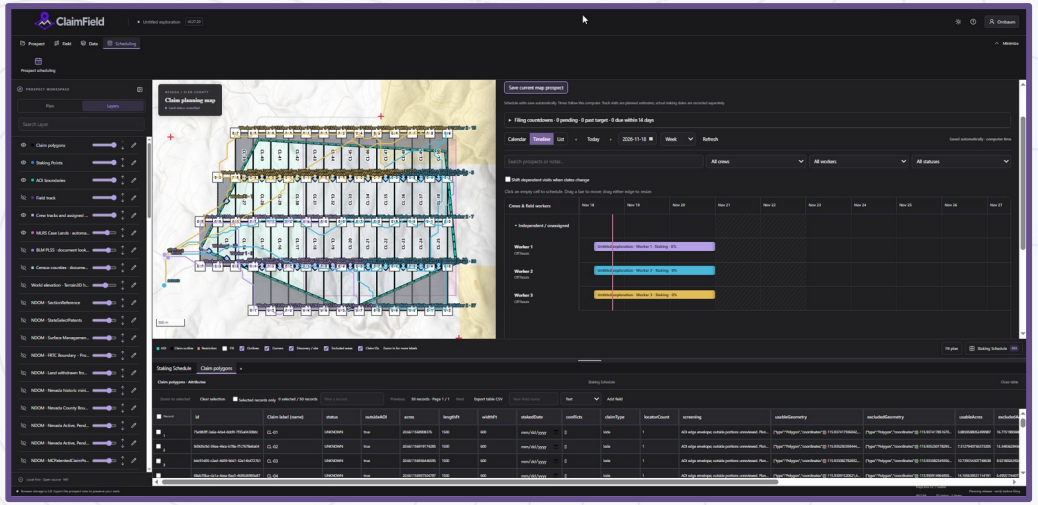
ClaimField

From the map to the ground

A simpler way to plan mining claims and prepare the people doing the work.



HAPPY NATIONAL GEOGRAPHY AWARENESS WEEK, NOV 16 – 20 2026

Keith Ornbaum
Project overview · Development build 0.27.22

Why ClaimField exists

One changed corner can mean several things to fix.

The map

Where are the claim edges?

The crew

Which stops belong to each person?

The papers

Do the names and locations agree?

Who ClaimField is for

Land reviewers

Check records and prepare claim information.

GIS & exploration teams

Work with maps and proposed claim shapes.

Field leaders & crews

Plan visits and bring back what actually happened.

One prospect keeps the plan and its records together.

ClaimField

The claim-staking workflow

1 Prospect (AOI)

Draw the area. Build the proposed grid.

2 Land Review/Search

Compare land records and review gaps.

3 Track Map

Prepare NOLs and plan the field stops.

4 County Filing COLs and Map

Review field facts and record the papers.

5 BLM Filing

Submit the reviewed filing materials.

6 Prospect Summary

Keep the maps, records and open items.

People complete the fieldwork, verify requirements and submit the county and BLM filings.

Land review: the map has layers

Like clear sheets laid on top of one another

Terrain

What does the ground look like?

Land & survey references

Where do the records place it?

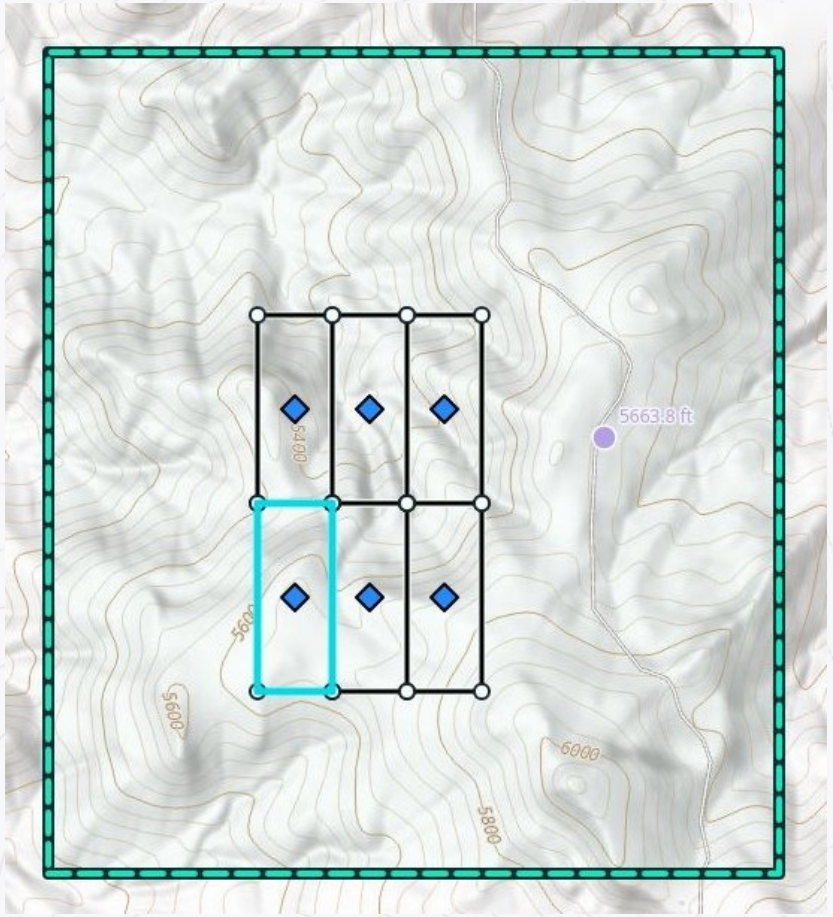
MLRS case information

What recorded cases need review?

MLRS = BLM’s Mineral & Land Records System

ClaimField can query the project area and open MLRS research tools.

A proposed grid makes the plan visible



The AOI is the area we want to study

Six proposed claims

Corners and discovery points

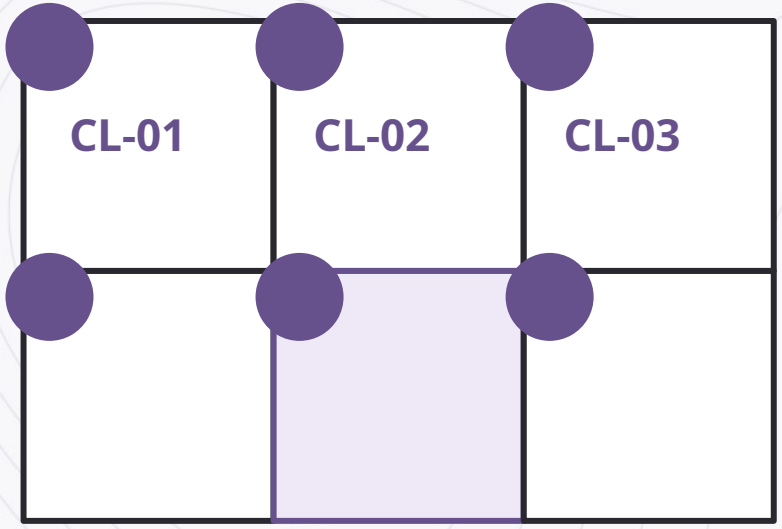
Land status stays unverified

App 0.27.18 · Synthetic planning example · The grid does not establish claim availability

ClaimField

The plan can change before the crew leaves

Move a shape. Turn it. Fit its edge to the plan.



Illustrative plan, not a land-status map

Cutouts, snapping and review flags help expose layout problems.

ClaimField

The claim table keeps the records visible

Six records, with one claim selected

Record	id	Claim label (name)	status	outsideAOI	acres	lengthFt	widthFt
1	demo-1	RIDGE-01	UNKNOWN	false	20.66	1500	600
2	demo-2	RIDGE-02	UNKNOWN	false	20.66	1500	600
3	demo-3	RIDGE-03	UNKNOWN	false	20.66	1500	600
4	demo-4	RIDGE-04	UNKNOWN	false	20.66	1500	600
5	demo-5	RIDGE-05	UNKNOWN	false	20.66	1500	600
6	demo-6	RIDGE-06	UNKNOWN	false	20.66	1500	600

App 0.27.18 · Light mode · Complete six-row table detail, selected columns

ClaimField

The staking table separates plans and field facts

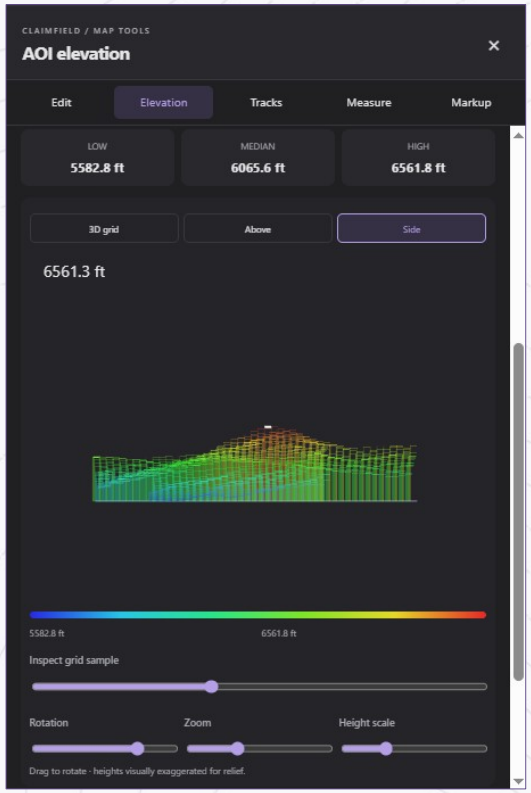
Planned coordinates for four complete corner rows

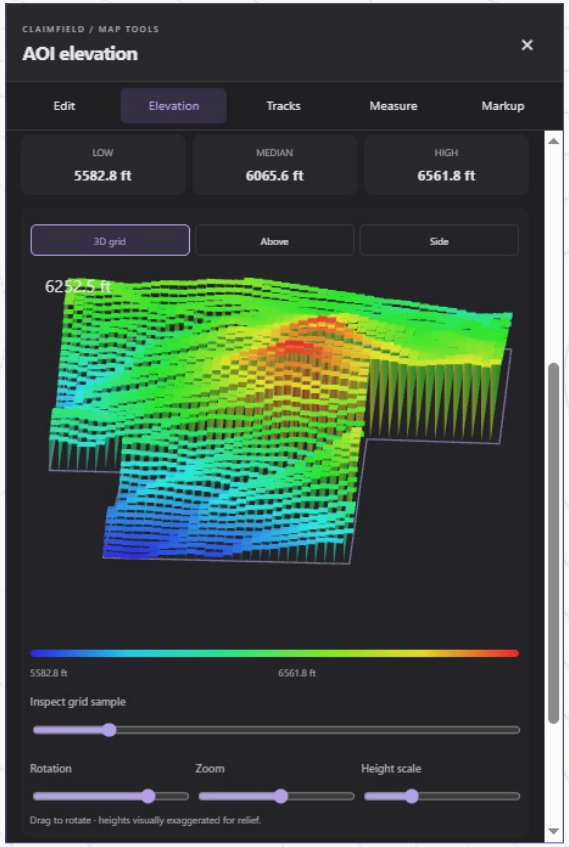
Claim	Point	Point type	Longitude · X	Latitude · Y
RIDGE-01	C1	Corner Source: Corner	-118.27900000	40.27400000
RIDGE-01	C2	Corner Source: Corner	-118.27685000	40.27400000
RIDGE-01	C3	Corner Source: Corner	-118.27685000	40.27812000
RIDGE-01	C4	Corner Source: Corner	-118.27900000	40.27812000

Actual X/Y, Staked date and Staked By record the work returned from the field.

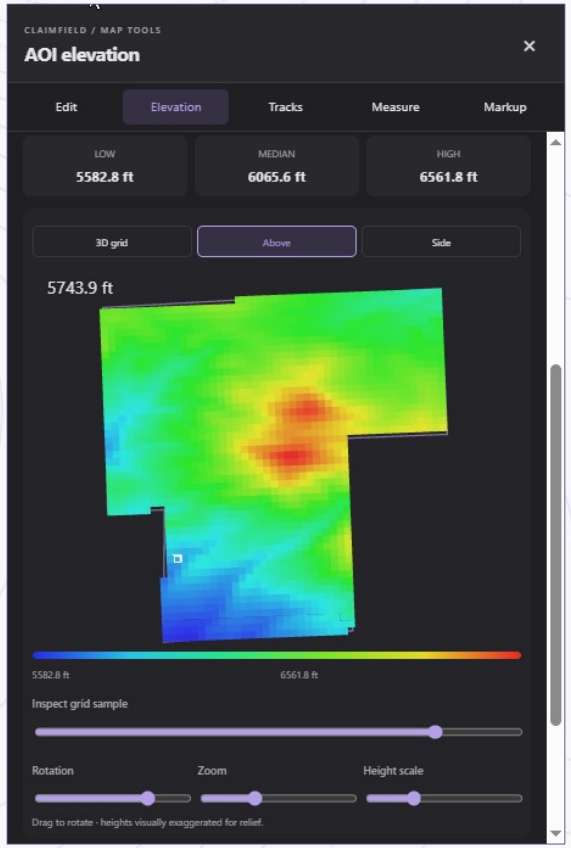
App 0.27.18 · Dark mode · Selected columns and rows · WGS84 decimal degrees

Interactive terrain makes hills easier to understand





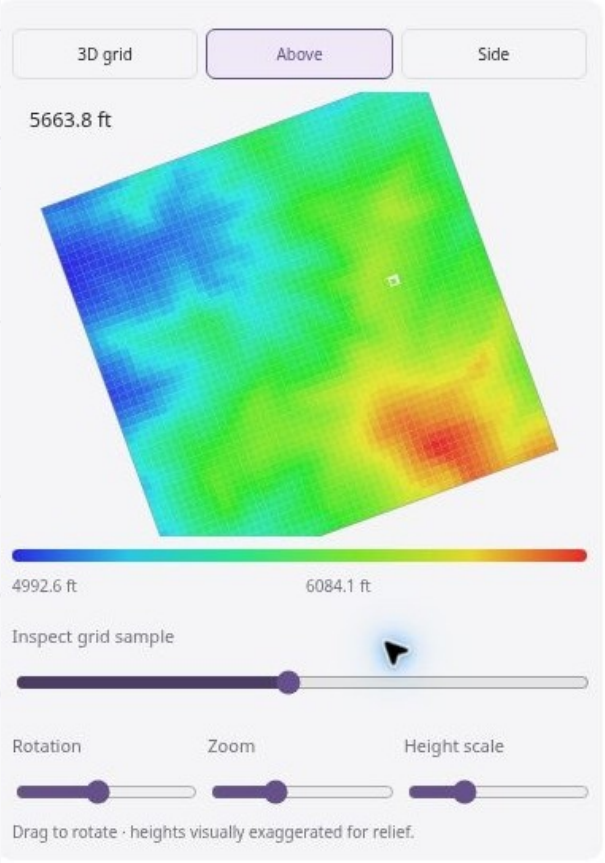
Low ground



High ground

App 0.27.18 · Dark mode · Live Terrain3D samples · Color scale and model shown in full

The color map connects height to a place



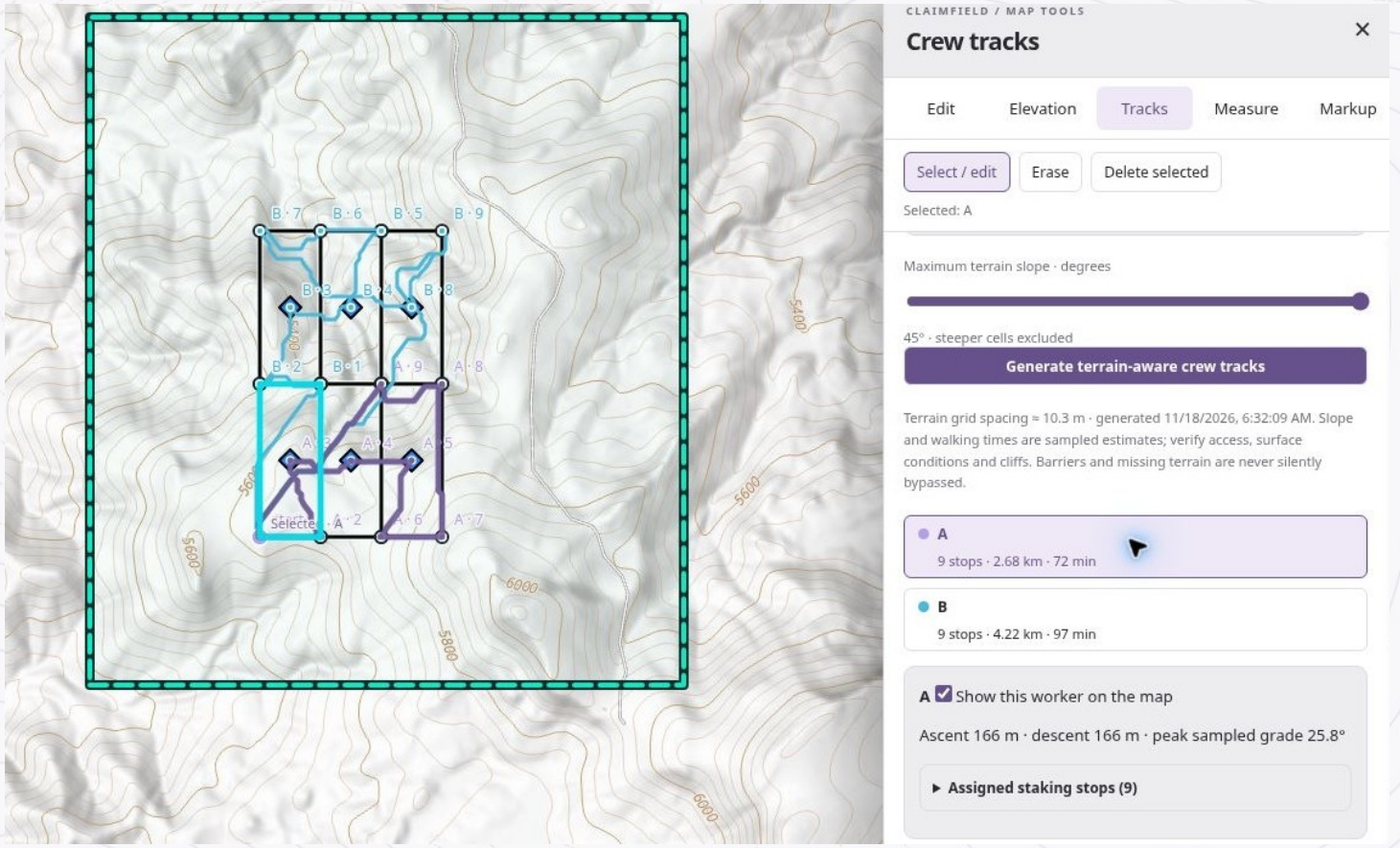
A colored square has a real map position

Hover or inspect a sample to compare its location with its elevation.

The colors describe height.
Land review answers a different question.

App 0.27.18 · Light mode · Complete elevation model, color scale and display controls

Worker tracks divide the fieldwork



App 0.27.18 · Workers A and B · Generated estimates require access and ground checks

The timeline shows who goes when

A crew visit also appears in the worker lane

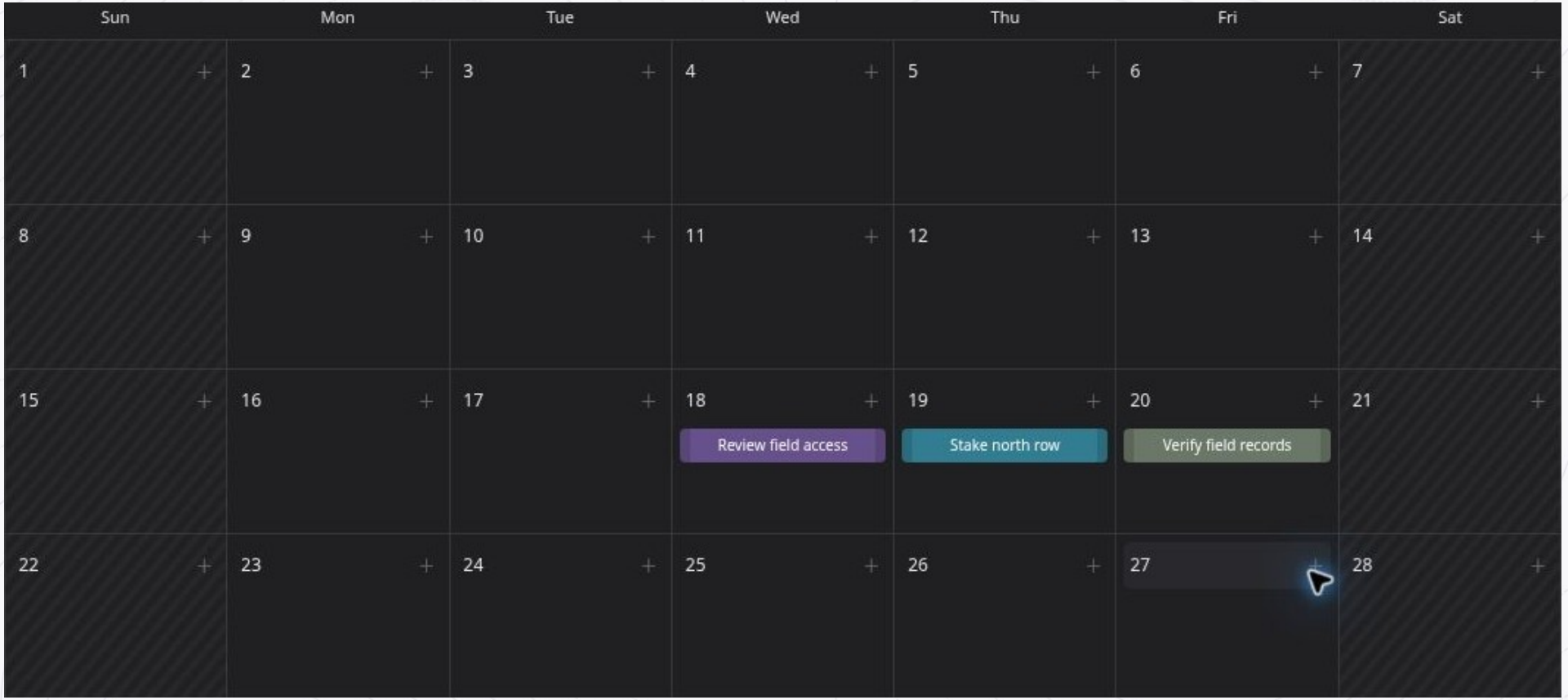


Drag a bar to move the visit.
Resize an edge to change its planned duration.

App 0.27.18 · November 18, 2026 demonstration · Selected lanes and hours, with complete bars

ClaimField

The calendar makes the plan familiar



App 0.27.18 · Dark mode · November 1–28 shown · Fictional visits on November 18–20

ClaimField

Field notes turn a plan into a record

Before the visit

Proposed points
Worker checklist
Planned dates

On the ground

People check locations
Place required markers
Record observations

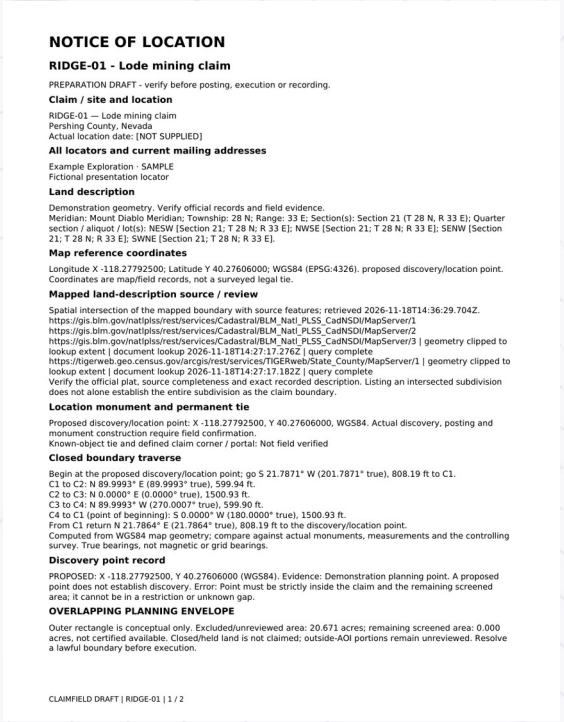
After the visit

Review actual coordinates
Confirm names and dates
Update the project

“We plan to go Tuesday” and “We staked it Tuesday” are different facts.

Notice of Location in the app

Complete generated PDF



NOTICE OF LOCATION

RIDGE-01 - Lode mining claim

PREPARATION DRAFT - verify before posting, execution or recording.

Claim / site and location

RIDGE-01 — Lode mining claim
Pershing County, Nevada
Actual location date: [NOT SUPPLIED]

All locators and current mailing addresses

Example Exploration · SAMPLE
Fictional presentation locator

Land description

Demonstration geometry. Verify official records and field evidence.
Meridian: Mount Diablo Meridian; Township: 28 N; Range: 33 E; Section(s): Section 21 (T 28 N, R 33 E); Quarter section / aliquot / lot(s): NESW [Section 21; T 28 N; R 33 E]; NWSE [Section 21; T 28 N; R 33 E]; SENW [Section 21; T 28 N; R 33 E]; SWNE [Section 21; T 28 N; R 33 E].

Map reference coordinates

Longitude X -118.27792500; Latitude Y 40.27606000; WGS84 (EPSG:4326). proposed discovery/location point. Coordinates are map/field records, not a surveyed legal tie.

Mapped land-description source / review

Spatial intersection of the mapped boundary with source features; retrieved 2026-11-18T14:36:29.704Z.
https://gis.blm.gov/natplss/rest/services/Cadastral/BLM_Natl_PLSS_CadNSDI/MapServer/1
https://gis.blm.gov/natplss/rest/services/Cadastral/BLM_Natl_PLSS_CadNSDI/MapServer/2
https://gis.blm.gov/natplss/rest/services/Cadastral/BLM_Natl_PLSS_CadNSDI/MapServer/3 | geometry clipped to lookup extent | document lookup 2026-11-18T14:27:17.276Z | query complete
https://tigerweb.geo.census.gov/arcgis/rest/services/TIGERweb/State_County/MapServer/1 | geometry clipped to lookup extent | document lookup 2026-11-18T14:27:17.182Z | query complete
Verify the official plat, source completeness and exact recorded description. Listing an intersected subdivision does not alone establish the entire subdivision as the claim boundary.

Location monument and permanent tie

Proposed discovery/location point: X -118.27792500, Y 40.27606000, WGS84. Actual discovery, posting and monument construction require field confirmation.
Known-object tie and defined claim corner / portal: Not field verified

Closed boundary traverse

Begin at the proposed discovery/location point; go S 21.7871° W (201.7871° true), 808.19 ft to C1.
C1 to C2: N 89.9993° E (89.9993° true), 599.94 ft.
C2 to C3: N 0.0000° E (0.0000° true), 1500.93 ft.
C3 to C4: N 89.9993° W (270.0007° true), 599.90 ft.
C4 to C1 (point of beginning): S 0.0000° W (180.0000° true), 1500.93 ft.
From C1 return N 21.7864° E (21.7864° true), 808.19 ft to the discovery/location point.
Computed from WGS84 map geometry; compare against actual monuments, measurements and the controlling survey. True bearings, not magnetic or grid bearings.

Discovery point record

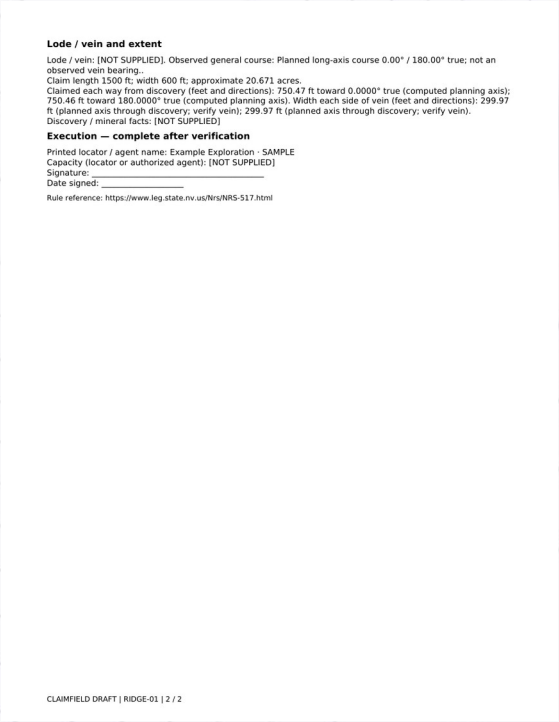
PROPOSED: X -118.27792500, Y 40.27606000 (WGS84). Evidence: Demonstration planning point. A proposed point does not establish discovery. Error: Point must be strictly inside the claim and the remaining screened area; it cannot be in a restriction or unknown gap.

OVERLAPPING PLANNING ENVELOPE

Outer rectangle is conceptual only. Excluded/unreviewed area: 20.671 acres; remaining screened area: 0.000 acres, not certified available. Closed/held land is not claimed; outside-AOI portions remain unreviewed. Resolve a lawful boundary before execution.

CLAIMFIELD DRAFT | RIDGE-01 | 1 / 2

Page 1



Lode / vein and extent

Lode / vein: [NOT SUPPLIED]. Observed general course: Planned long-axis course 0.00° / 180.00° true; not an observed vein bearing..
Claim length 1500 ft; width 600 ft; approximate 20.671 acres.
Claimed each way from discovery (feet and directions): 750.47 ft toward 0.0000° true (computed planning axis); 750.46 ft toward 180.0000° true (computed planning axis). Width each side of vein (feet and directions): 299.97 ft (planned axis through discovery; verify vein); 299.97 ft (planned axis through discovery; verify vein).
Discovery / mineral facts: [NOT SUPPLIED]

Execution — complete after verification

Printed locator / agent name: Example Exploration · SAMPLE
Capacity (locator or authorized agent): [NOT SUPPLIED]
Signature: _____
Date signed: _____

Rule reference: https://www.leg.state.nv.us/Nrs/NRS-517.html

CLAIMFIELD DRAFT | RIDGE-01 | 2 / 2

Page 2

Claim and locator detail



Claim / site and location

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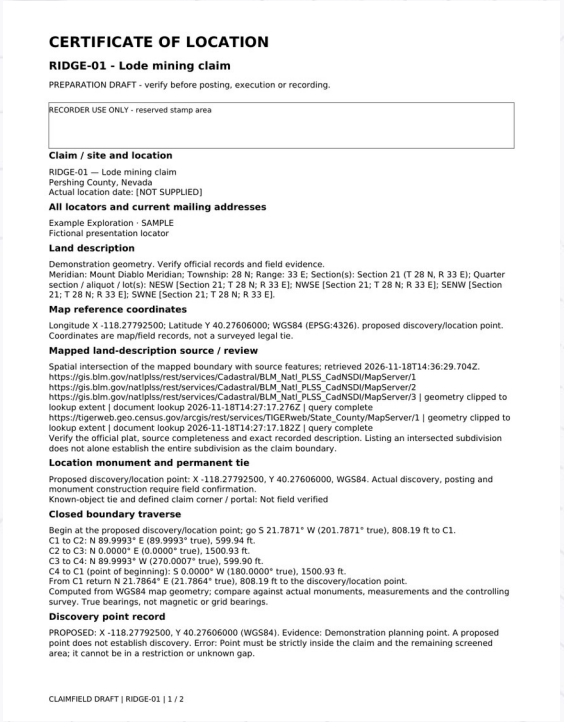

CERTIFICATE OF LOCATION

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PREPARATION DRAFT - verify before posting, execution or recording.

RECORDER USE ONLY - reserved stamp area

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https://gis.blm.gov/natlpls/rest/services/Cadastral/BLM_Natl_PLSS_CadNSDI/MapServer/3 | geometry clipped to lookup extent | document lookup 2026-11-18T14:27:17.276Z | query complete
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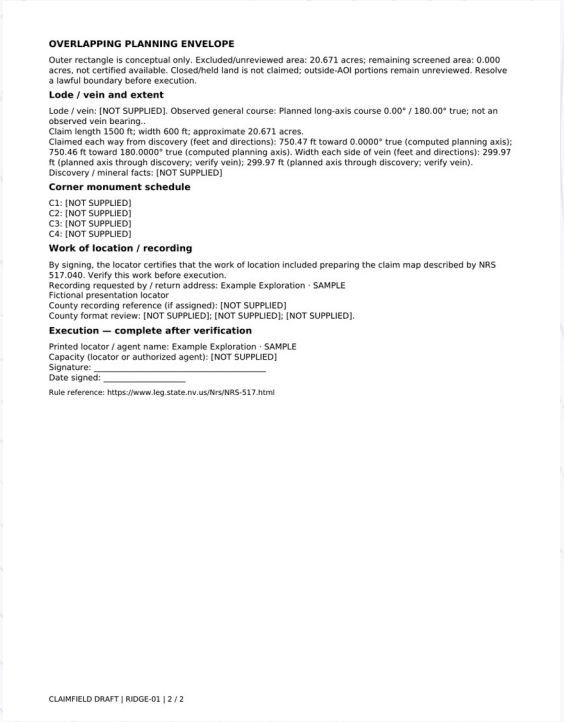

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Discovery / mineral facts: [NOT SUPPLIED]

Corner monument schedule

C1: [NOT SUPPLIED]
C2: [NOT SUPPLIED]
C3: [NOT SUPPLIED]
C4: [NOT SUPPLIED]

Work of location / recording

By signing, the locator certifies that the work of location included preparing the claim map described by NRS 517.040. Verify this work before execution.
Recording requested by / return address: Example Exploration · SAMPLE
Fictional presentation locator
County recording reference (if assigned): [NOT SUPPLIED]
County format review: [NOT SUPPLIED]; [NOT SUPPLIED]; [NOT SUPPLIED].

Execution — complete after verification

Printed locator / agent name: Example Exploration · SAMPLE
Capacity (locator or authorized agent): [NOT SUPPLIED]
Signature: _____
Date signed: _____

Rule reference: https://www.leg.state.nv.us/Nrs/NRS-517.html

CLAIMFIELD DRAFT | RIDGE-01 | 2 / 2

Page 2

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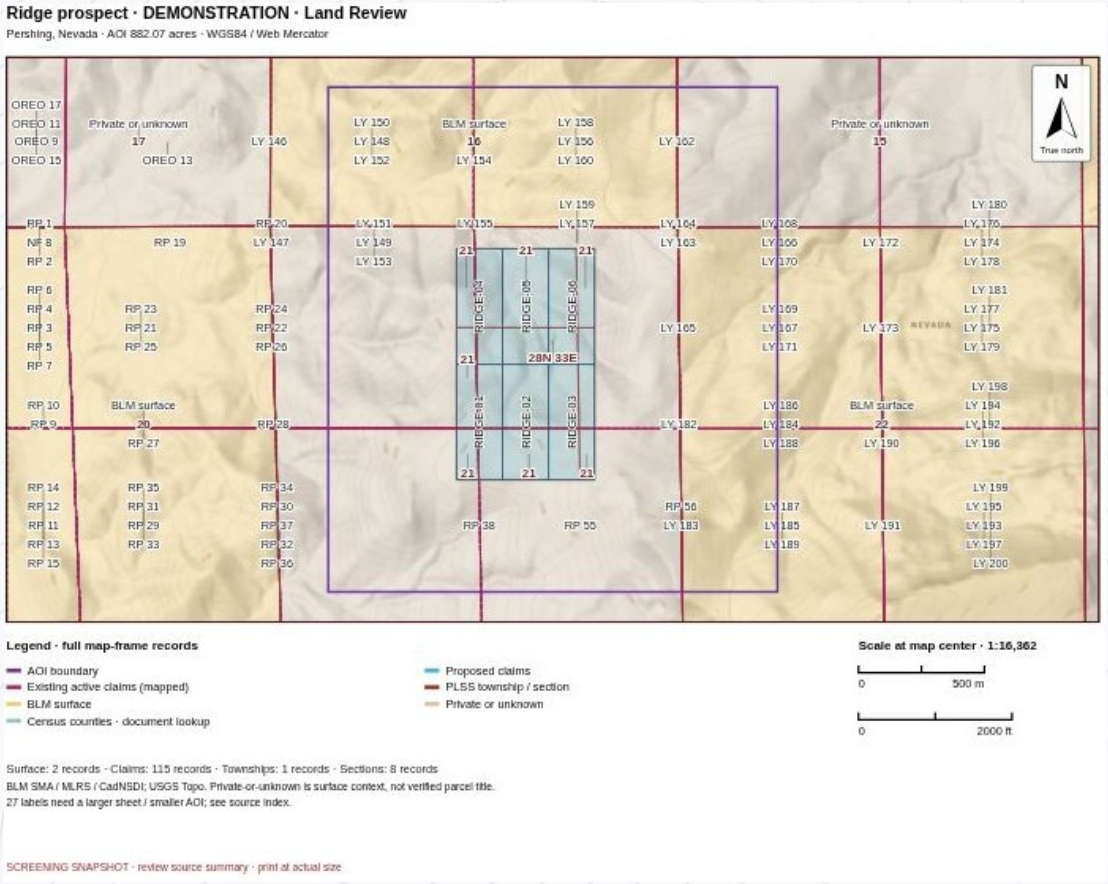
Fictional presentation locator

Missing facts stay visible until a person verifies them.

App 0.27.18 · Two complete PDF pages and an enlarged preview detail · Unsigned sample draft

Land Review extends beyond the AOI



The printed map frame

Surface-management context

Mapped active claims

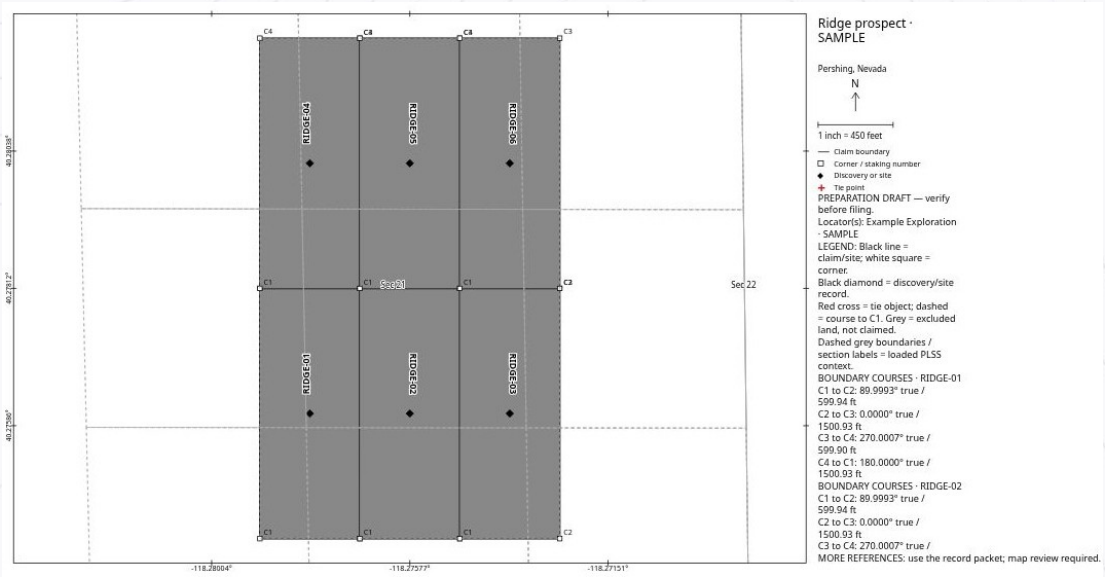
Townships and sections

North arrow and scale stay with the map.

App 0.27.18 · Complete review map · Colors describe source records and review context

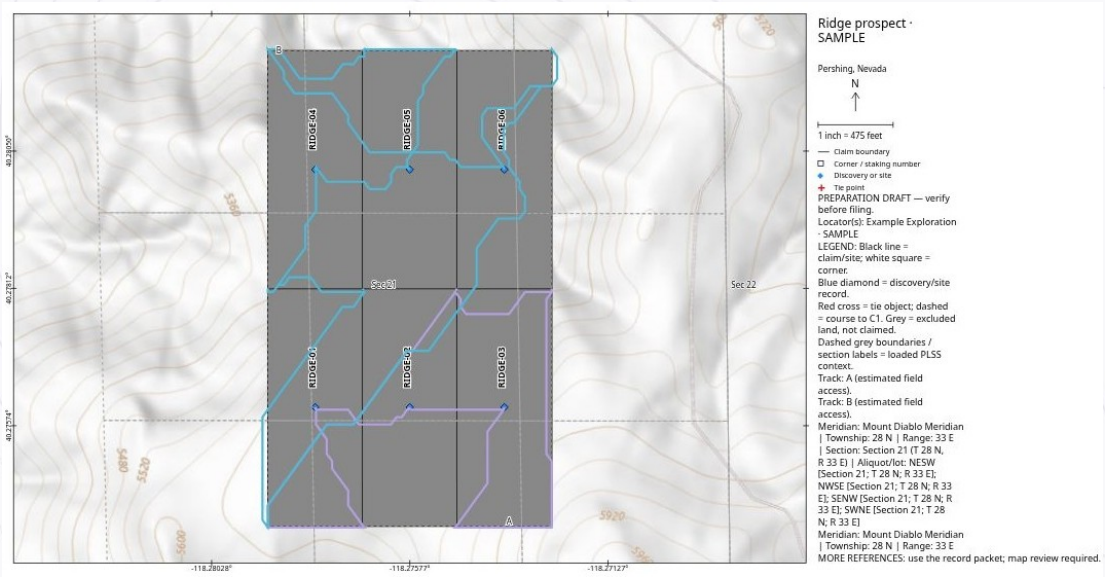
Filing Map and Track Map

Filing Map



Black-and-white claim references

Track Map

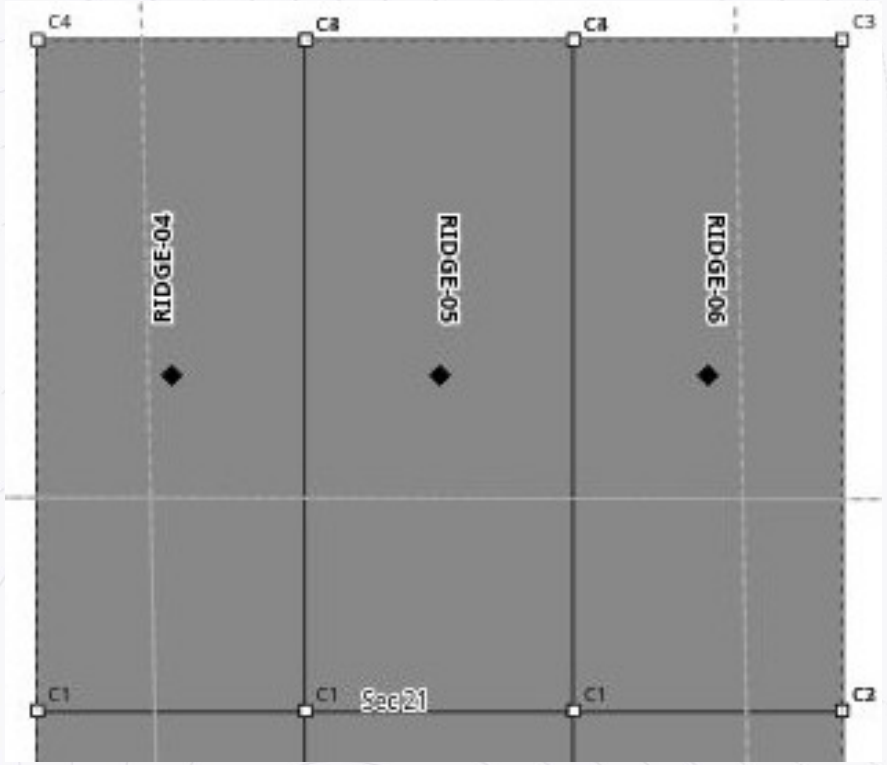


Color context and saved worker tracks

App 0.27.18 · Complete map frames · Gray shading marks excluded or unreviewed planning areas

Map detail: labels, corners and tracks

Filing Map detail

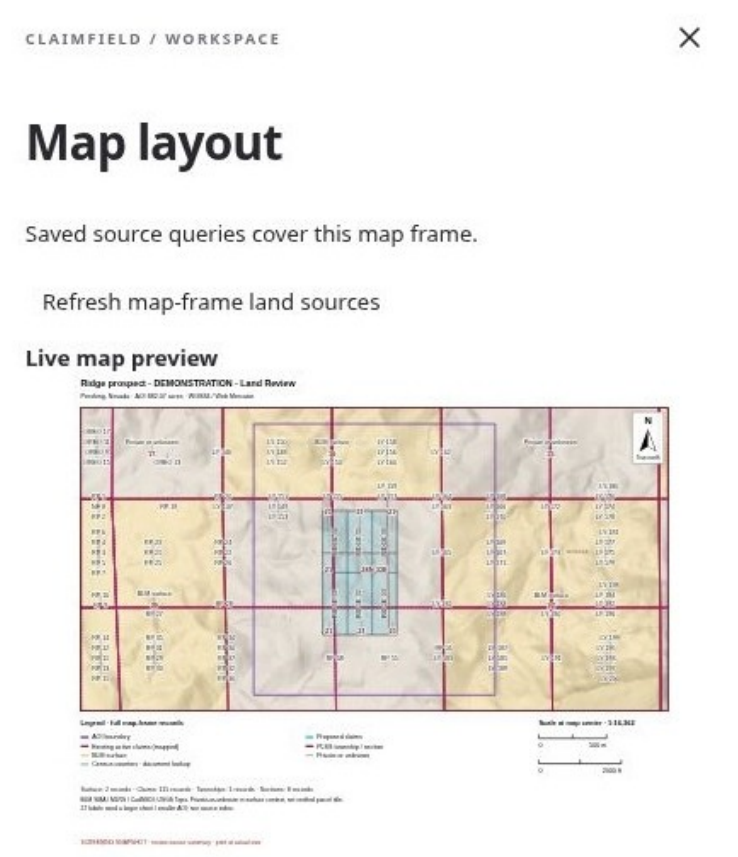


Track Map detail



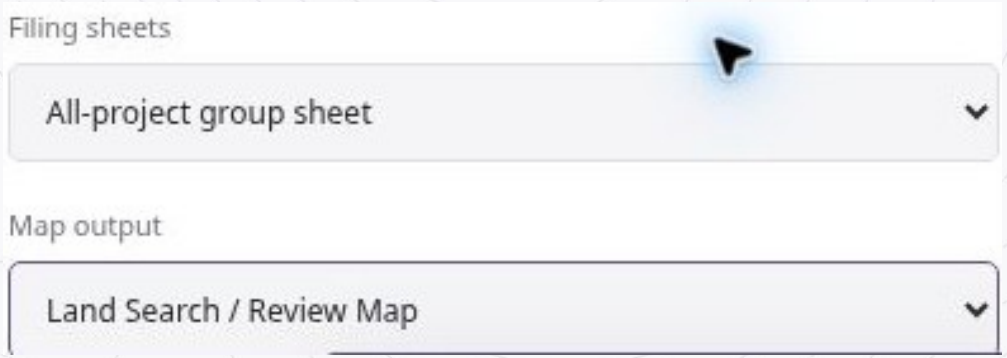
App 0.27.18 · Enlarged upper-row details · Names follow the claim length; gray areas require review

Map creation stays beside a live preview



One output for each task

Land Search / Review Map
Track Map
BLM / filing map



App 0.27.18 · Real Map Layout pane and complete selector detail · Paper choice still needs review

ClaimField

Prospect Summary keeps the record together

Prepared files have an index. Actual work has a register.

Field and filing register

Claim/site	Field staking	Posted	Monumented	County recorded	BLM filed	Document review items
RIDGE-01	Not recorded	Not recorded	Not recorded	Not recorded	Not recorded	11
RIDGE-02	Not recorded	Not recorded	Not recorded	Not recorded	Not recorded	11
RIDGE-03	Not recorded	Not recorded	Not recorded	Not recorded	Not recorded	11
RIDGE-04	Not recorded	Not recorded	Not recorded	Not recorded	Not recorded	11
RIDGE-05	Not recorded	Not recorded	Not recorded	Not recorded	Not recorded	11
RIDGE-06	Not recorded	Not recorded	Not recorded	Not recorded	Not recorded	11

App 0.27.18 · All six register rows shown · Reported dates do not certify filing acceptance

ClaimField

Light and dark views of the same records

Light mode

Record	id	Claim label (name)	status	outsideAOI	acres	lengthFt	widthFt
1	demo-1	RIDGE-01	UNKNOWN	false	20.66	1500	600
2	demo-2	RIDGE-02	UNKNOWN	false	20.66	1500	600

Dark mode

Record	id	Claim label (name)	status	outsideAOI	acres	lengthFt	widthFt
1	demo-1	RIDGE-01	UNKNOWN	false	20.66	1500	600
2	demo-2	RIDGE-02	UNKNOWN	false	20.66	1500	600

App 0.27.18 · Same selected claim · Complete two-row details in both interface themes

ClaimField

Under the hood: a helpful workbench

The screen

React + TypeScript

The map & math

MapLibre / Leaflet
Turf + GeographicLib

Online reference desks

BLM, USGS, Terrain3D

The saved-project shelf

Node.js API
Private project files

Background helpers

Web Workers handle heavier terrain tasks

The browser organizes the work. Small services supply data and save projects.

The languages behind ClaimField

Part	Implementation
Screen and GIS logic	TypeScript + React
Account / prospect API	Node.js JavaScript
Page and map drawing	HTML/CSS + SVG
Optional native shell	Rust + Tauri

A real TypeScript definition

```
export type CrewSettings = {
  access?: XY;
  start?: XY;
  finish?: XY;
  returnToStart: boolean;
  workers: string[];
  maxSlope: number;
  stakeMinutes: number;
};
```

Types give each piece of information a clear label.

Development hours: not recorded in the release documentation

ClaimField

Security: a key for your project notebook

01 Your account is the key

Sign in before opening saved projects.

02 Passwords get a one-way fingerprint

Salted scrypt hashes protect stored passwords.

03 The server checks the owner

Each saved project belongs to an account.

04 Safer document previews

Sandboxed previews block document scripts.

Your device, exported files and backups still need protection.

Verified in 0.27.18 source · Public hosting requires further security review

ClaimField

Four state profiles today. More coverage ahead.

NV	ID	UT	AZ
Nevada	**Idaho**	**Utah**	**Arizona**

Expansion goal

Add states after checking their rules, data sources and document needs.

Next states and release dates remain to be decided.

ClaimField

What remains before wider use

1. **Field proof** — Run end-to-end pilots with real reviewers and crews.
2. **Document checks** — Confirm state and county outputs against current requirements.
3. **Reliable handoffs** — Test map scale, labels, ZIP contents, backups and source failures.
4. **Public beta readiness** — Review deployment security and resolve the reported development dependency advisory.

ClaimField

A clearer plan for the next field day

What would make your next field day easier?

Project page
ornbaumkeith.github.io/projects/claimfield

GitHub repository · Private access required
github.com/ornbaumkeith/ClaimField

Source and app views: supplied ClaimField 0.27.18 build