IOGCC 2026 ANNUAL CONFERENCE

Trust, but Verify

AI Fluency for Oil and Gas Regulators

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WHY THIS MATTERS

Two Problem Statistics

210,000–746,000

estimated undocumented orphaned wells

Source: CATALOG, 2025

A problem AI can help you solve

1,431

U.S. court cases involving AI-fabricated citations, as of September 2026 (2,095 worldwide)

Source: Charlotin AI Hallucination Cases database

A problem AI is creating in your docket

The 4 D's — What They Mean in an Agency



Delegation

What can you hand to a model, and what must a licensed engineer, geologist, or attorney sign?



Description

Giving the model your actual context — the rule, the field, the well file — not a vague prompt.



Discernment

Verification. You own the output the moment you file it.



Diligence

Disclosure, records retention, and the fact that your prompts are public records.

FREE TRAINING, AVAILABLE TODAY

Public Resources



ANTHROPIC

AI Fluency Framework & Foundations

Free online course introducing the 4 D's framework used in this talk.

academy.claude.com →



U.S. DEPARTMENT OF LABOR

AI Literacy Framework

Training and Employment Notice (TEN 07-25) — complete document.

dol.gov · TEN 07-25 (PDF) →

VERIFIED CASE 1 OF 3

Texas Railroad Commission

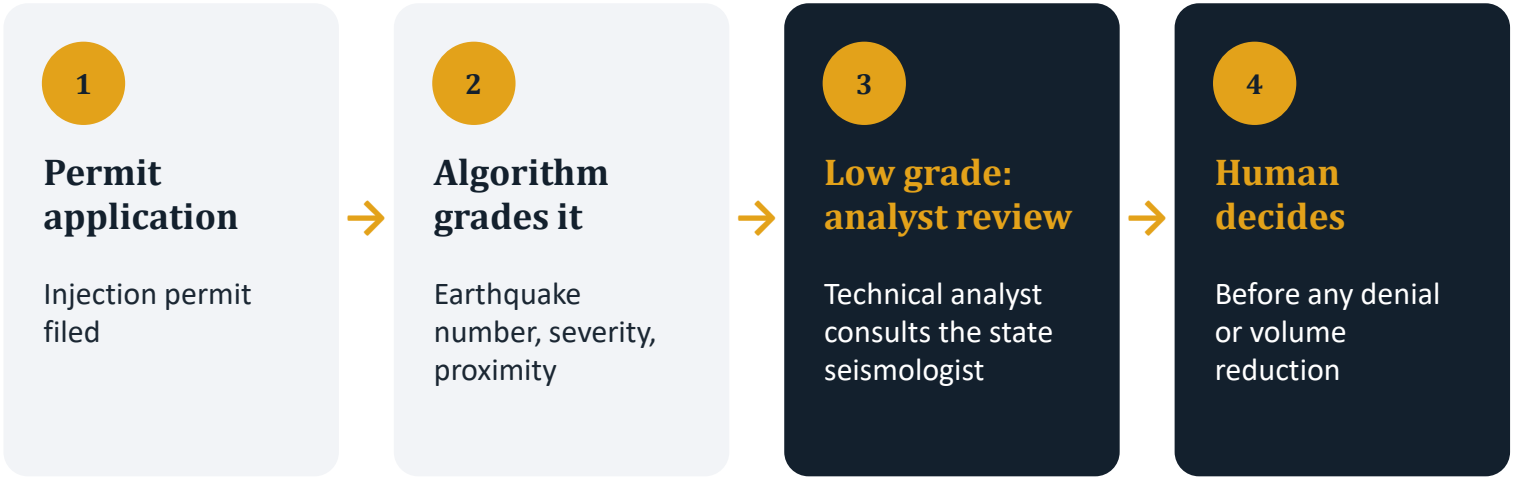
Seismicity review of UIC injection permits · 2022

Backlog: 0

Seismic review backlog eliminated

- ML / decision-tree grading of injection permit applications against earthquake number, severity, and proximity.
- Won GWPC's first-ever Excellence in UIC Award.

HUMAN-IN-THE-LOOP PRESERVED



TAKEAWAY

A permit-screening algorithm inside a state O&G agency is not hypothetical. It's four years old and it works — because a human still signs.

VERIFIED CASE 2 OF 3

Lawrence Berkeley National Lab

Finding lost wells on old maps · 2024

1,301

candidate undocumented orphaned wells found across four counties in California and Oklahoma

- U-Net CNN reading USGS 1:24,000 historical topo quads (1947–1992).
- Published in Environmental Science & Technology, Dec 2024; DOE-funded through CATALOG.

0.98	0.88	~10 m	29	15
precision	recall	spatial accuracy	confirmed by satellite	confirmed in the field*

** Field-confirmed with a cesium-vapor magnetometer, in partnership with the Osage Nation.*

TAKEAWAY

This goes straight at the 210k–746k orphaned-well number — and it has already been run in two IOGCC member states.

VERIFIED CASE 3 OF 3

Pennsylvania

The workforce play · 2024–2025

~95 min

per day saved, as self-reported by users

- Mandatory responsible-AI training before access.
- The state's own report flags hallucination, citation error, and PDF extraction failure as the live risks.

GENAI PILOT, 2024–25

175

employees · 14 agencies

→

BY APRIL 2026

3,000

employees · 35 agencies

→

NEXT WAVE

+6,500

more in training

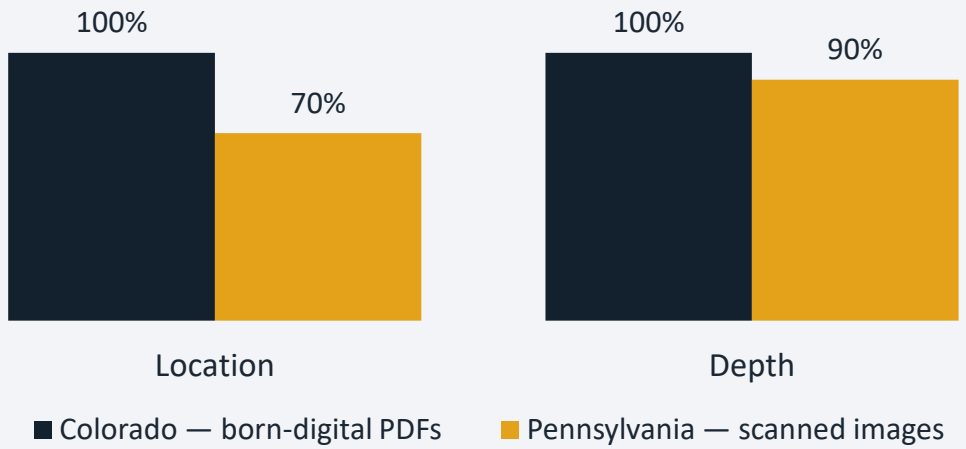
TAKEAWAY

The highest-return AI investment for most agencies isn't a model — it's trained staff and a use policy.

THE CONSTRAINT

Manual Labor Never Goes Away

DOE-funded LLM study: extracting data from legacy well records



Pennsylvania reached 100% only after manual OCR correction.

Budget reality: Texas RRC FY26–27 legislative request

$466M	total legislative request
$0	AI line items
$21.5M	mainframe transformation
$907,496	microfilm digitization

Your data quality is your AI ceiling. Nobody's model is better than your worst-scanned well file. The unglamorous work — digitization, GIS, getting off the mainframe — *is* the AI strategy.

TWO LIVE RISKS

What Can Regulatory Agencies Do Now?

AI-drafted filings, permit narratives, and expert reports with fabricated or drifted citations

Cite the Texas SOAH Chief ALJ Advisory (Oct 9, 2025) — SOAH hears RRC contested cases.

- Holds all filers strictly responsible for AI content.
- Notes ALJs have caught witnesses using AI during live testimony.
- Puts sanctions on the table — up to assigning a pleading no weight.

A ready-made policy your agency can adopt next week.

Your own prompts and outputs are public records

A Cascade PBS investigation obtained state officials' ChatGPT logs by records request in Washington.

- One city's disclosed logs revealed bias in its vendor-selection reasoning.

THE FIRST FOUR ARE FREE

Action Items for Regulatory Agencies

1

Adopt a filing rule

Copy the SOAH advisory. Filers certify they verified AI-assisted content.

FREE

2

Write your public-records answer before someone asks the question

Prompts and outputs are records; decide retention now.

FREE

3

Use the federal templates

OMB M-25-21 defines “high-impact AI” as output serving as a principal basis for a decision with legal or material effect — exactly what a permit-screening algorithm is. It builds in pre-deployment testing, human oversight, and appeal rights. M-25-22 gives you procurement clauses: no vendor training on your data, no lock-in.

FREE

4

Demand an AI fact sheet from any vendor

Training data, performance, bias testing, oversight — refreshed at renewal, tied to renewal. (A 2026 analysis of 1,000+ state AI contracts found 77% boilerplate; only 5.3% addressed transparency.)

FREE

5

Fund the boring layer

Digitization, GIS, records. It's the prerequisite, and it's fundable today under existing IT lines.

EXISTING IT

Fluency isn't knowing how the model works.

It's knowing four things:

1. **Delegate** — What you can delegate
2. **Describe** — How to describe your problem
3. **Verify** — How to verify the answer
4. **Disclose** — What you have to disclose

You already ask versions of all four about every permit that crosses your desk.

REFERENCES

Sources

IOGCC

2026 Annual Conference
Draft agenda 7/29/26
May 2026 ABM agenda
May 2026 registration list
Committees and Councils
2026 Knowledge-Sharing Project update (AI ranked #2)
Contact/staff
Strategic plan

WORKING EXAMPLES

GovTech — TX RRC AI seismicity
GWPC UIC award
LBNL historical-maps paper (ES&T)
Berkeley Lab news release
PA GenAI pilot report
StateScoop — PA expansion to 3,000

THE CONSTRAINT

Scientific Reports — LLM extraction from well records
RRC FY26–27 Legislative Appropriations Request
RRC digitization release

RISK AND GOVERNANCE

Texas SOAH Chief ALJ AI Advisory, Oct 2025
Charlotin AI Hallucination Cases database
UNC SOG — AI and the Public Records Act
LCW — CPRA meets ChatGPT logs
OMB M-25-21 / M-25-22 summary
FAS — how governments purchase AI
GAO-26-107859 — AI acquisition challenges

FLUENCY FRAMEWORKS

Anthropic AI Fluency (4 D's)
DOL AI Literacy Framework, Feb 2026
InnovateUS public-sector AI training

INDUSTRY SIDE

Deloitte 2026 Oil & Gas Outlook
AI-driven operational surveillance and regulatory exposure