

Tobin Data

OPERATIONS IMAGE SERVICE

Alyssa Geyer & Erin Ukestad
April 21, 2016





Purpose

To explore the challenges and successes of the effort that the Tobin Data division of P2 Energy Solutions has undertaken to migrate vintage aerial imagery and land grid to a raster-based image service.



Agenda



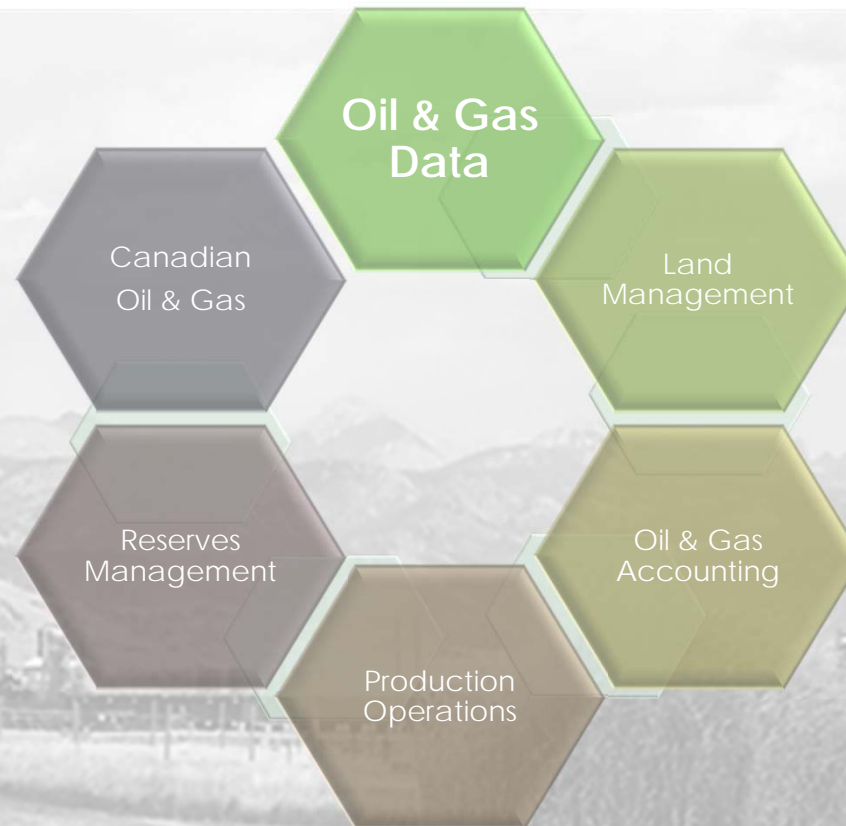
- Who We Are
- Our Image Service
- Challenges
- Use and Success
- Future Possibilities

A black and white photograph of an oil drilling rig in a desert landscape. The rig is a tall, lattice-structured derrick with a drilling pipe extending downwards. In the background, there are rolling hills and mountains under a cloudy sky. The foreground shows some sparse vegetation and a fence line. The overall scene is industrial and rugged.

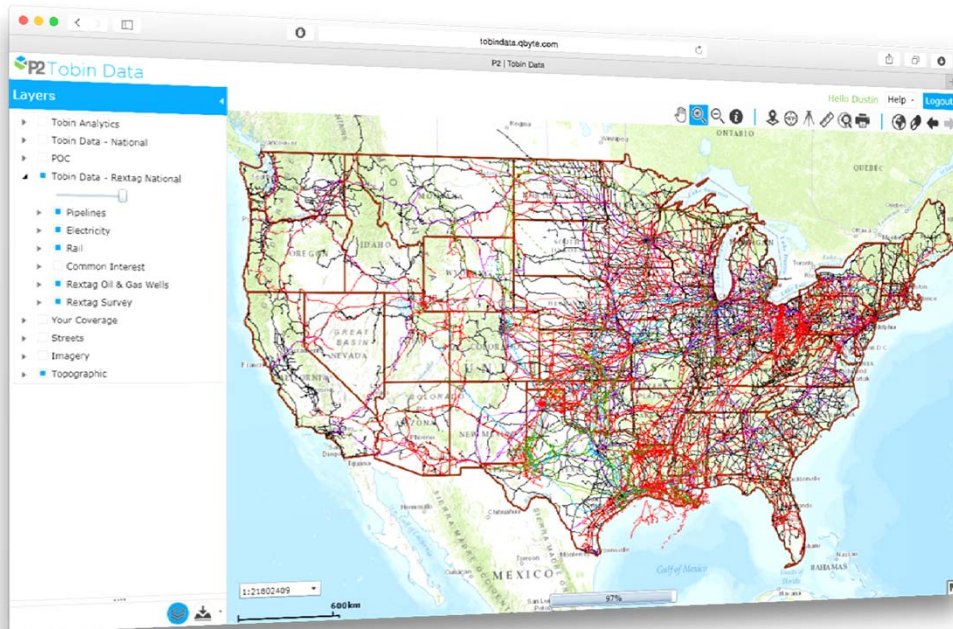
Empowering The People Who Power The World

P2 exists to understand our customers' challenges and enable their success. With the right approach to technology, oil and gas companies can create faster, safer and more efficient operations – all of which go to the bottom line.

Product Domains



Tobin Data Products

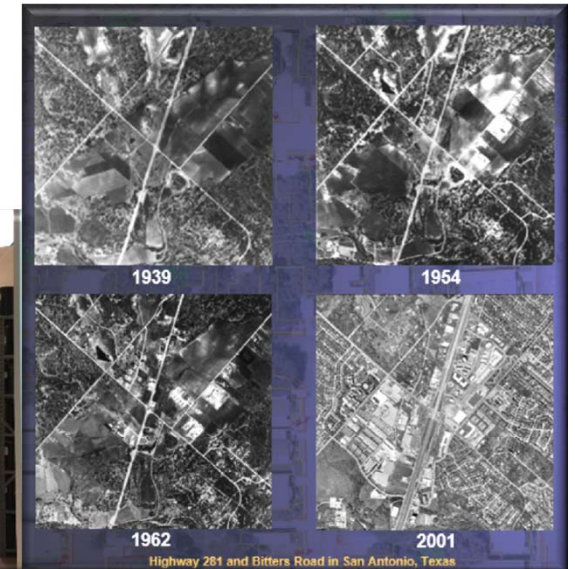


- P2 Tobin Data
 - Web viewer
 - ESRI basemaps
- P2 GIS
 - Spatial data creation toolset
- P2 Tobin Insight
 - Business Intelligence Well Data viewer
- Hardcopy Maps & Custom Services



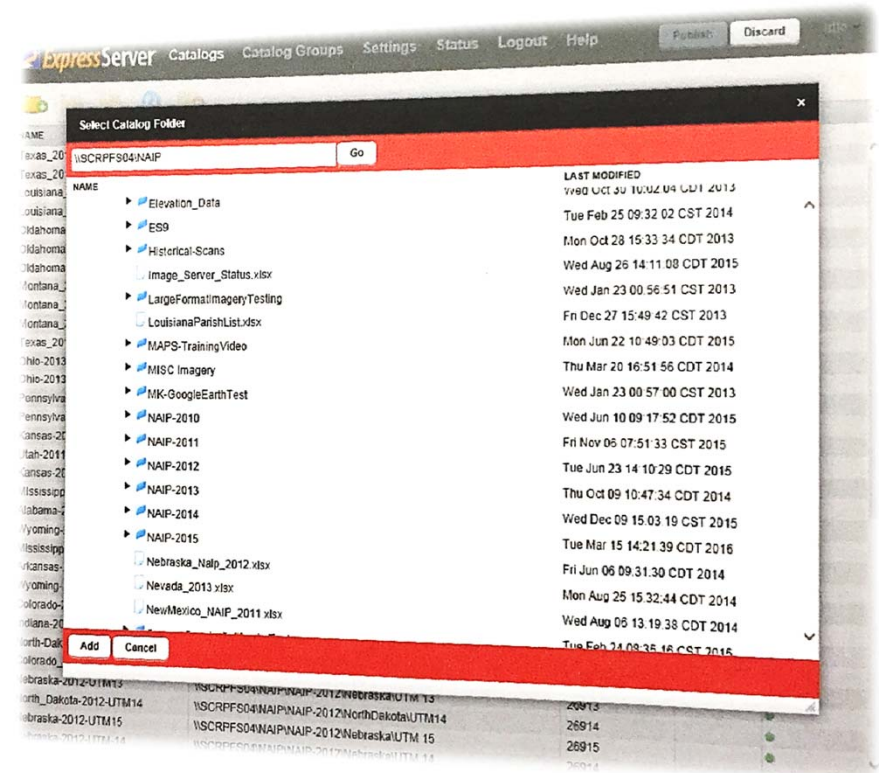
Custom Services: Aerial Photography

- 1930s vintage
- > 7,000 film canisters
- Still Fly Today for Custom Contracts
 - Before and After Coverage
 - Environmental Activities
 - Historical and Abandoned Wells
 - Land Use and Cover
 - Ownership and Occupancy
 - Shore Lines and Rivers



About the Service

- Lizard Tech Express Server
 - 1m GSD Imagery
 - 52 Catalogs available for use
 - Pennsylvania
 - Texas
 - Michigan
 - Louisiana

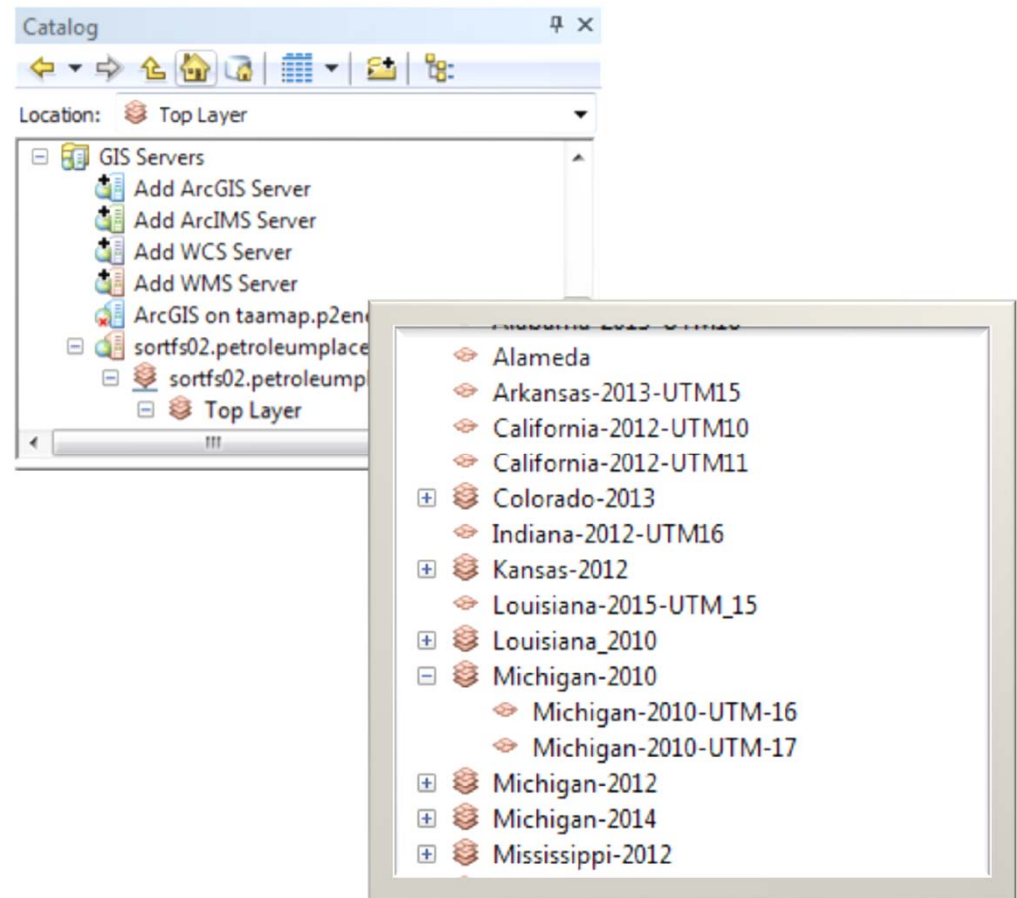


Using the Service

Example:

National Agricultural
Image Program (NAIP)

- Request a county
- Download
- Upload
- Organize/Catalog
- Available for use

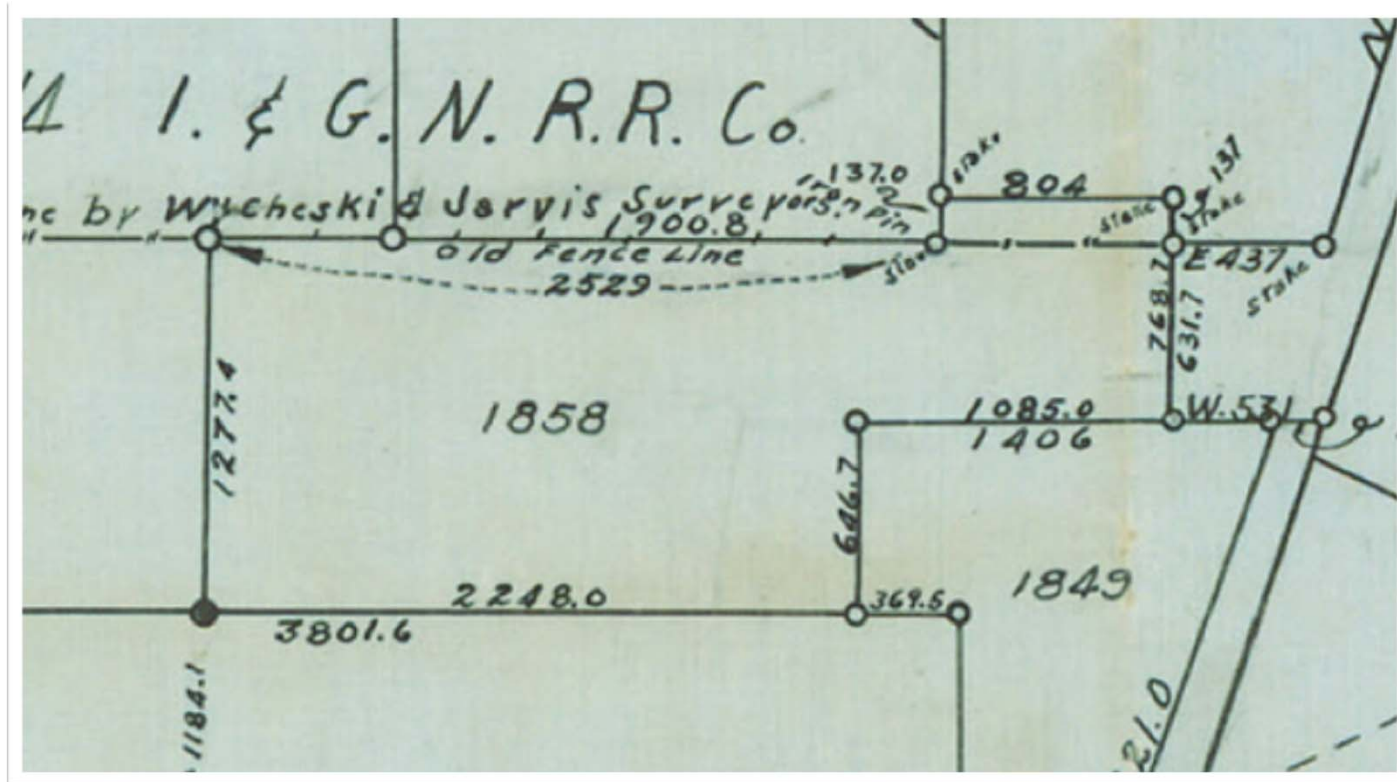


Challenges

- Differing vintages & resolutions
 - Need to see ground features; well pads, fence lines
- Conversion of historical images
 - Entire dataset >1TB
 - Scanning and Geo Referencing
 - Preventing image degradation
- Differing Projections
 - Tobin Data is produced in NAD 27
 - Sources in other projections

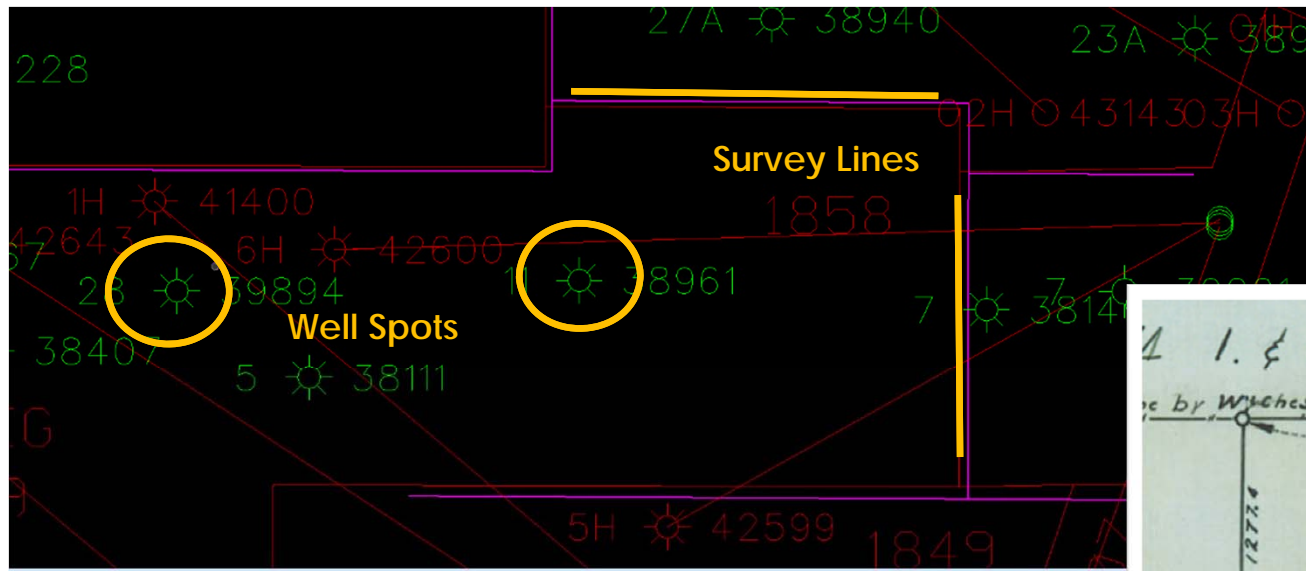


Maintaining Survey

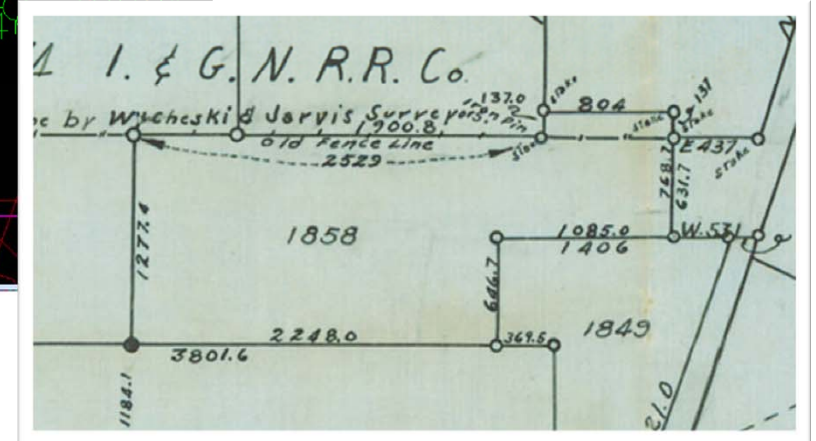


Original Texas Roll Sketch of Abstract 2049 Webb County, Texas

Maintaining Survey

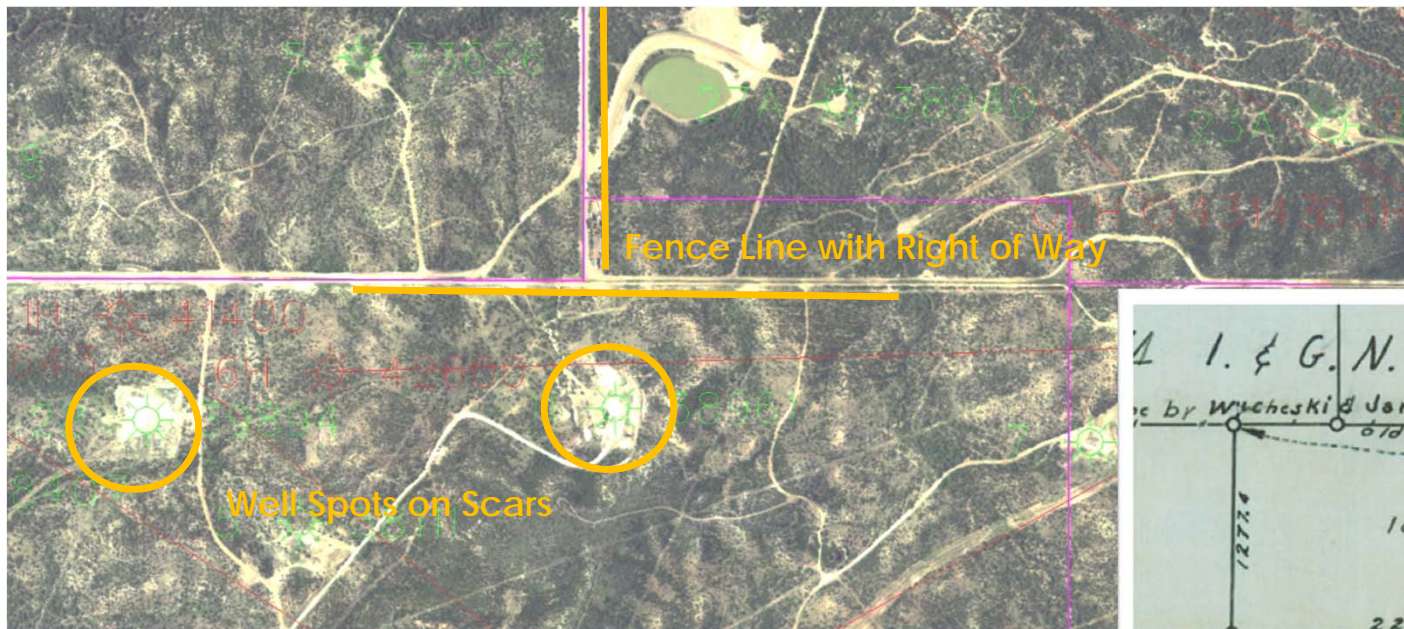


Tobin Data Survey and Well Data

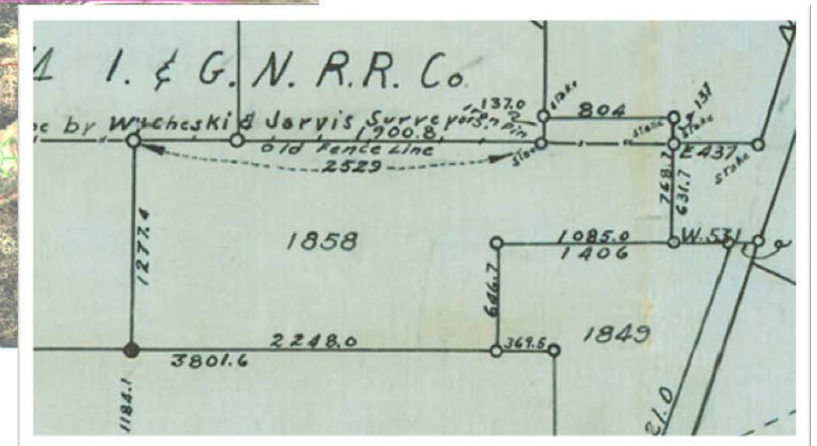


Abstract 2049 Webb County, Texas

Maintaining Survey

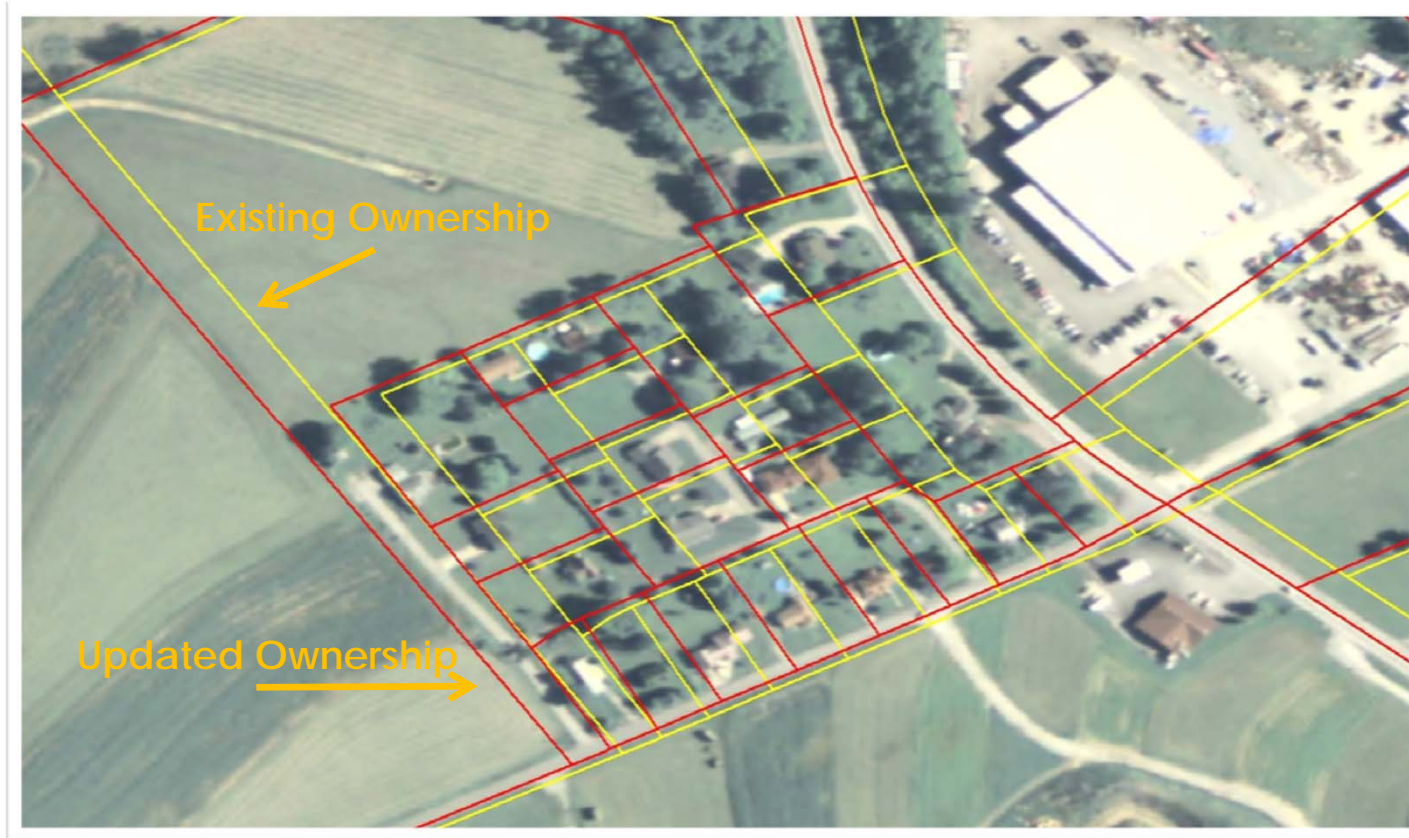


Tobin Data Survey and Well Data
with Aerial Imagery



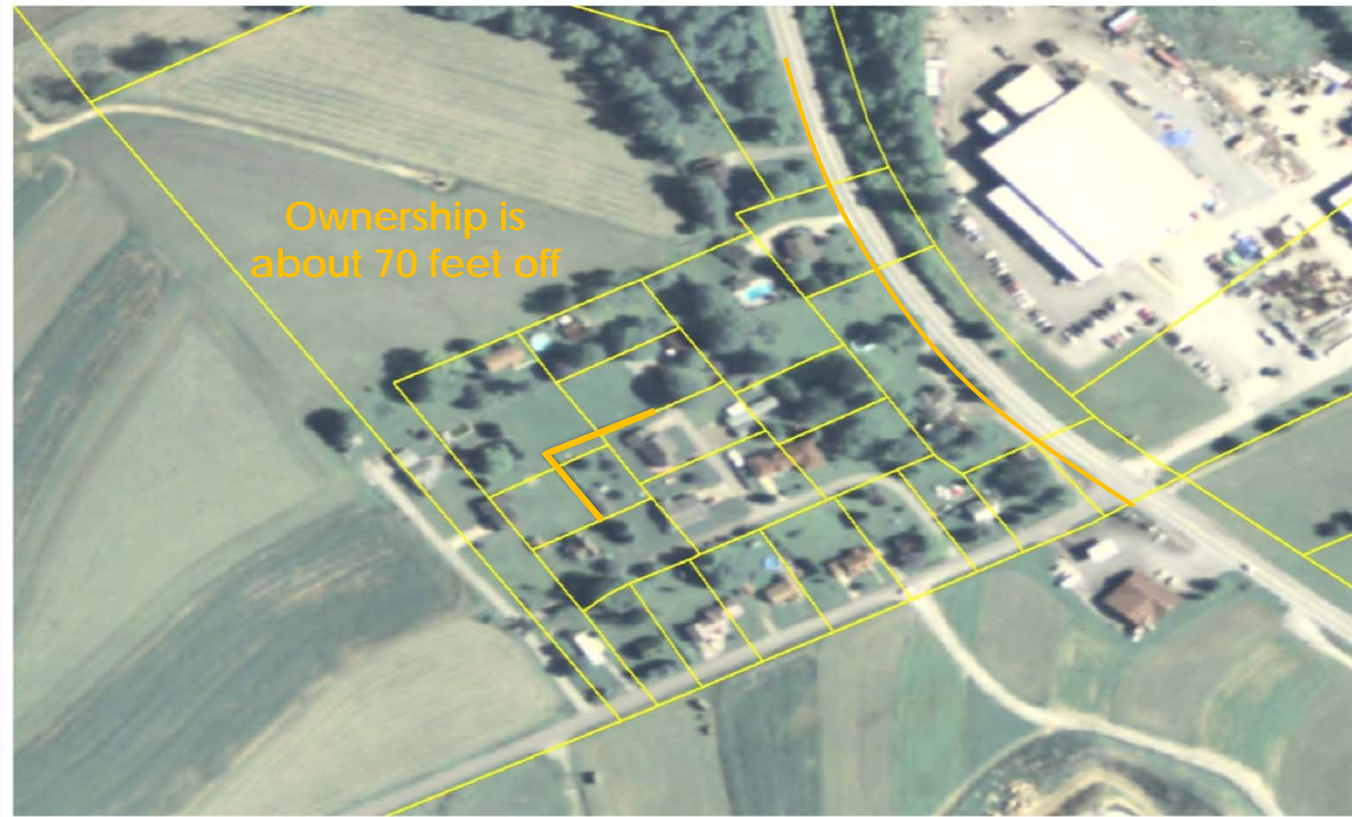
Abstract 2049 Webb County, Texas

Maintaining Ownership



Fayette County, Pennsylvania

Maintaining Ownership



Original Ownership

Maintaining Ownership



Updated Ownership

Mapping Leases

BEGINNING: at a $\frac{3}{4}$ " iron pipe found for the southwest corner of a called 191.2 acre tract of land in the name of R. N. Cason and recorded in Volume 153, Page 79, said pipe being on the east side of the Shawnee Road, and on the north boundary line of a 421 acre tract of land once in the name of Joe A. Wright and now owned by Champion International Corporation, see Volume 384, Page 617, said point being the southeast corner of this tract of land;

THENCE: S87°10'18"W (called West), 1447.57' with a hacked and blazed line painted white to a concrete monument found for corner from which a 30" Red Oak found marked "X" brs. S18°57'E, 35.2'

THENCE: S03°05'51"E (called South), 1388.38' with a hacked and blazed line painted white to a 1" iron pipe set for a re-located corner;

THENCE: S86°59'42"W (called West), 1943.8' with a hacked and blazed line painted white to a 1" iron pipe set for a re-located corner from which a 20" Sand Jack Oak brs. S72°40'E, 32.2';

THENCE: S02°23'26"E (called South), 2005.04' with a hacked and blazed line painted white to a 1" iron pipe set for a re-located corner from which a 12" Post found marked "X" brs. N79°26'E, 18.3' and a 12" Post Oak found marked "X" brs. N75°56'E, 22.2';

THENCE: S86°57'31"W, 197.34' with a hacked and blazed line painted white to a concrete monument found for corner from which a 14" Pine marked "X" brs. S35°43'W, 8.5';

THENCE: S86°31'W, 1886.0' with a hacked and blazed line painted white to a 1" iron pipe set for the southwest corner of this tract of land;

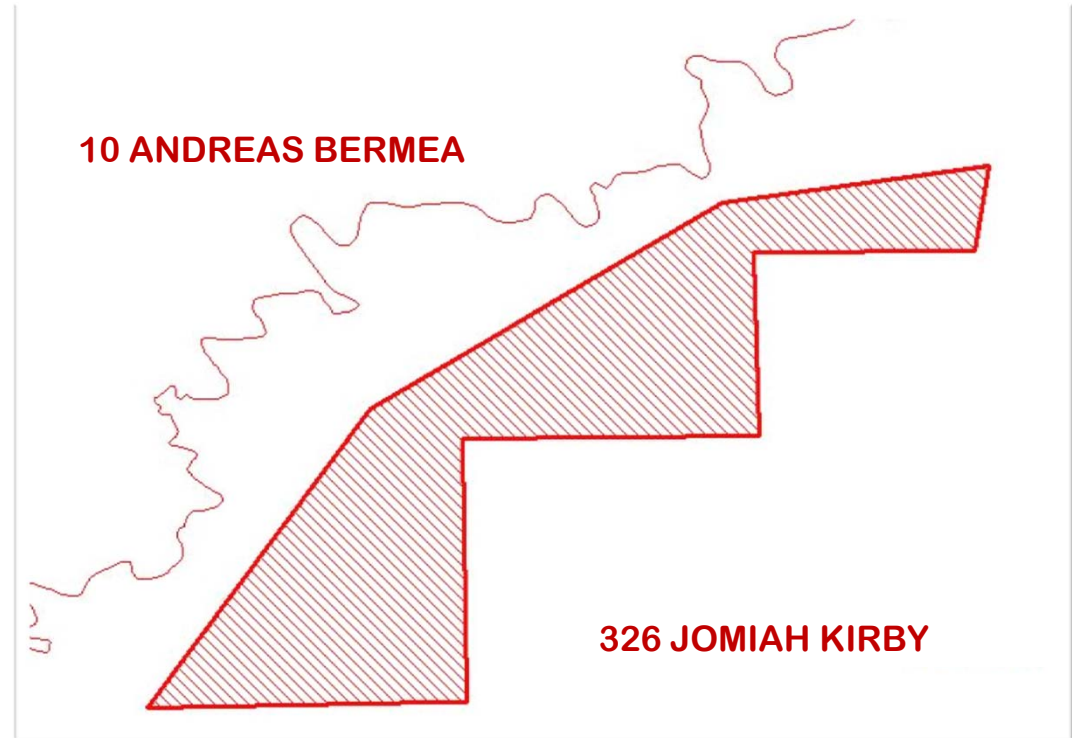
THENCE: N30°45'43"E, 2725.97' to a 1" iron pipe set for corner;

THENCE: N53°49'35"E, 2790.17' to a 1" iron pipe set for corner;

THENCE: N78°45'08"E, 1772.24' to 1" iron pipe set for the northeast corner of this tract of land;

THENCE: S06°46'52"W, 651.47' to the place of BEGINNING and containing 146.02 acres of land more or less.

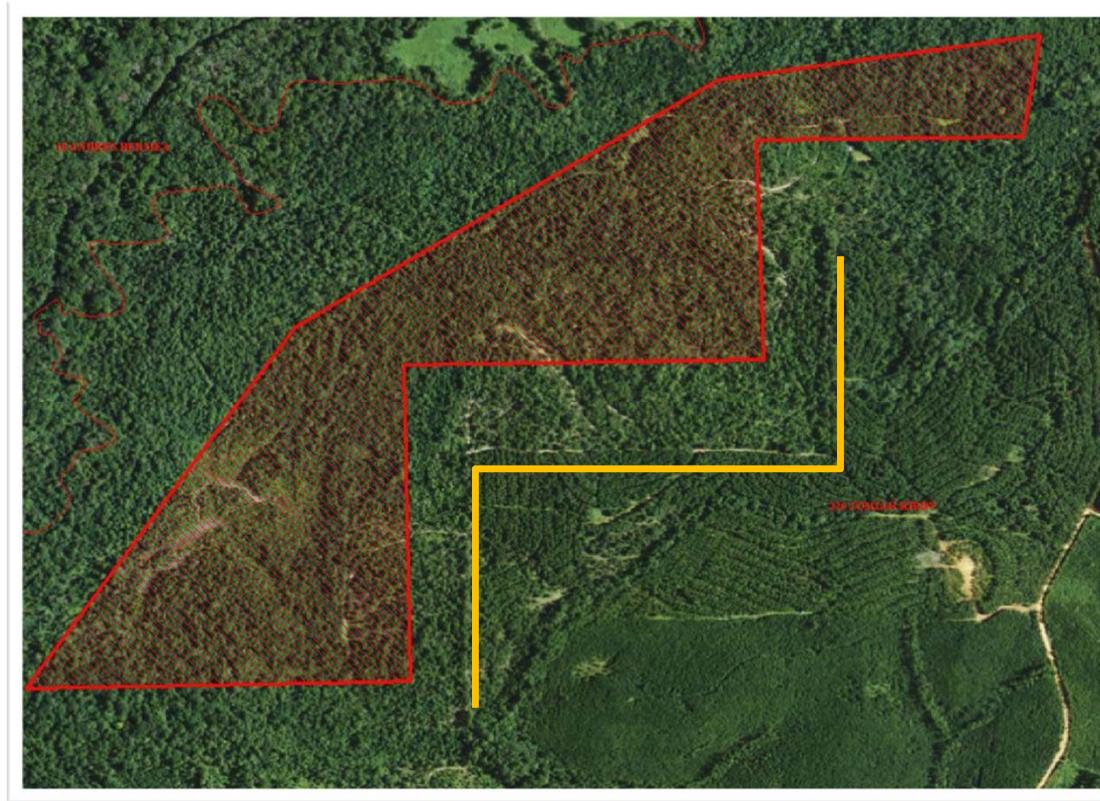
Lease Metes and Bounds



Shape of Metes and Bounds

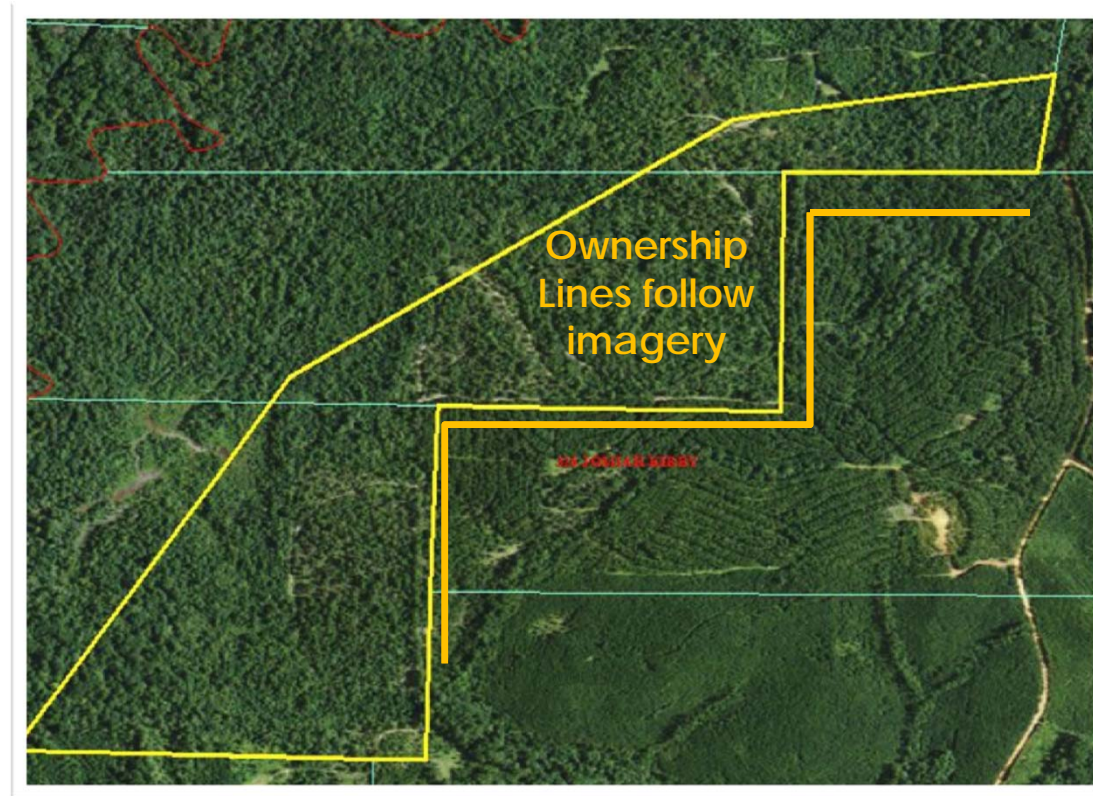


Mapping Leases



Matching Lease to Visual Evidence

Mapping Leases



Verify Lease Placement to Ownership

Spotting Wells

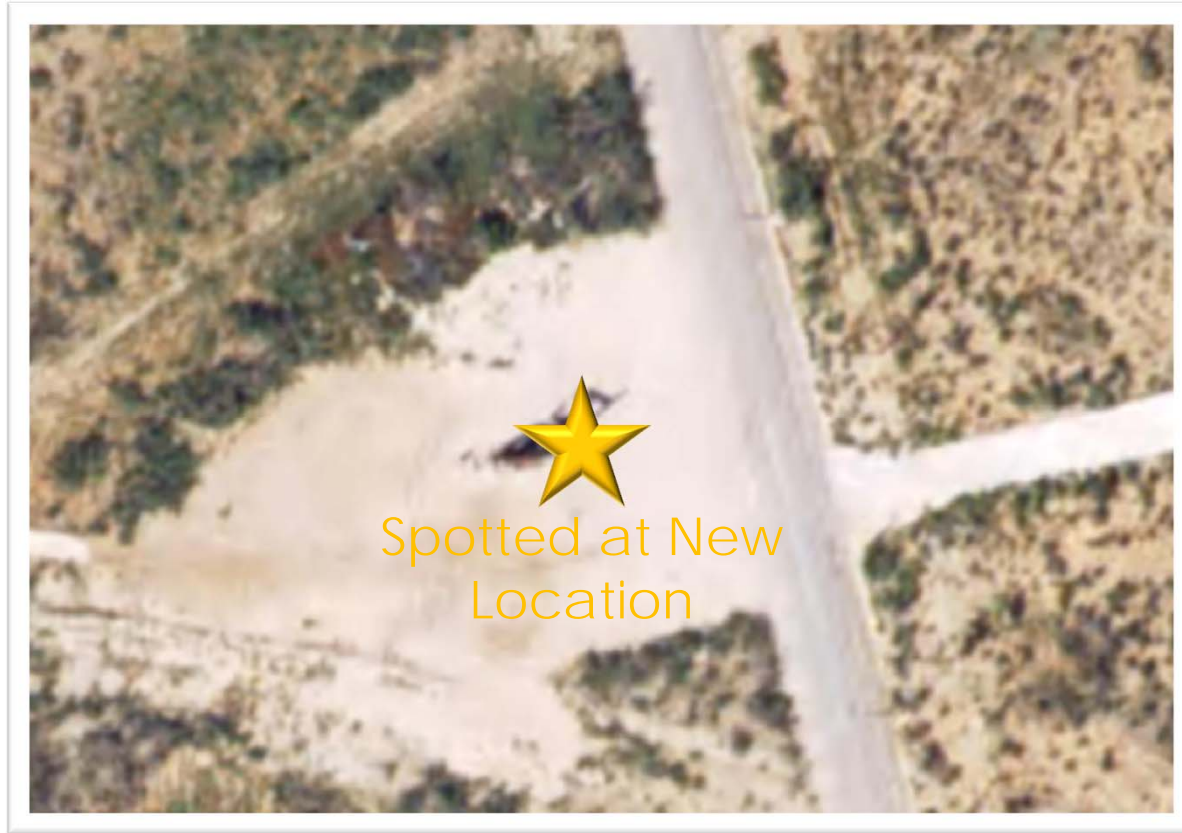


Scar is **170ft West** of
Historical Spot
Location



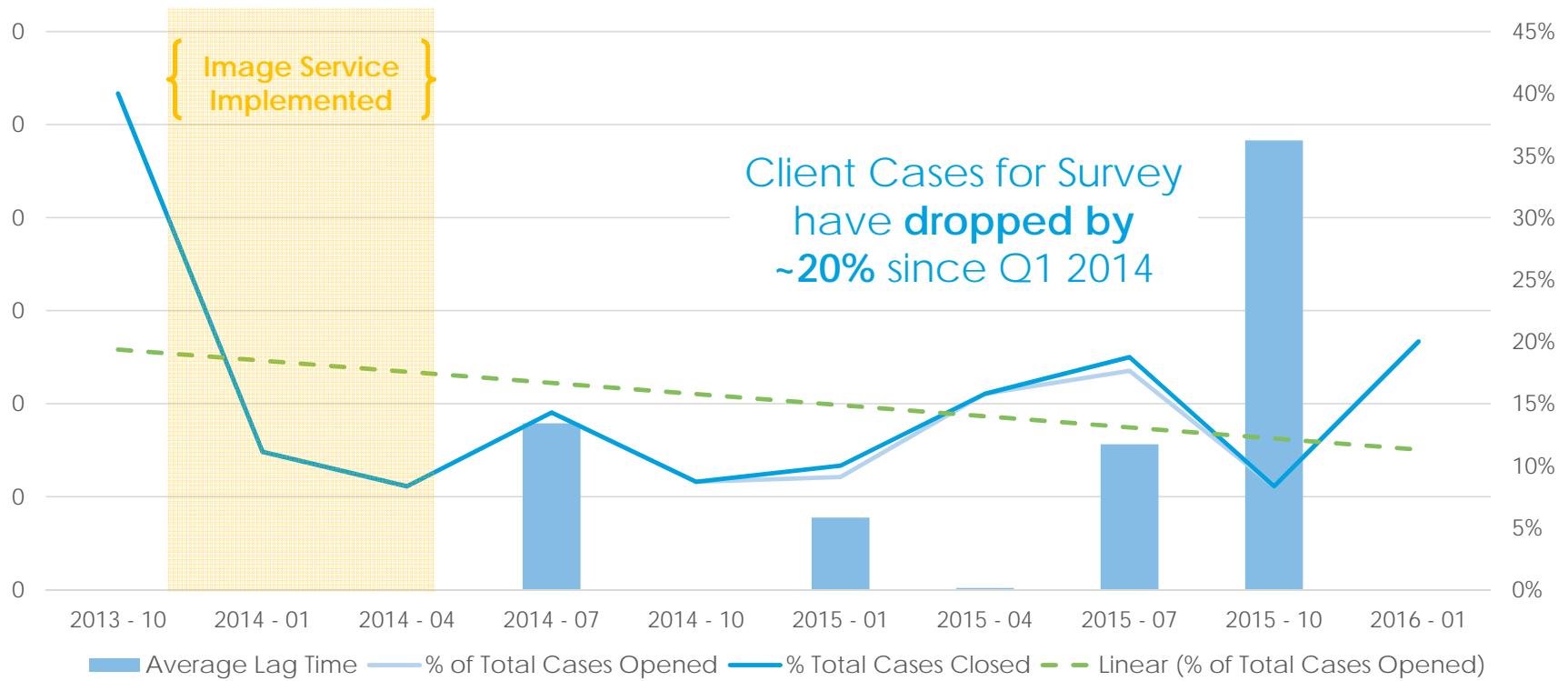
Updating Well Spots

Spotting Wells

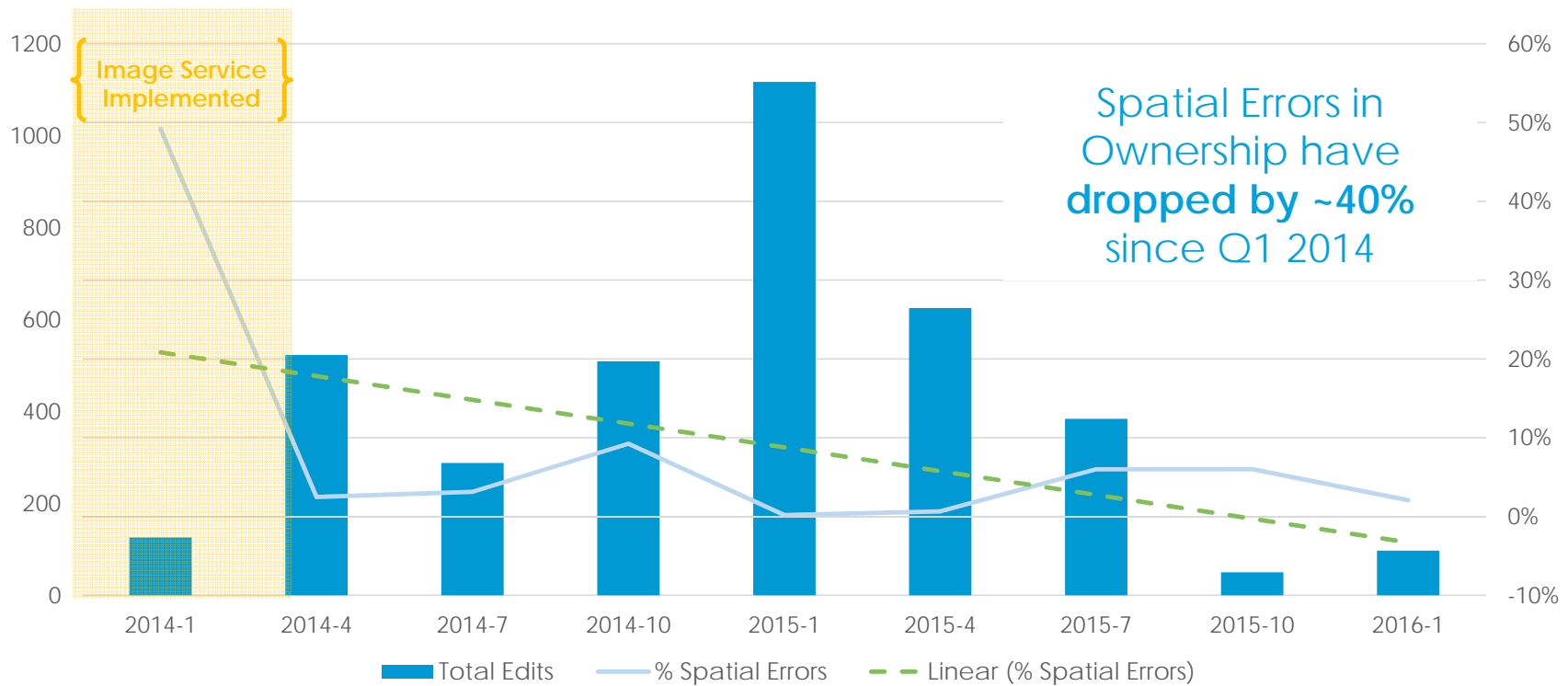


Final Well Location

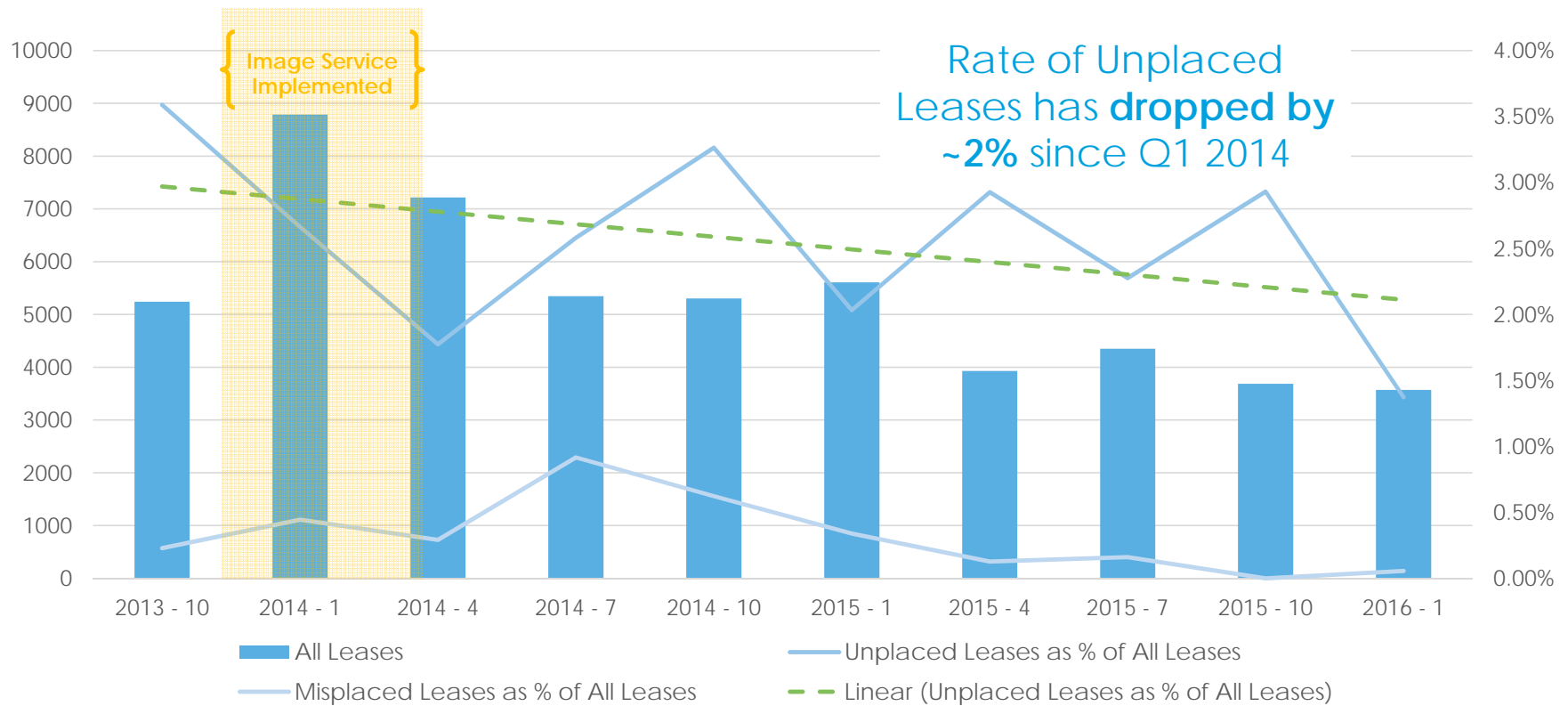
Survey Client Cases



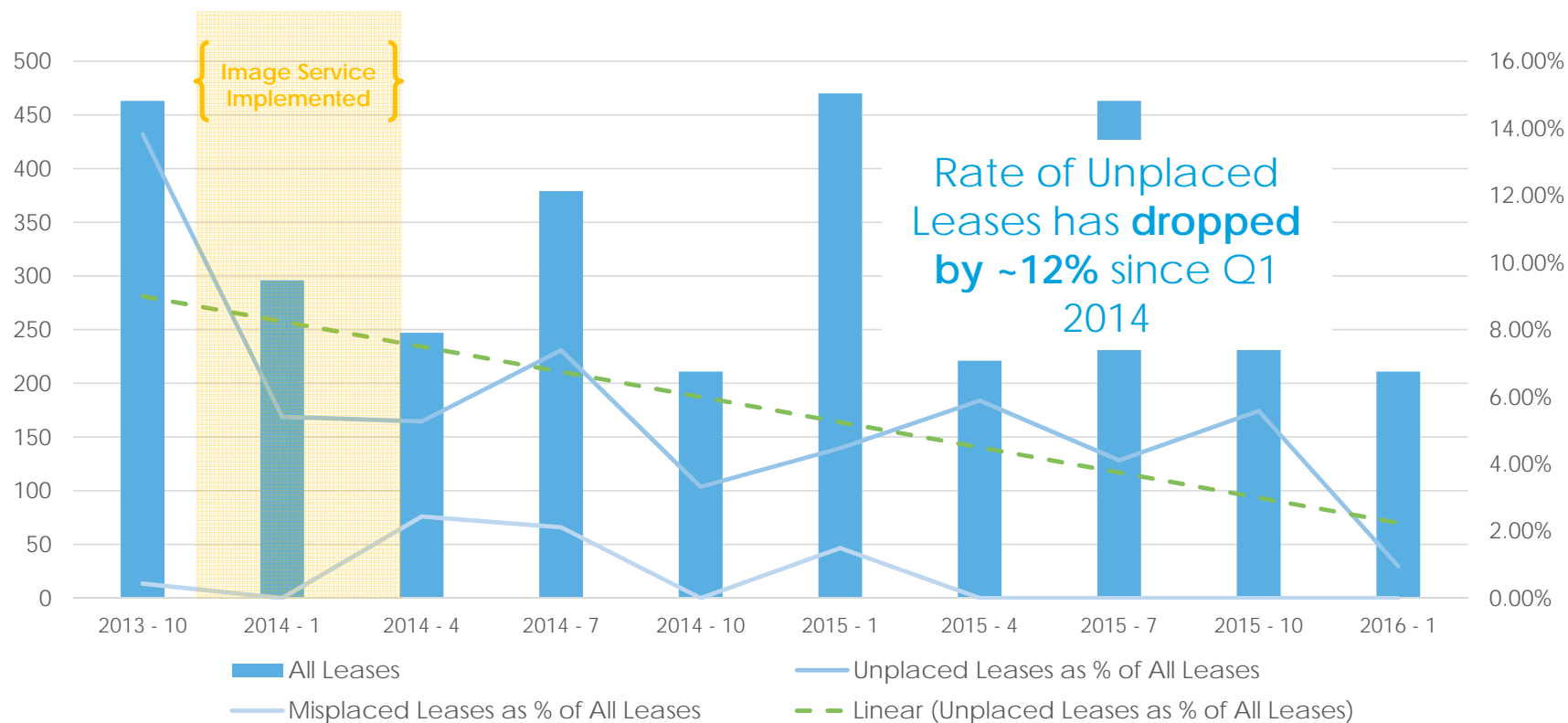
Ownership Spatial Errors



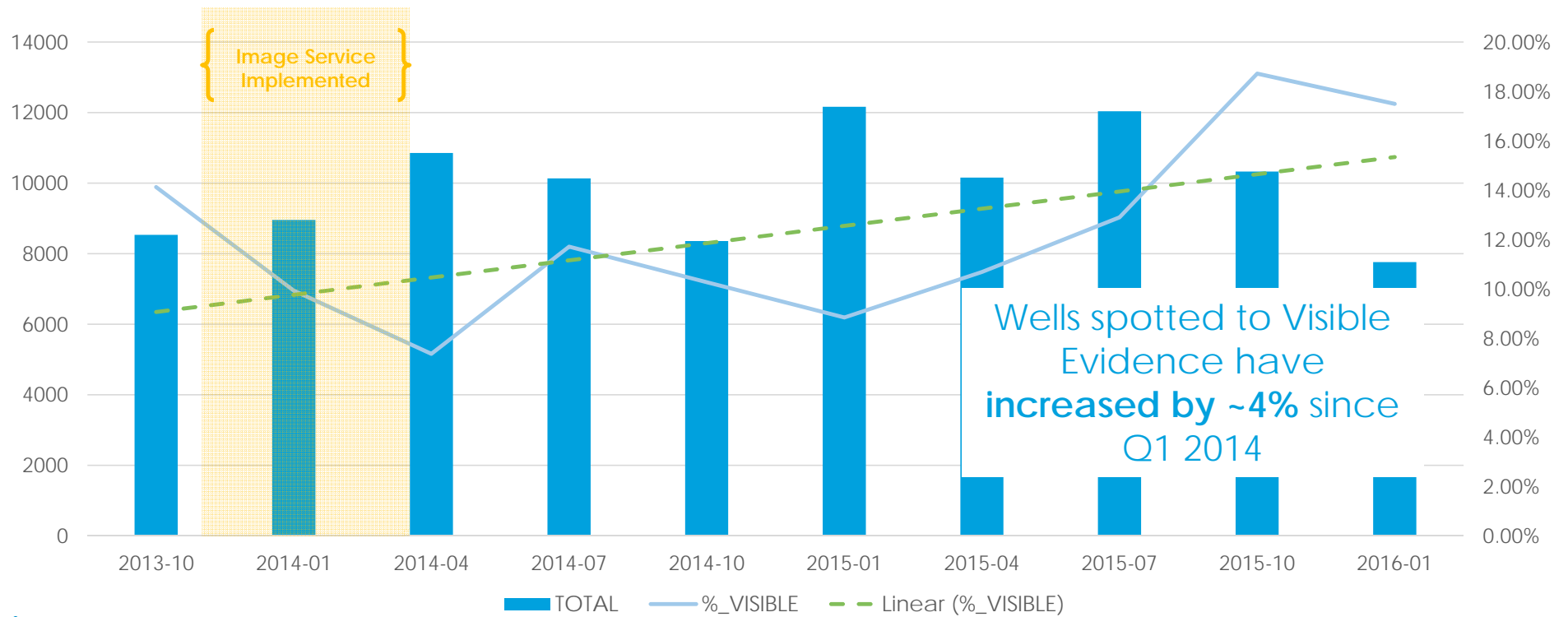
Unplaced Leases in all Coverage Areas



Focus on Louisiana Leases



Wells Spotted to Visible Evidence



Summary of Successes

- Drop in Survey Client Cases
 - + Drop in Ownership Spatial Error Rates
 - + Fewer Misplaced & Unplaced Leases
 - + More Wells Spotted to Visible Evidence
-

Better Quality Data



Future Possibilities

- Load other data sources
 - Historical Imagery
 - Hardcopy Maps
- New Client Opportunities
 - University Programs
 - Partnership with other imagery companies
- Integration into other offerings
 - P2 Tobin Data
 - Custom Client Projects



Conference Center in 1930

Conference Center Today



Contact Information

P2 Energy Solutions

1355 Central Parkway South
Suite 500
San Antonio, TX 78232

Phone: 1-800-365-4484

Email: datasales@p2energysolutions.com

www.p2energysolutions.com

 *@TobinData*

Portions of this presentation include intellectual property of P2ES Holdings, Inc. and are used herein by permission. Copyright © 2013 P2ES Holdings, Inc. All Rights Reserved.

