A blue shield with a robot with wings

AI-generated content may be incorrect.

**Vanguards**

**Energy Sector Land Access Rights & Royalties Use Case #1**

**Oil & Gas Well Focus**

**Part 1 - Applicability:**

* Oil & Gas Sector:
  + Oil & Gas Well Drill Sites
  + Injection & Recovery Well Drill Sites
  + Oil & Gas Field Mineral Rights & Royalties
  + Oil & Gas Field Access Rights including Roads & Utilities
  + Oil & Gas Fracking Rights & Compensation
  + Pipeline Right of Way, Roads, & Operations
  + Pipeline Pumping Stations & Equipment Right of Way, Roads, & Operations
* Power Sector:
  + Geothermal:
    - Geothermal Well Drill Sites
    - Injection & Recovery Well Drill Sites
    - Geothermal Field Rights & Royalties
    - Geothermal Field Access Rights including Roads & Utilities
    - Oil & Gas Fracking Rights & Compensation
    - Geothermal Steam Pipeline Right of Way, Roads, & Operations
    - Geothermal Power Station & Equipment Right of Way, Roads, & Ops
  + Wind:
    - Wind Turbine Sites
    - Wind Turbine Field Rights & Royalties
    - Wind Turbine Access Rights including Roads & Utilities
    - Power Line Right of Way, Roads, & Operations
    - Battery Power Storage Stations Right of Way, Roads, & Ops
  + Solar (Utility Scale):
    - Solar Farm Sites including Field Rights & Royalties
    - Solar Farm Access Rights including Roads & Utilities
    - Power Line Right of Way, Roads, & Operations
    - Battery Power Storage Stations Right of Way, Roads, & Ops
  + Solar (Distributed):
    - Solar Installation Sites including Roof/Field Rights & Royalties
    - Solar Installation Access Rights including Property Access
    - Power Line Interconnect Equipment & Operations
    - Battery Power Storage Units Access & Operations
* Other Industries
  + Telecommunications:
    - Telecom Tower / Roof Access Sites
    - Telecom Tower / Roof Access and Facility Rights & Royalties
    - Large Tower Access Rights including Roads & Utilities
    - Small Tower/Rooftop Access Rights including Property Access
    - Power Line & Fiber Interconnect Equipment & Operations
    - Battery Power and/or Generator Units Access & Operations
  + Water Utilities:
    - Water Well Drill Sites
    - Water Tower Sites
    - Aquafer Mineral Rights & Royalties
    - Water Collection Sight Access Rights including Roads & Utilities
    - Water Pipeline Right of Way, Roads, & Operations
    - Water Pipeline Pumping Stations Right of Way, Roads, & Ops
    - Water Treatment Plant Right of Way, Roads, Utilities, & Ops

**Part 2 – Background Scenario:**

Focus of this scenario is on specifics of producing Oil & Gas wells located on private property in established legacy fields. In these cases, the O&G producers have to lease the property which the wells and equipment sit and operate, and also pay royalties to all the property mineral right owners in the field from which the oil and/or gas is sourced.

These leases, royalties, and agreements often have different term lengths, expiration dates, and different terms. They also are often done as multi-party agreements which overlap property lines in multiple ways. Each can impact the operations costs and profitability of a field in different ways. Should one expire without a timely renewal, it could adversely impact the operations of or even temporarily shut down the production of a well or field, causing both losses in revenues, and in certain circumstances, triggering financial penalties and even regulatory fines.

This scenario is one in which a client needs to ascertain the status of leases and royalty agreements for a specific field, to identify which agreements may be nearing renewal. For those which need to be renewed within a year, a proposed renewal rate needs to be created based on current market conditions, and a sensitivity analysis performed to identify the impact of the new rates would have on the profitability of the wells and field in question, and, determine the impact of the operations and profitability of the field if one or a group of these agreements are allowed to expire without renewal.

Note: Collection/Pipeline land rights are also important, but are reflected in a separate scenario due to differences in the requirement and business operations.

**Part 3 – Scenario Steps:**

1. User
   1. selects a natural gas field
   2. enters a natural language request asking for a Land Lease and Royalties Status report, with proposed renewal rates based on the current market and target dates based on typical lead times for those contracts in that area
   3. enters a natural language request asking for a sensitivity report to:
      1. identify the impact of the new rates would have on the profitability of the wells and field in question
      2. determine the impact of the operations and profitability of the field if one or a group of these agreements are allowed to expire without renewal.
2. The system identifies the correct source databases, source documents, and appropriate information needed from relevant templates and database schemas.
3. The system creates the appropriate document and data collection and sets up RAG and security parameters.
4. The system creates the prompts for and instantiates the agents.
5. The VANGUARDS review the Prompts, RAG and Rules.
6. The VANGUARDS reformat the Prompts with best practices and insert quality control and logging instructions.
7. The AI system produces the reports.
8. The VANGUARDS review the outputs and logs for completeness, quality, and accuracy.
9. The VANGUARDS make any changes or adjustments necessary and log any such changes.
10. The VANGUARDS provide the final outputs with a separate document providing validation and logging information.