TRACKING LAND & OPERATIONS IN GIS AT A SMALL INDEPENDENT
AGENDA

I. About Stonegate
II. Building our land management and GIS solution
III. Using the solution in GIS
IV. Putting the power of GIS in all hands
V. GIS as a big solution at a small independent
VI. Questions
ABOUT STONEGATE

- Founded in 2007
- Headquarters in Houston, TX
- Focus on Texas operations
- Currently have an interest in 60,000 gross acres and 30,000 net acres in the Eagle Ford Basin
- Operate 130 producing wells and have an interest in another 150 non-operated wells
- 40 full-time employees
- Brought land function completely in-house in 2014
  - Implemented Quorum Land
Majority of land activity was previously tracked externally

- Difficulty in tracking leases on spreadsheets
- Little organization and internal understanding of physical lease files
- Long wait for retrieving reports and maps

High costs → little benefits
Building a land management and GIS solution...
Brought land in-house by hiring landmen, analysts, techs

Installed ArcGIS 10.2 with 7 ArcMap licenses

Implemented Quorum Land and GIS in 2014
  - Land team began entering and mapping all agreements into land system

Created new physical filing system
Leases, units, contracts, easements, title opinions, wells

- Agreement data captured in Quorum
  - Dates, payments, interests, cost centers, depths, obligations, scanned documents, recording information, permits, legal descriptions, related agreements
  - *Data capture process focused on end result*
- Physical files
  - Original documents, correspondence, deeds, data sheet, customized company plat
Using the solution in GIS...
CREATING AND PUSHING GIS LEASE DATA OUT

- Land
  - Tract out leases per unit
  - Mapped tracts at legal level
  - Linked to land database
BRINGING LAND AND OPERATIONS TOGETHER

- Geology
  - Geologists provide basins, formations, faults, seismic data
  - Data comes in from scanned plats or other geo programs
BRINGING LAND AND OPERATIONS TOGETHER

- **Drilling**
  - As-drilled laterals created from driller surveys and/or IHS
  - Engineers provide current drilling activity and statuses from operations database to be displayed on map
BRINGING LAND AND OPERATIONS TOGETHER

- Production
  - Engineers provide current well production rates collected from field
  - Data linked into a mapped laterals to be symbolized in map
  - Competitor production captured from IHS (allocated)
Reservoir

- Engineers provide reservoir and well planning data
  - PDP’s, PUDS, Probables, Possibles
Facilities

- Engineers provide pipeline, plant, pad locations captured by surveyors or digitized on imagery
- Supplemented by vendor data
Putting the power of GIS in all hands...
CREATING AND PUSHING GIS LEASE DATA OUT

- Pushing out GIS data to users
  - Created a single ArcMap project
  - Created unique layers
    - Drilling
    - Facilities
    - Land
    - Competitor Land
    - Base data
Landmen, techs, geologists, engineers typically already have some GIS experience working with other programs.

Take advantage of slow period in industry to cross-train staff in other skills.

Developed a simple GIS training geared towards basic ArcMap tools that are most useful for our data and for an individual’s role.

Made the ArcMap project available to all users.
- Tracking competitors and potential new development in ArcMap…
  - Leasing activity
  - Drilling/Rig Activity
  - Production
GIS as a big solution at a small independent...
1) Better internal understanding of company leasehold
   • Know lease terms, lessors, landowners, etc…

2) Land and operations tracking capability increased and more accurate
   • Much effort was taken to input aspects of every lease correctly in our database to be able to depict details across our leasehold on a map and in reports

3) Map production time almost zero
   • Can view data directly in ArcMap or quickly pull current data for printed or presentation maps

4) Costs savings in lease management process
   • Able to investigate internal leases or make customized maps quickly through the database without paying extra to an outside firm
5) GIS projects become more in depth and include more data
   • Engineers and geologists know more data sources and are able to gather and incorporate it into company maps

6) Portable data
   • Exporting data and maps to smart devices to be used in the field

7) Taken advantage of industry slow-down to cross train staff
   • ArcMap training geared towards our data and specific needs

8) Employee’s skillset broadened
   • Landmen, geologists, engineers become even more valuable using GIS on their own
9) Staff is able to quickly visualize data across our area
   - Customize their own maps tailored to their projects

10) Query for data on vendor websites by using our spatial data
    - Upload lease outlines, well queries, and production areas into vendor’s programs for acquiring other data

11) GIS is driving company business development decisions
    - Can visually show drilling and leasing in potential growth areas
    - Tell our story to investors through maps

12) Upper management sees benefits of GIS directly in weekly company-wide meetings
    - Able to answer questions immediately with data linked in GIS
    - CEO: “Show me a map”
Colleges are beginning to require GIS courses for non-GIS/geography majors

- Newer land professionals, geologists, engineers are going to already have experience with it and expect access coming into a job

- Once trained, landmen and geologists prefer ArcMap versus a webmap
  - Coupling previous college coursework knowledge with specific in-house training creates a demand for more control over maps
THANK YOU!