



Weyerhaeuser Energy & Natural Resources

How we took 40 years of geological paper maps and went to ArcGIS Online





- **Energy & Natural Resources group**
- **We manage Oil & gas, hard mineral and renewable energy agreements/assets on our land (13 million acres across the United States)**
- **I manage all of that spatially (FlexiCadastre)**
- **Historically the WY ENR group conducted in-house geologic reports/studies across our ownership.**
- **40 years worth of paper took up 2 large data rooms**
- **We only had one paper copy**



- **Assess what needs to be scanned**
- **590 cabinet drawers; 118 cabinets**
- **Contact scanning vendors/get quotes**
- **Meet with management/IT/other stakeholders**
- **Determine your timeline (this can be difficult)**
- **We were not sure how long scanning would take**
- **Move to Seattle announced in 2014 (we had already started scanning almost a year before)**



	Seismic Logs (boxes)	Well Logs B&W (drawers)	Well Logs (Drawers)-Color	OG Studies (drawers)	HM Studies (drawers)	Seismic Lines (drawers)	Oil & Gas Lease Files	HM & Geothermal Lease Files	Surface Use Permits (drawers)	Geothermal Studies/ Reports (boxes)	Tube File Maps (cabinets)	Rock Sample Cards (drawers)	Total
Boxes/Files/Drawers	18	249	17	60	70	58	30	13	14	10	36	2	577
Files Scanned	18	249	17	32	69	58	30	12	14	10	36	2	547
% Complete	100%	100%	100%	53%	99%	100%	100%	92%	100%	100%	100%	100%	95%

CH Files Scanned - % complete



Status tracking



				Week 24	Week 25	Week 26	Week 27	V	
				20-Jun	27-Jun	4-Jul	11-Jul		
				24-Jun	1-Jul	8-Jul	15-Jul		
Resource			Total						
Delivery by Modus			Plan	1	0	0			
			Actual	1	0	0			
Oil & Gas Studies									
Ship to Modus			Ruth	Plan	85	18	0	0	4
(drawers Wk 1-16; boxes Wk 17-35)				Actual	39	0			24
Delivery by Modus/Destroy			Ruth	Plan	85	48	0	0	18
(drawers Wk 1-16; boxes Wk 17-35)				Actual	15	0			
Hard Mineral Studies									
Ship to Modus			Ruth	Plan	96	96	0	0	
				Actual	79	37			22
Delivery from Modus/Scan (Send to WTC if we r			Ruth	Plan	96	0	0	0	44
				Actual	20				
Tube Files									
QC			Ruth/Dave G./Dave B.	Plan	35	2	2		
				Actual	23				
Destroy				Plan	35	3	3		
				Actual	23				
Seismic Permits					0				

How do we organize?



- **Scanning has started! Now where are we going to put all these files?**
- **Due to the complexity of our files we needed 2 virtual servers**
- **Make friends within your IT department**
- **Always keep a backup (CDs)**
- **Due to our escalated timeline we needed to be scanning and hyperlinking simultaneously**

What do we want our App to look like? Function?



- **Research other Apps**
- **What does the end user need/want?**
- **Meet with geologists**
- **Try to keep it simple**
- **What problem do you need your app to solve?**
- **We needed a way for our geologists to search for documents and maps spatially**

How do we get these in ArcGIS Online?

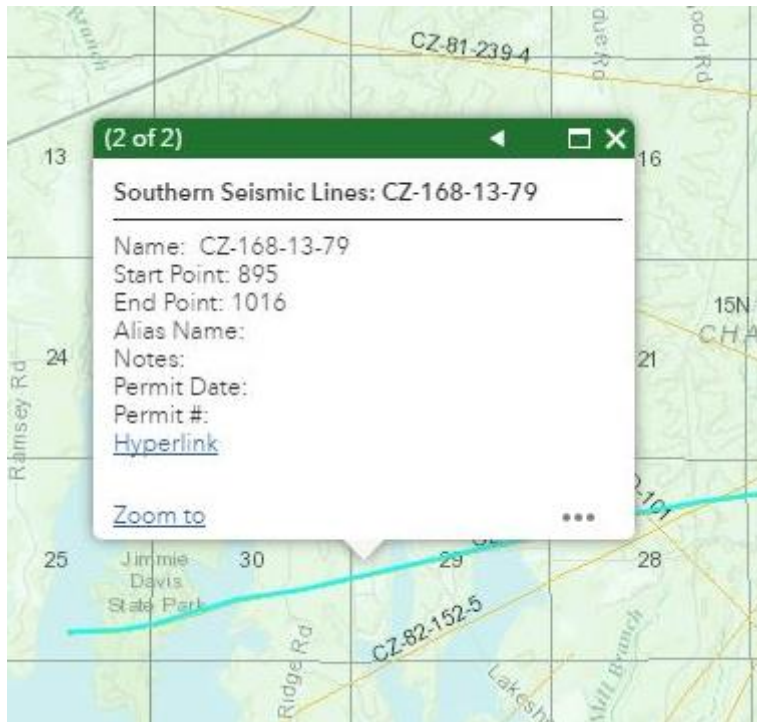


- **Hyperlinking!**
- **How do we draw the polygons? One to many relationship**
- **Gridded tiles- small, medium, large, regional**
- **Maintain historical data- join table from DTS**
- **House all files in SDE**

 MINERALS.Hard_Minerals_Large
 MINERALS.Hard_Minerals_Large_ATTACH
 MINERALS.Hard_Minerals_Large_ATTACHREL
 MINERALS.Hard_Minerals_Large_JOIN_1

- **Attaching done in ArcMap**
- **Set up all of your labels and scale ranges**
- **Publish map service to ArcGIS Server**

- Now the fun begins!
- Configuring pop-ups is an art form; custom attribute display



Attachments vs. Hyperlinks



The screenshot displays a GIS interface with a map of the Natchitoches area in Louisiana. A 'Small Maps' popup window is open, listing several attachments. Below the map, a table provides details for two of these attachments.

Basin	Title	Annotation	File_Path	Authors	Commodities	Organizations	Regions	Hyperlink	States/Cou
North Louisiana Salt Basin	*Structure (Depth) Contour Maps - Base of Ferry Lake Anhydrite (BFLA) - 1"=2,000' - N. Louisiana - 1987		\\waquinamin10\..._Base_of_Ferry_L..._1987		Gas; Oil	Cavenham Energy Resources	N. Louisiana	http://waquinamin10/Maps/Basins_Oil_&_Base_of_Ferry_Lake_Anhydrite_(BFLA)_-1987	Bienville, Louisiana; Lincoln, Louisiana; Ouachita, Louisiana; Union, Lou
North Louisiana Salt Basin	*Structure (Depth) Contours - Top of Hosston - 1"=2,000' - Cavenham Energy Resources - 1987	Top of Hosston Depth Structure (50' contour interval)	\\waquinamin10\..._Top_of_Hosston..._1"=2000'		Gas; Oil	Cavenham Energy Resources	Driscoll Field; Simsboro Field	<a =2000"="" href="http://waquinamin10/Maps/Basins_Oil_&_Top_of_Hosston_-1">http://waquinamin10/Maps/Basins_Oil_&_Top_of_Hosston_-1"=2000	Bienville, Louisiana; Jackson, Louisiana; Lincoln, Louisiana; Ouachita, Louisiana



- **“Old-school” thinking- paradigm shift**
- **Scanning company doesn’t understand your data**
- **Time/money/budgeting**
- **Staying focused/motivated- multiple optimization projects happening concurrently**
- **“Going paperless” initiative was the biggest challenge of all**



- **Take one step at a time- try not to get overwhelmed by the mountain**
- **Patience**
- **Get support from as many people as you can**
- **Stay organized! Set up weekly progress meetings**



Questions?

