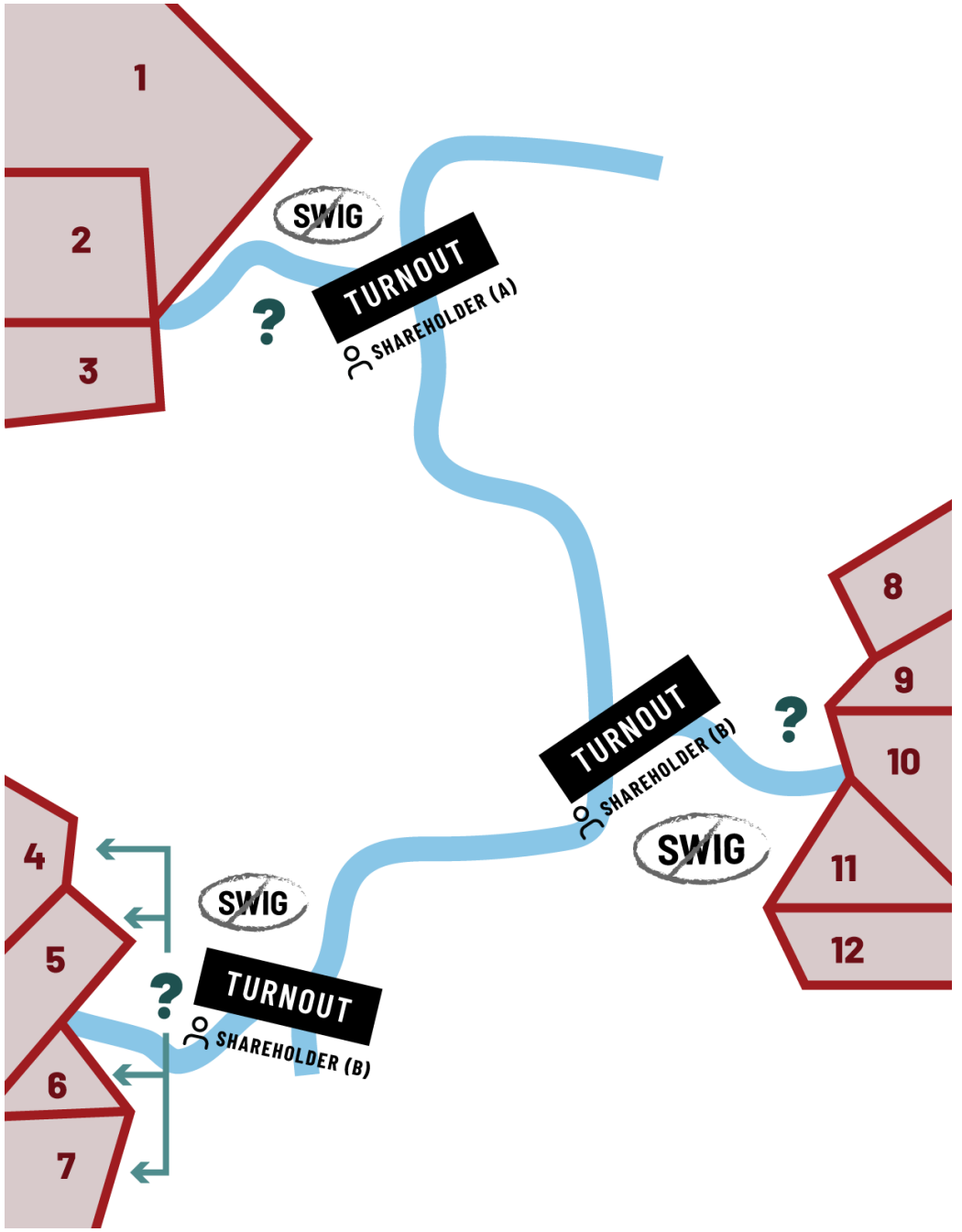
NEW ENTRY

SUNDAY
October 20, 2024
PENDING

TIME	08:00
FLOW	3.0
METER	137.655
NOTES	Checked on entry

MONDAY
October 21, 2024
PENDING

TIME	09:00
FLOW	3.0
METER	143.426
NOTES	Maintenance needed



Case Study: Ditch Tender UI

< BACK

ATO

Meter: 0.61

Date

10/21/2025

Time

--:-- --

Flow

Meter

Notes

SAVE ENTRY

CANCEL

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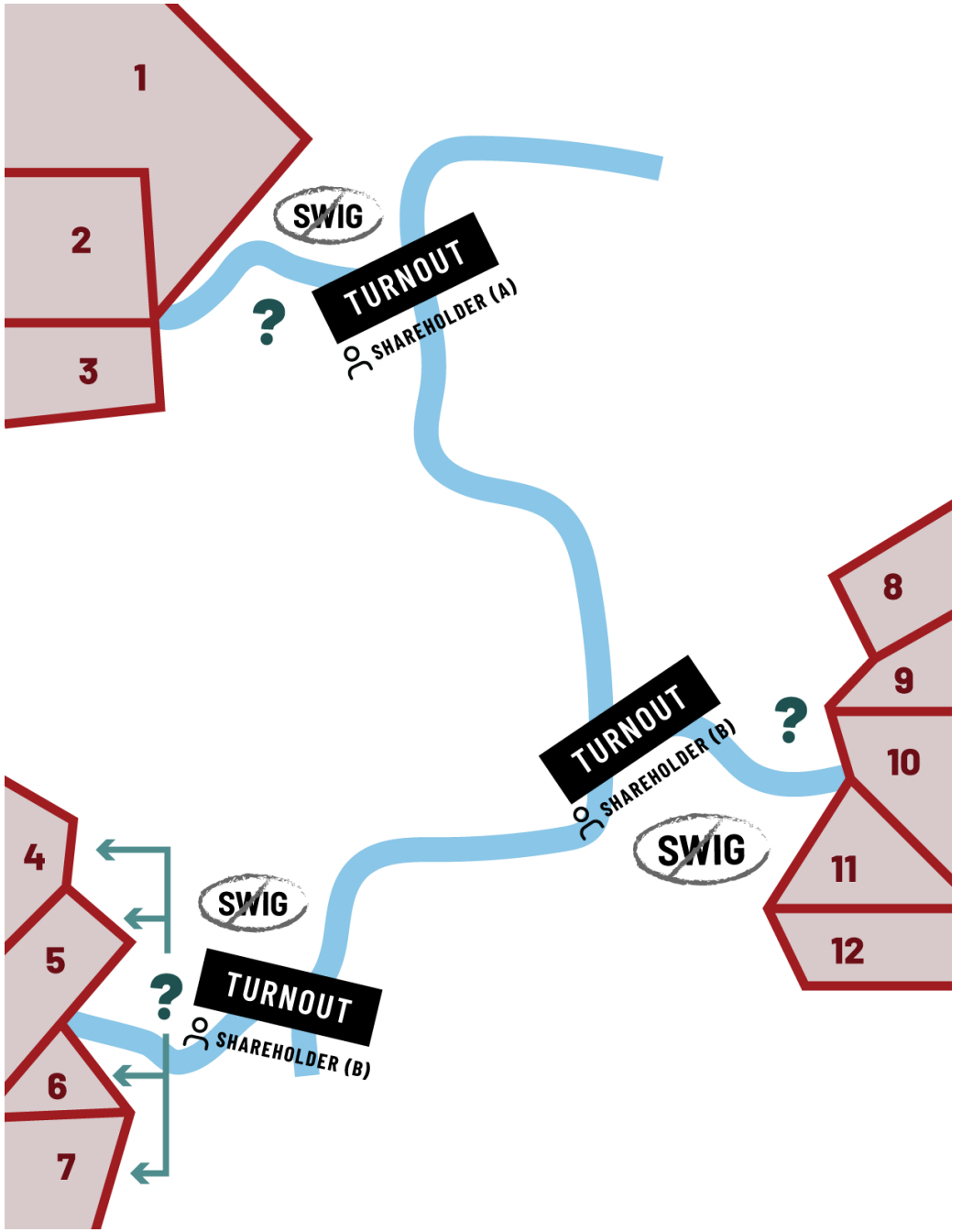


Case Study: Ditch Tender UI

Surface Water Entries

Reporting Period
08/12 – 08/18 (2024)

ADD REPORTING PERIOD

Example Account 0

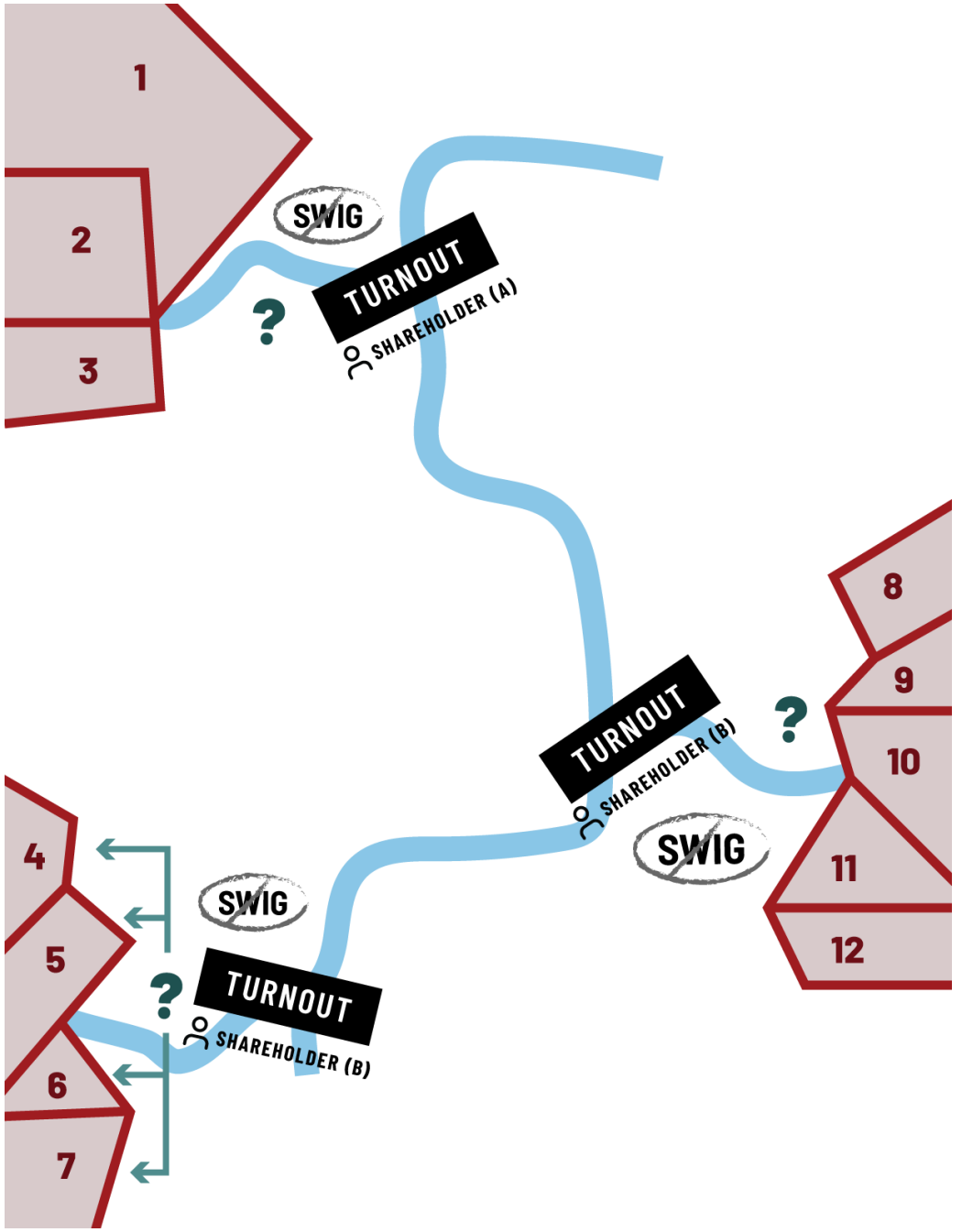
DIVERSION POINT	METER NUMBER	
Example	10.44	5.555
Example	11.50	2.222
Example	14.50	0.000

Example Account 1

DIVERSION POINT	METER NUMBER	
Example	6.81	0.000
Example	8.12	0.000

Example Account 2

DIVERSION POINT	METER NUMBER



Automated Collection: Streamlining the Process

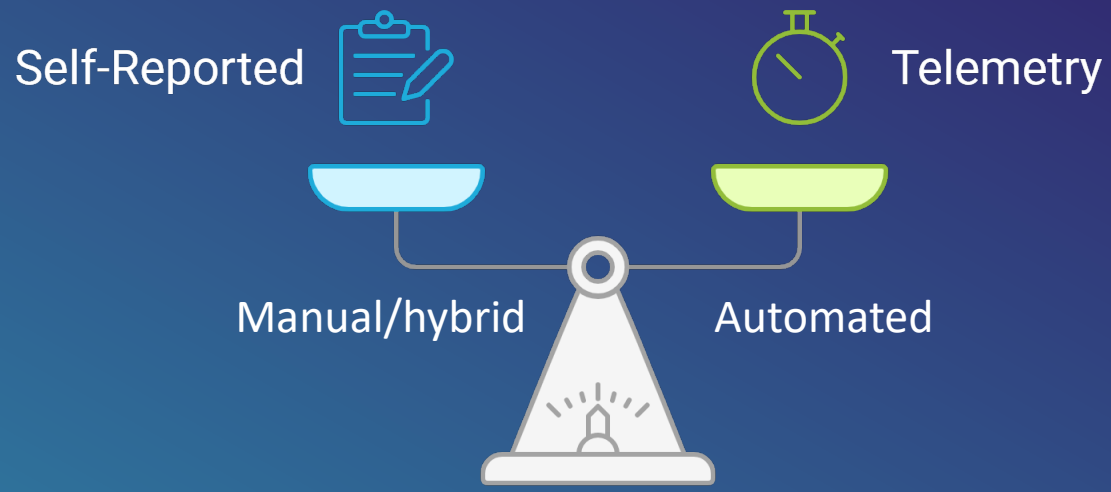
EXTRACTION VOLUME

Reported in acre-feet.

+ **2023** WATER YEAR
+ **2024** WATER YEAR
+ **2025** WATER YEAR
+ **2026** WATER YEAR

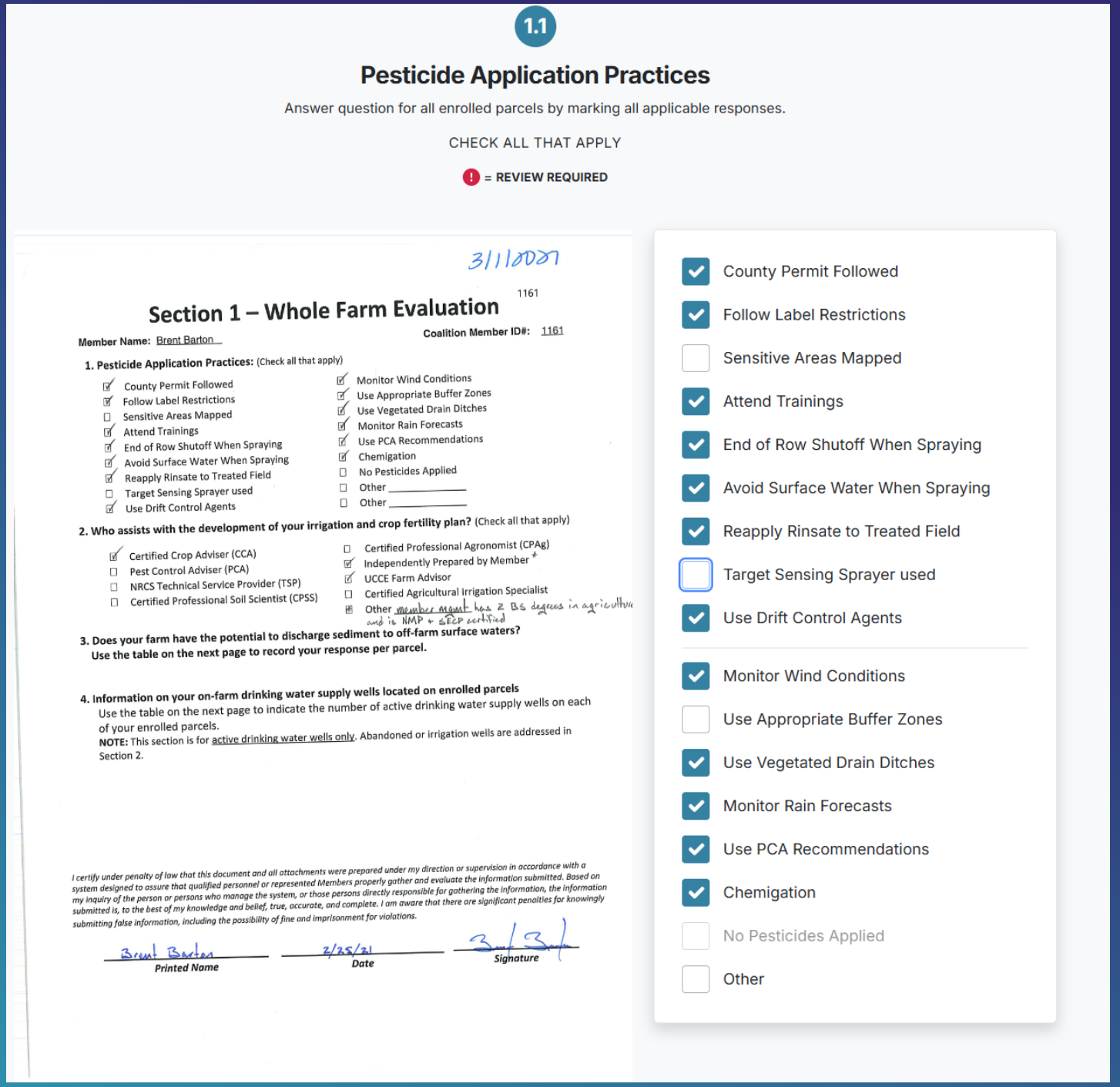
OCT 2025 Not Available ☐	NOV 2025 Not Available ☐	DEC 2025 Not Available ☐
JAN 2026 Not Available ☐	FEB 2026 Not Available ☐	MAR 2026 Not Available ☐
APR 2026 Not Available ☐	MAY 2026 Not Available ☐	JUN 2026 Not Available ☐
JUL 2026 Not Available ☐	AUG 2026 Not Available ☐	SEP 2026 Not Available ☐

SGMA Use Case: Pumping Data



Case Study: OCR

1. AI models read paper forms
2. Dual-model validation (Claude & OpenAI)
3. UI for QA/QC allows human oversight



3/1/2021

1161

Section 1 – Whole Farm Evaluation

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- ☑ UCCE Farm Advisor
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- ☒ Other member mgmt has 2 BS degrees in agriculture and is NMP + SEEP certified

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Brent Barton — *Printed Name*
2/25/21 — *Date*
Signature

1.1

Pesticide Application Practices

Answer question for all enrolled parcels by marking all applicable responses.

CHECK ALL THAT APPLY

= REVIEW REQUIRED

- ☑ County Permit Followed
- ☑ Follow Label Restrictions
- ☐ Sensitive Areas Mapped
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- ☑ Chemigation
- ☐ No Pesticides Applied
- ☐ Other

Case Study: OCR

- Leverage existing data: put it into a database and it becomes useful
- SGMA use case: Well Completion Reports

Well ID	Ground Sloped Away from Wellhead	Standing Water Avoided Around Wellhead	Good Housekeeping Practices*	Air Gap (for Non-Pressurized Systems)	Backflow Preventive / Check Valve	Cement Pad
	All None	All None	All None	All None	All None	All None
PUMP STATION 52	☑	☑	☑	☐	☑	☑
PUMP STATION 54	☑	☑	☑	☐	☑	☑
SHEP PUMP STATION	☑	☑	☑	☐	☑	☑
RVRNK 10HP	☑	☑	☑	☐	☑	☑

Add Well

1161

Section 2 – Irrigation Well and Abandoned Well Information

Member Name: Brent Barton **Coalition Member ID#:** 1161

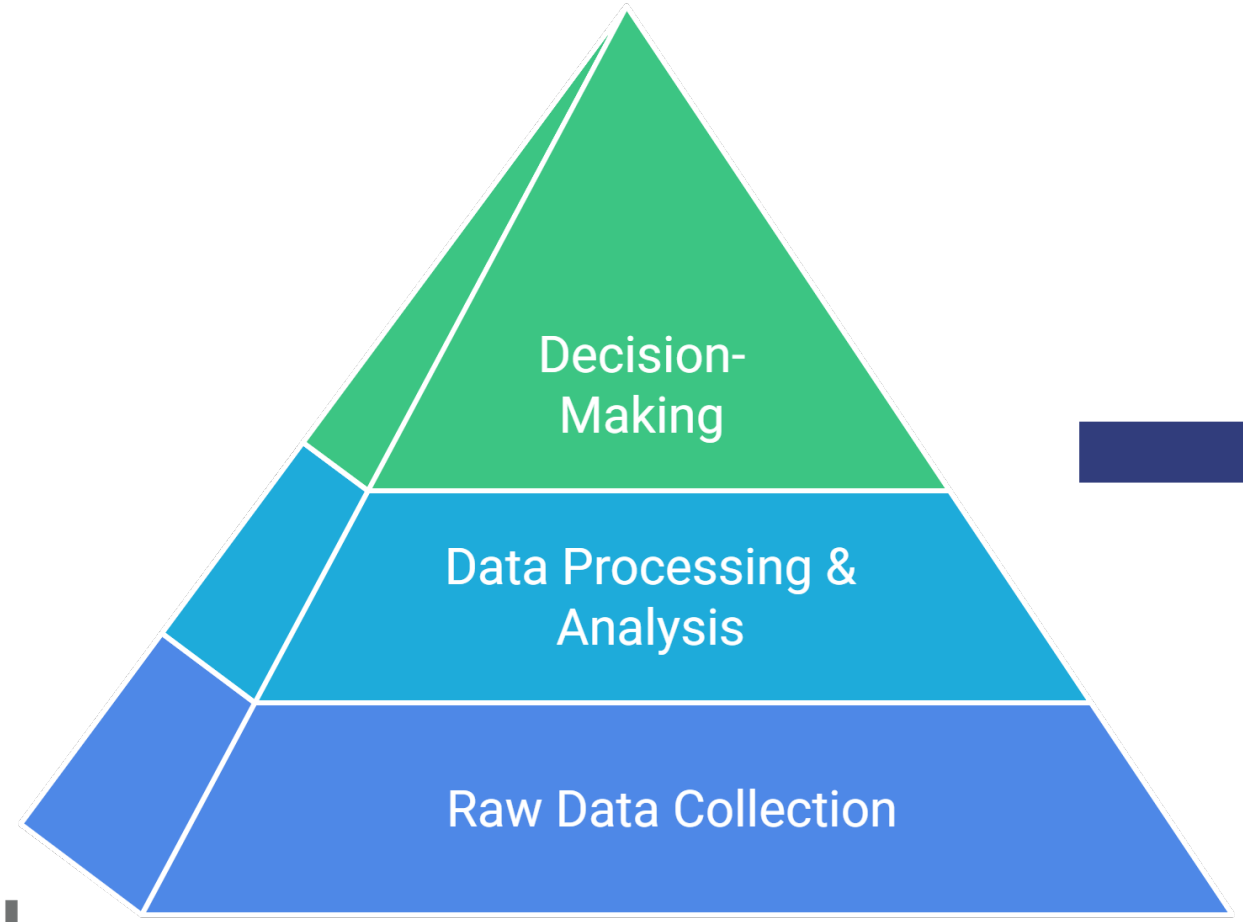
1. **Irrigation Wells**: Create a unique Well ID for each irrigation well. For each well, fill in the table below with the Well ID and mark an "X" under the practices that apply to the individual well. Mark the location of your wells on your own farm map using the unique Well ID.

☐ Check this box if you have no irrigation wells on your parcel(s).

Well ID	Wellhead Protection Practices					
(A unique name of your choice)	Ground Sloped Away from Wellhead	Standing Water Avoided Around Wellhead	Good Housekeeping Practices*	Air Gap (for Non-Pressurized Systems)	Backflow Preventive / Check Valve	Cement Pad
PUMP STATION 52	X ✓	X ✓	X ✓		X ✓	X ✓
PUMP STATION 54	X ✓	X ✓	X ✓		X ✓	X ✓
SHEP PUMP	X ✓	X ✓	X ✓		X ✓	X ✓

Page: 3 / 5 ZOOM

Building Your Data Picture



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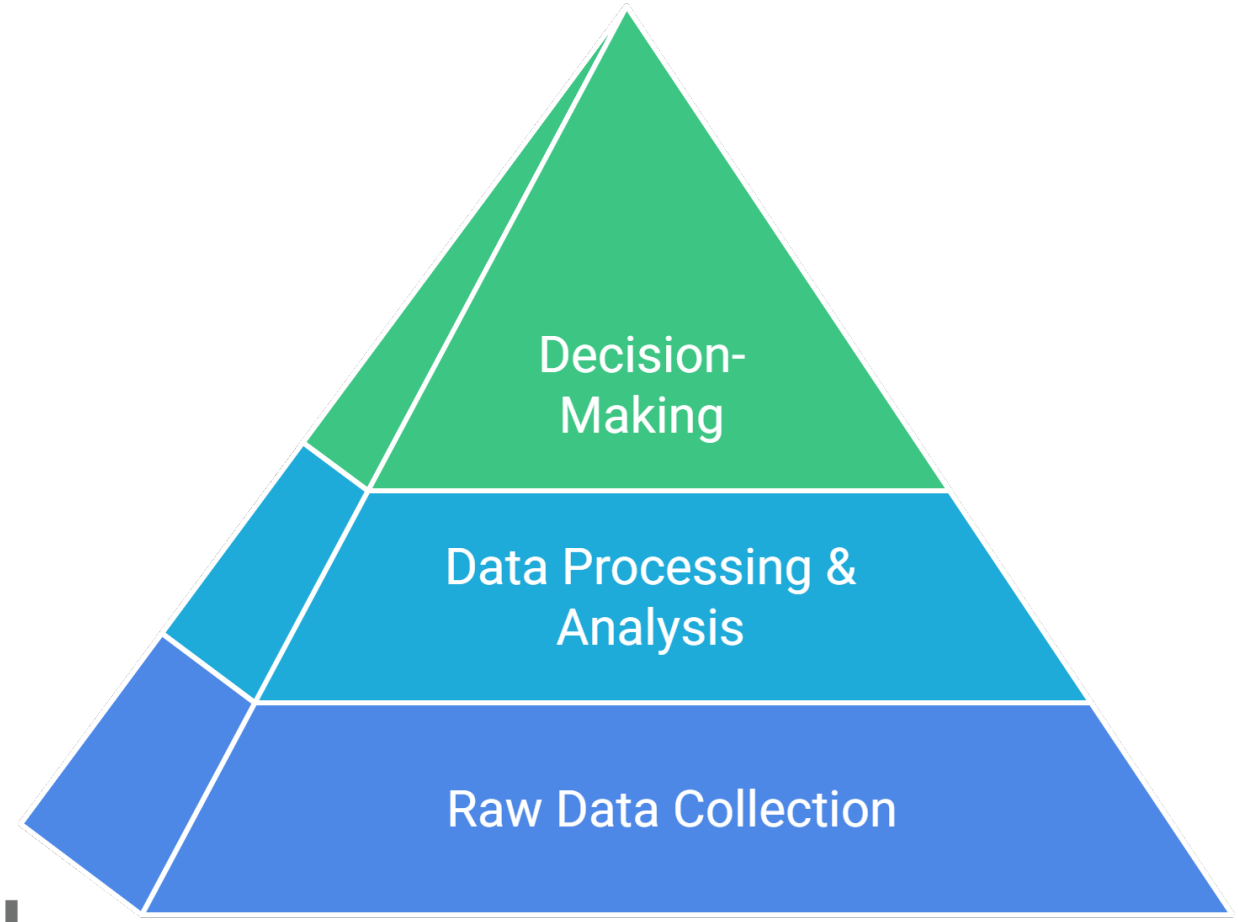
Building Your Data Picture



Frequency
(Enough Data)

Consistency
(Same Data)

Quality
(Good Data)

How to ensure data is connected and relational?

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The SGMA Data Series

What to Collect, Why it Matters, and How to Use It

Next Time:

Storing and Managing Data

Questions?

Tara Khan | tkhan@mljenvironmental.com

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