

NEW MEXICO PRACTICUM PROJECT

SPRING 2020

IN PARTNERSHIP WITH WILDEARTH GUARDIANS AND UCLA IOES



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01

02

03

04

PROJECT OVERVIEW

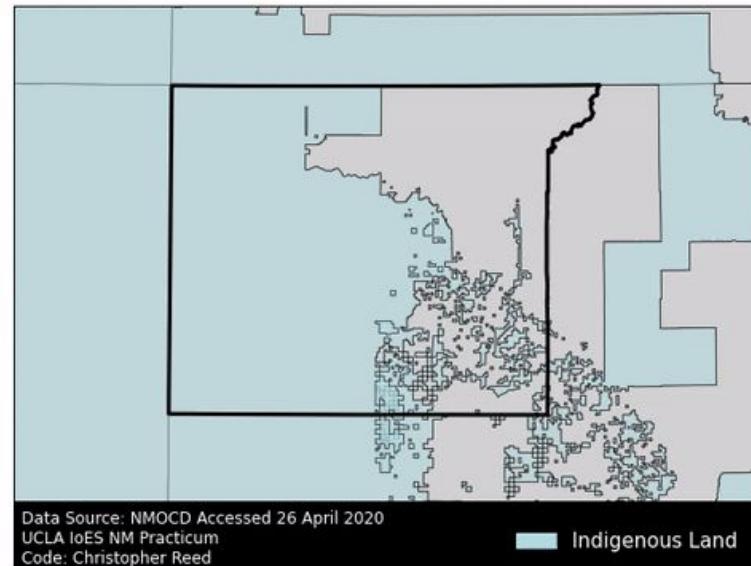
PROJECT SIGNIFICANCE

Spudded O&G Wells in San Juan County, NM
Year: 1920

RESEARCH QUESTIONS

METHODS

DELIVERABLES



CURRENT STATUS

IDENTIFY VIOLATIONS

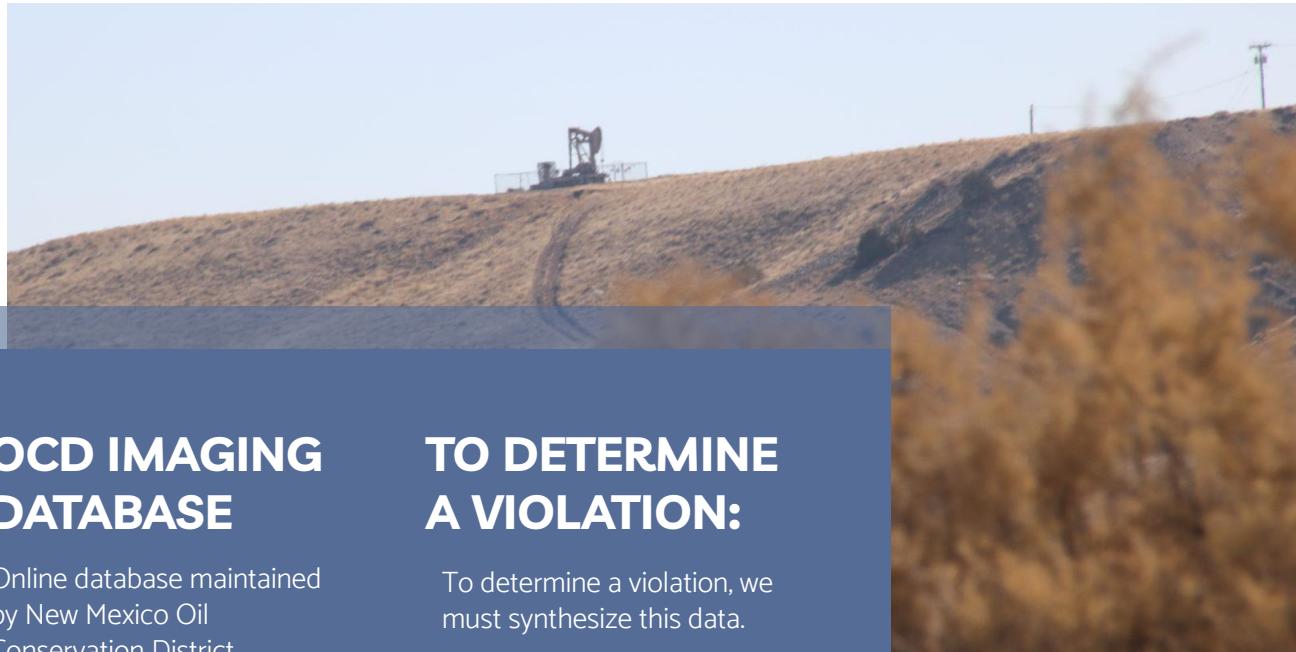


WHAT IS A VIOLATION?

Any construction that occurs before the issuance of a written determination by NMED that an air permit is not required or, if an air permit is required, before the air permit is issued.

20.2.72.200 NMAC

OBTAINING DATA



PUBLIC RECORDS ACT

New Mexico Environment Department

Obtain facility information through air permits and Notice of Intent (NOI) documents

OCD IMAGING DATABASE

Online database maintained by New Mexico Oil Conservation District

Obtain well information through applications for permits to drill

TO DETERMINE A VIOLATION:

To determine a violation, we must synthesize this data.

OIL AND GAS IN NEW MEXICO



New Mexico Air Pollution Permit Violation Workflow



Facility Information
(Location)



DBSCAN Well Clustering
+
Well-Facility Distance Based
Association

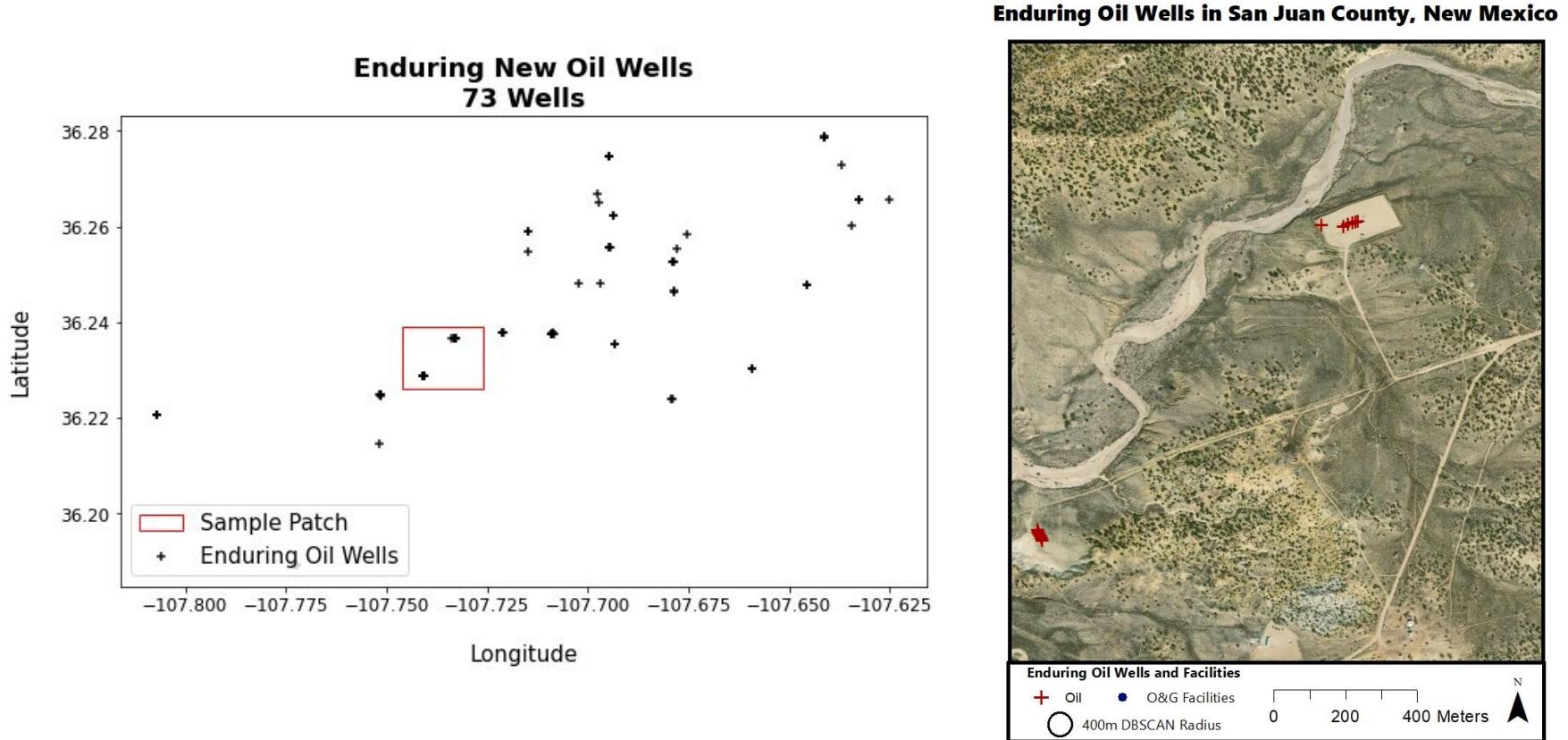


PRAs for NOI dates of
associated facilities

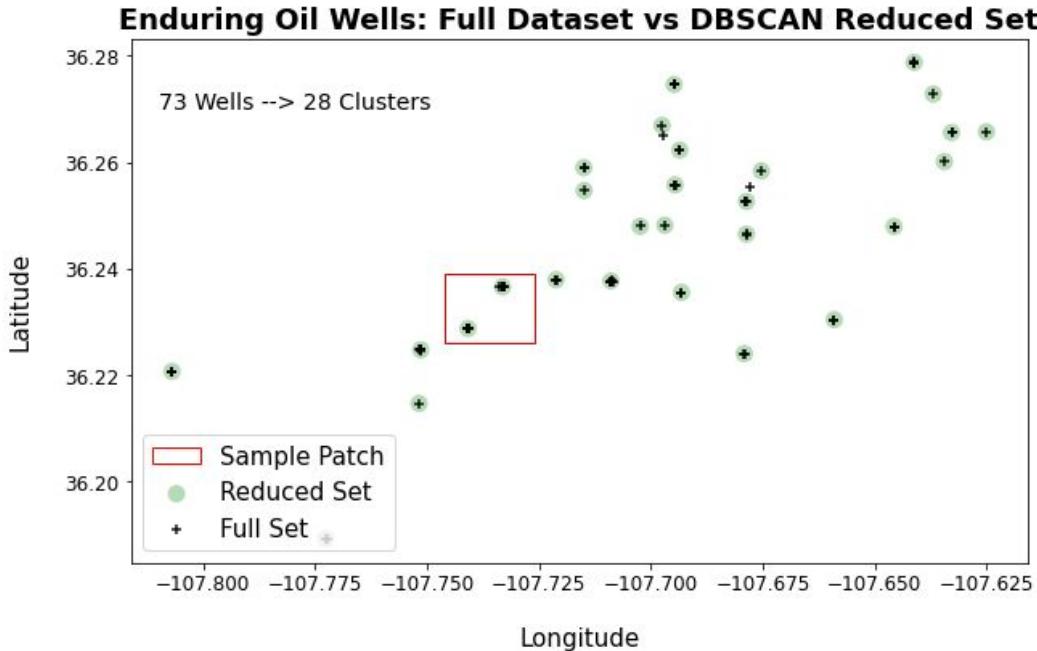


Compare well spud date to
facility NOI to detect violation

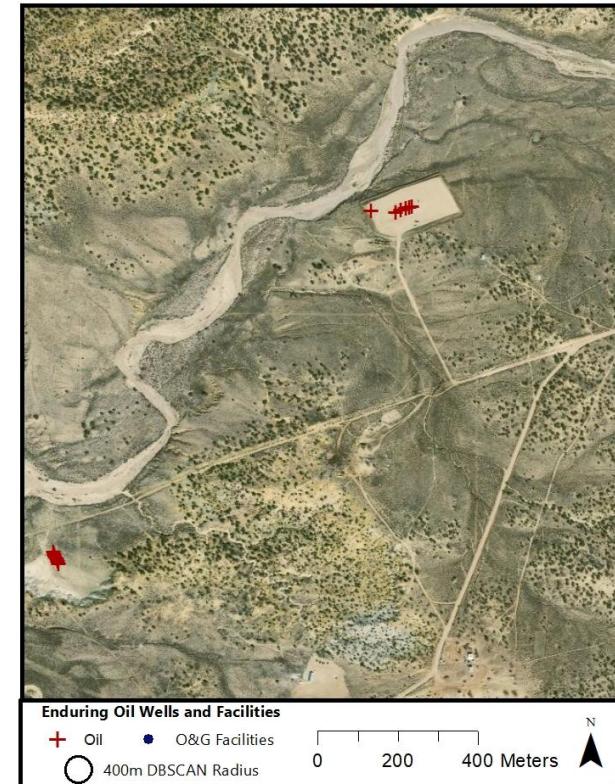
STEP 1: Visualize wells



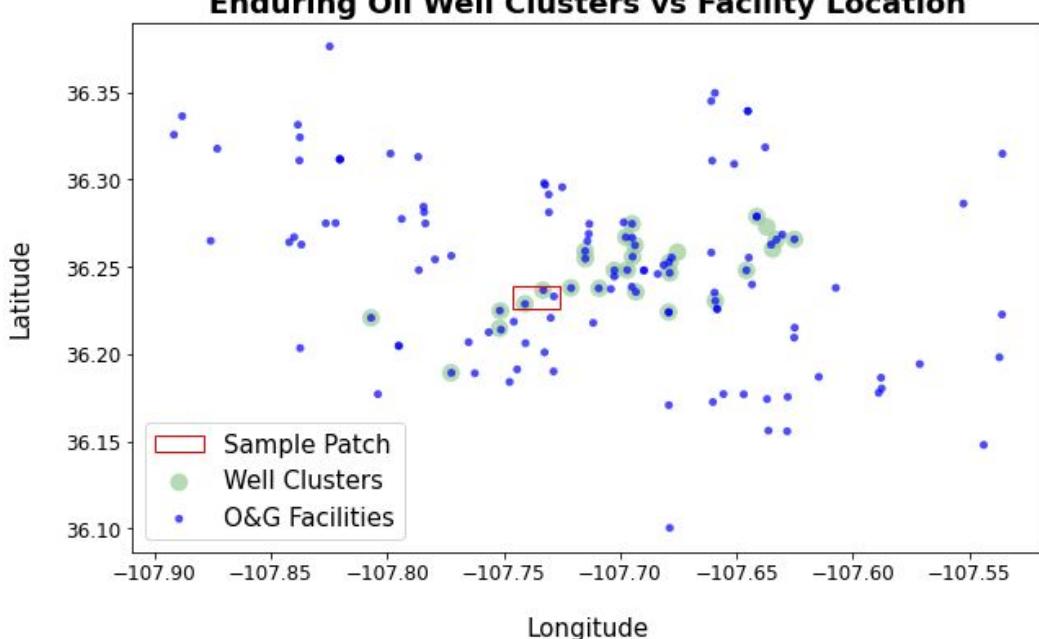
STEP 2: Identify well clusters



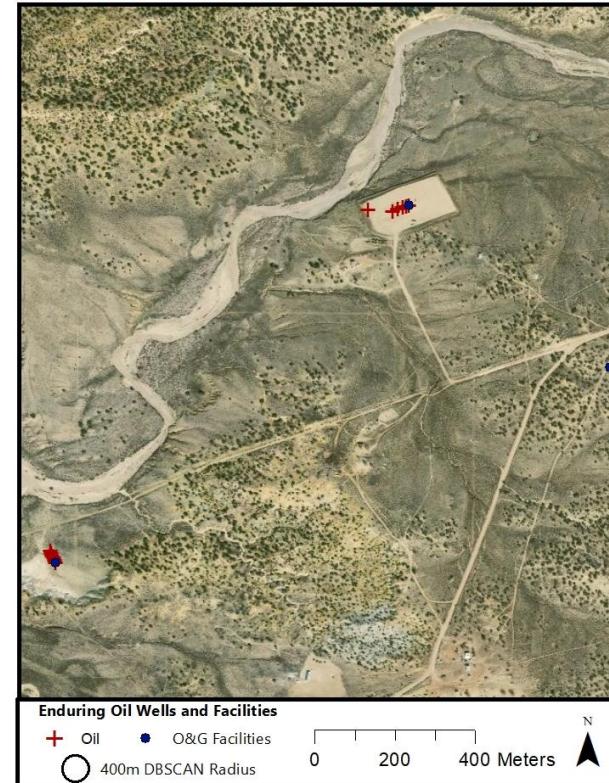
Enduring Oil Wells in San Juan County, New Mexico



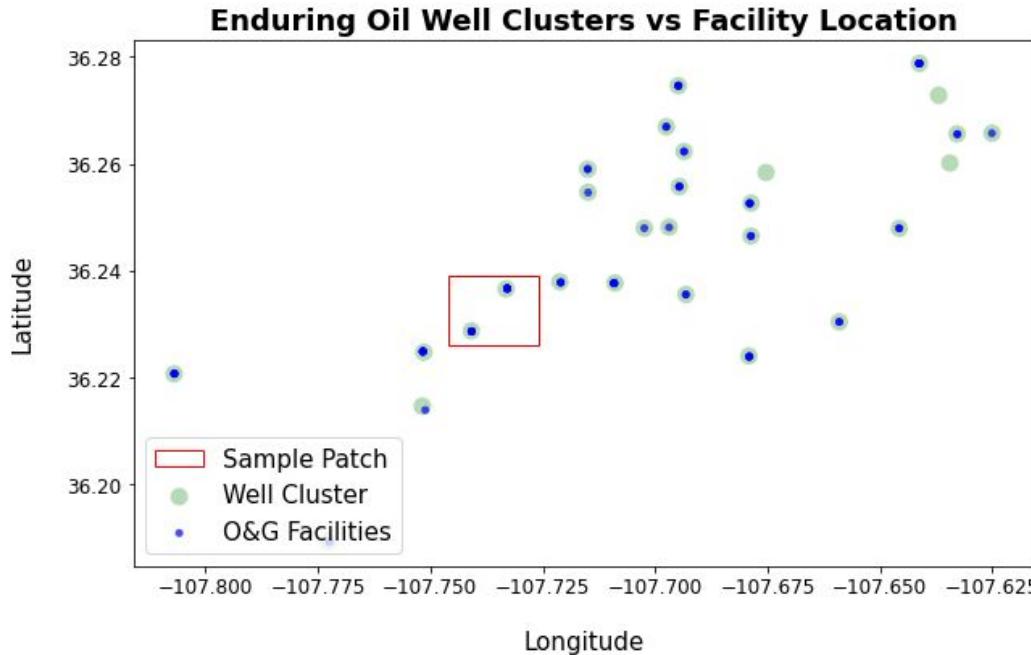
STEP 3: Visualize facilities



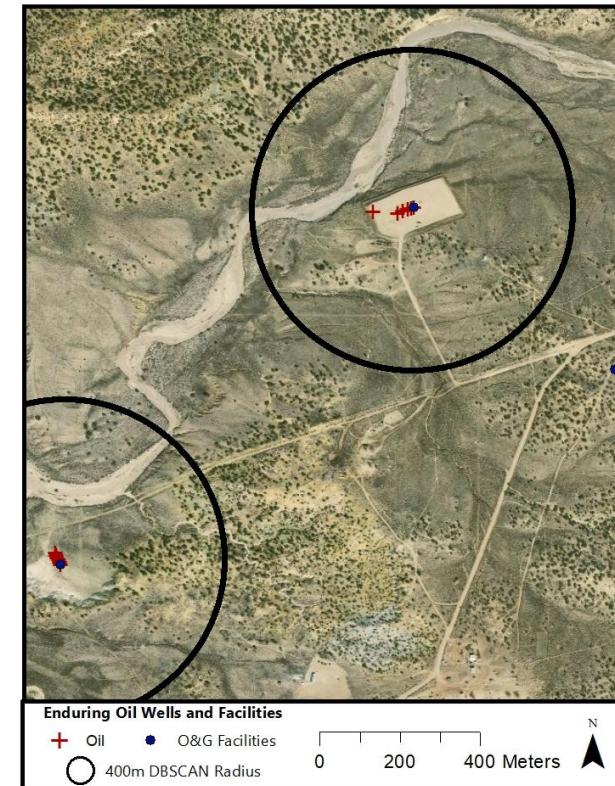
Enduring Oil Wells in San Juan County, New Mexico



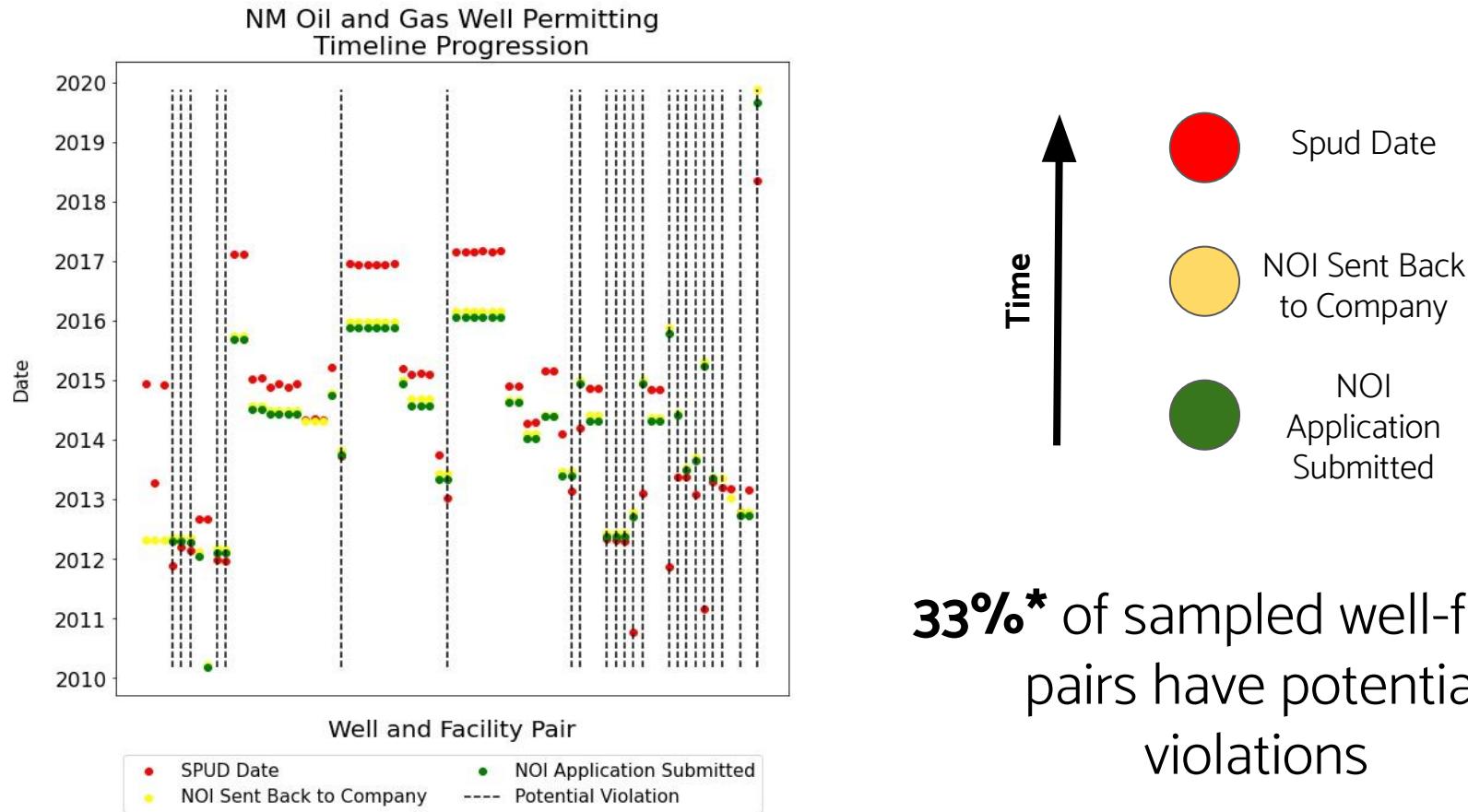
STEP 4: Associate wells and facilities



Enduring Oil Wells in San Juan County, New Mexico



Construct Permit Timelines



WHAT HAS CHANGED?

ZOOM UNIVERSITY

MANY THINGS, BUT NOT TOO MUCH!

- Online meetings
- Computer softwares
- New Mexico Trip Cancelled



NEXT STEPS

Writing our Public Facing report

Working with New Mexico's Regulatory Agencies

COVID-19 and the Navajo Nation

Mapping out air emissions on ArcGIS Online

THANK YOU

WE LOOK FORWARD TO YOUR
QUESTIONS.



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