

# Naming Conventions



## Geological Folder and File Names

By

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Modern Resources

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## Modern Resources

BSc Queen's University 1971

Amoco 1971-1999; Encana 1999-2013; Modern Resources Inc 2013-present

Eric has shown a keen interest in data management during his very successful career. In addition to providing advocacy on data formats and processes in the companies he has worked with, he has offered lunch presentations for the CGDMS and taught courses with the CSEG Doodletrain:

- Doodletrain instructor for - Best Practice -- Pitfalls in Seismic Data Loading
- Doodletrain course instructor - Oil and Gas Data Manipulation on how to fix big data with linux!

Eric's experience in the industry has given him a unique perspective on the challenges of inconsistent data management and the rewards and value of good data management.

## Denise Freeland Geoscience Tech

SAIT 1982

Denise's career in the petroleum industry began at Amoco in 1980 and has included many geoscience tech and data manager rolls. She continues to be convinced of the value of geoscience data management and is a founding member as well as the President of the Calgary Geoscience Data Managers Society.

- Doodletrain course co-instructor – Seismic Data Management

# Naming Conventions



What is the value of conventions for folders and filenames across our industry?

- Improved folder and file names will simplify data mining for machine learning and artificial intelligence
- Acquisition and divestiture efficiencies
- Continuity during staff changes
- Efficiencies for geoscientists 'looking' for their data

# File Naming Best Practices

## Princeton tips for file naming:

Descriptive file names are an important part of organizing, sharing, and keeping track of data files. Develop a naming convention based on elements that are important to the project.

- Files should be named consistently
- File names should be short but descriptive (<25 characters) (Briney)
- Avoid special characters or spaces in a file name
- Use capitals and underscores instead of periods or spaces or slashes
- Use date format ISO 8601: YYYYMMDD
- Include a version number (Creamer et al.)
- Write down naming convention in data management plan

- ❖ Keeping file names short can be challenging in the petroleum industry
- ❖ Periods or dots are often used as separators ie. Modern.11-11-2011. not Modern.11.11.2011.

# File Naming Best Practices



## Princeton tips for file naming:

Elements to consider using in a naming convention are:

- Date of creation (putting the date in the front will facilitate computer aided date sorting)
- Short description
- Work
- Location
- Project name or number
- Sample
- Analysis
- Version number

❖ These are basic elements

❖ These elements can be adapted to meet the needs of the petroleum industry

# File Naming Best Practices

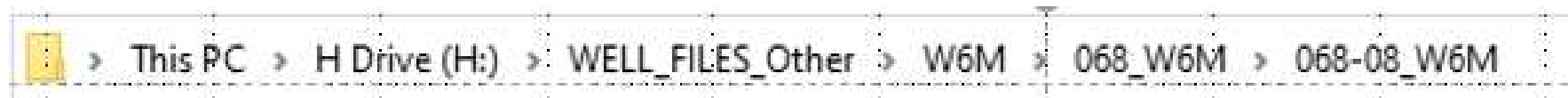
## Stanford tips for file naming:

- A good format for date designations is YYYYMMDD. This format makes sure all your files stay in chronological order, even over the span of many years.
- Try not to make file names too long, since long file names may not work with some software.
- Special characters such as: ~ ! @ # \$ % ^ & \* ( ) ; <> [ ] ' " should be avoided.
- When using a sequential numbering system, use leading zeros for clarity and to make sure files sort in sequential order. For example, use "001,002, ... 010, 011 ... 100, 101, etc." instead of "1,2, ... 10, 11, ... 100,101, etc."
- Do not use spaces. Some software will not recognize file names with spaces, and file names with spaces must be enclosed in quotes when using the command line. Preferred options include:
  - Underscores, e.g. file\_name.xxx
  - Dashes, e.g. file-name.xxx
  - No separation, e.g. filename.xxx
  - Camel case, where the first letter of each section of text is capitalized, e.g. FileName.xxx

# File Naming Best Practices



Modern Resource well folder name conventions - **Alberta:**



Your System

Your  
Network  
Drive

Repository  
Name  
Identifying  
Content

Meridian

First Level  
Sort

Township  
and  
Meridian

Second  
Level Sort

Township,  
Range and  
Meridian

Third Level  
Sort

# File Naming Best Practices



## Modern Resource well folder name conventions - **Alberta:**

1. Start with a capital
2. Alpha numeric plus dash and underscore and # as separators

The screenshot shows a Windows File Explorer window with the address bar displaying the path: This PC > H Drive (H:) > WELL\_FILES\_Other > W6M > 068\_W6M > 068-08\_W6M. The left sidebar shows a tree view with folders: Temp, Test, WELL\_FILES\_Docs, WELL\_FILES\_Other, and BC. The main pane displays a list of four folders. A blue arrow points to the '#' symbol in the first folder name, labeled 'Separator'.

Name	Date modified	Type
100_01-05-068-08_W600#100010506808W600	2020-02-11 15:39	File folder
100_01-21-068-08_W600#100012106808W600	2019-02-05 15:08	File folder
100_01-22-068-08_W600#100012206808W600	2020-04-14 12:57	File folder
100_01-34-068-08_W600#100013406808W600	2019-02-05 15:08	File folder

UWI with underscores  
and dashes, better for  
humans

UWI with no  
separators better for  
computer access



# File Naming Best Practices

Modern Resource folder name conventions – **British Columbia:**

 > This PC > H Drive (H:) > WELL\_FILES\_Other > BC > 094 > 094-A-10

Your System

Your  
Network  
Drive

Repository  
Name  
Identifying  
Content

Province

First  
Level  
Sort

NTS Series

Second  
Level  
Sort

NTS  
Series-  
Area-  
Sheet

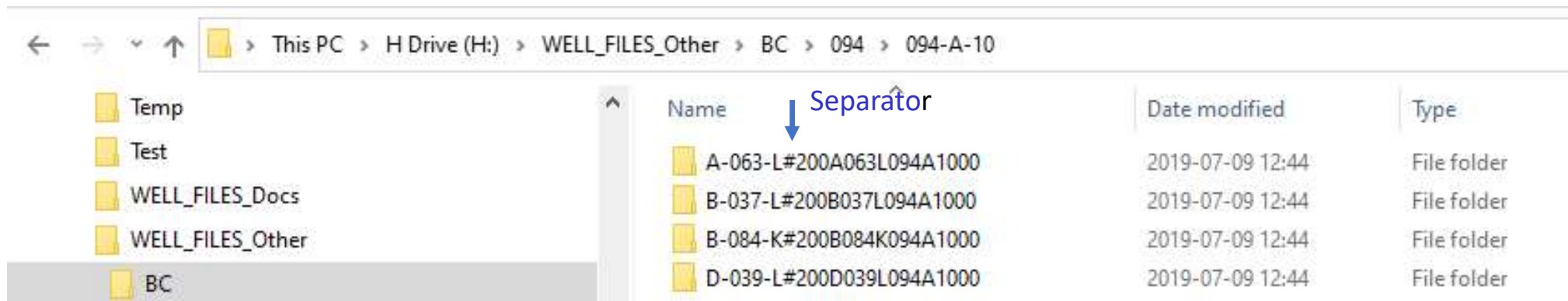
Third  
Level  
Sort

# File Naming Best Practices



## Modern Resource well folder name conventions – **British Columbia:**

1. Start with a capital
2. Alpha numeric plus dash and underscore and # as separators



NTS  
Quarter-  
Unit-  
Block

NTS complete  
well name with  
no separators

# File Naming Best Practices



## Modern Resource well file name conventions: Tour data files

This PC > H Drive (H:) > WELL\_FILES\_Other > W6M > 068\_W6M > 068-08\_W6M > 100\_01-05-068-08\_W600#100010506808W600 > 04\_Drilling

Information Type

	Name	Date modified	Type
> Temp			
> Test			
> WELL_FILES_Docs			
WELL_FILES_Other	100-01-05-068-08-W600.CanHunter.DrillingTour.1997-12-29.Precision.PDF	2019-05-16 15:41	Adobe Acrobat D...
	100010506808W600.T_0211018_00_01-05-068-08W6_0.PDF	2019-05-16 15:41	Adobe Acrobat D...
	T,0211018,00_01-05-068-08W6_0.PDF	2020-02-11 11:34	Adobe Acrobat D...
> BC			
> Data-dump-examples			
> W4M			

T,0211018,00\_01-05-068-08W6\_0.PDF

100010506808W600.T\_0211018\_00\_01-05-068-08W6\_0.PDF

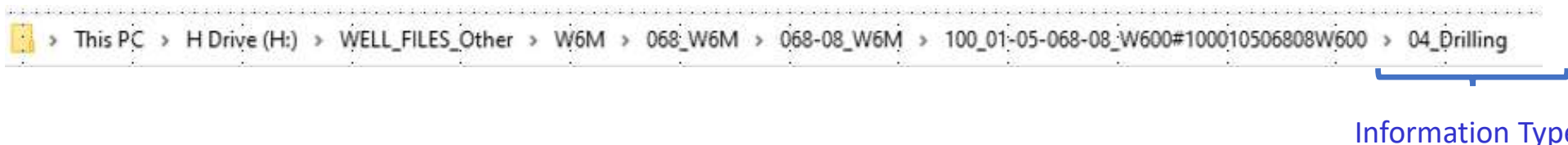
100-01-05-068-08-W600.CanHunter.DrillingTour.1997-12-29.Precision.pdf

1. AER original
2. Good
3. Better

# File Naming Best Practices



Modern Resource well file name conventions:



- Be aware of the type of data in the folder
- Maintain a consistent set of 'Information Types' for each well
- Micro seismic data may need to be stored in both the well data repository as well as the seismic data repository – be sure to keep the data synchronized. Do you store under the treatment well or the observation well? Should you use links or short cuts

# Modern Resources File Naming Convention



## Well File Naming Guidelines

## Example

Well	16 digit UWI	102-13-29-067-08-W600
Client	Modern	Modern
What it is	Description of file content	Zone_01-29.stages-index
When was it	Date ISO standard	2018-10-23
Where – vendor	Created by	Calfrac
Suffix	Program to use to open	.csv

# File Naming Best Practices



## Modern Resource well data examples:

Frac index	102-13-29-067-08-W600.Modern.Zone_01-29.stages-index.2018-10-23.Calfrac.csv	index file plus stage summary
Frac data	102-13-29-067-08-W600.Modern.Zone_01-29.seconds-data.2018-10-23.Calfrac.csv	filtered or seconds data
Frac report	100-01-02-064-09-W600.stages25.449457.Trican.pdf	pdf report
Frac report text	100-01-02-064-09-W600.stages25.449457.Trican.txt	text pulled from pdf report
Tracer data	100-04-28-067-08-W600.modern.tracer_rd4.2019-02-07.protechnics.xlsm	tracer data
LAS files	102-16-04-068-08-W600.Modern.Plan_v0B.2019-03-18.baker.las	log digits
Deviation	102-16-04-068-08-W600.Modern.Plan_v0B.2019-03-18.baker.xlsx	survey
Drilling notes	1W0-04-18-064-08-W600.modern.DrillingNotes.2018-01-06.nov.xlsx	drilling notes

## Challenges

Each organization will have its' own tolerance level for the length of filenames

- It is difficult to keep filenames short when your well identifier can be 21 characters (including separators).
  - Is a potential solution to have more sub folders to separate out the data?
  - What is the benefit of longer file names vs. additional descriptive folders?
  - I use a one line awk statement to convert between folders and a name
- Can much of the 'description' be abbreviated?
  - Abbreviations need to be used consistently through out the organization – how do we encourage employee compliance?

## Challenges

- Some desktop systems limit total characters for a 'filename' which include all the folder and subfolder names.
  - This becomes a real issue when a company is acquired by another company and data is 'backed-up' onto the purchasing company's network introducing additional layers of folders.
- Moving between Unix/Linux, Microsoft and Mac systems pose their own challenges.
- Service providers often do not have all the information to name each file with the desired descriptive name – is there a tool that efficiently allows the user to rename the file when it is loaded to their system?
  - This requires that the client and the service provider are always using the same convention



## Folders+Files to Files

Here is a quick awk script to use for renaming:

```
find Modern/ -type f -name "*.*)" > files.txt
head files.txt
Modern/100010206409W600/Trican/2016-01-09/frac-meta.csv
Modern/100010206409W600/Trican/2016-01-09/stages25.449457.pdf
awk -F/ '{printf"cp \"%s\" %s.%s.%s.%s.%s\n", $0, $2,$1,$3,$4,$5}' < files.txt
cp "Modern/100010206409W600/Trican/2016-01-09/frac-meta.csv"
100010206409W600.Modern.Trican.2016-01-09.frac-meta.csv
cp "Modern/100010206409W600/Trican/2016-01-09/stages25.449457.pdf"
100010206409W600.Modern.Trican.2016-01-09.stages25.449457.pdf
```

Works on a Mac or Windows 10 with a free Ubuntu Terminal mode

# Conclusions



- Be consistent
- Identify what is in the file by the name of the file
- Stick to alpha numeric to avoid conflicts with special characters with different operating systems (Unix, Windows, Mac, Linux)
- Use dots , under scores, dashes and camel case as separators
- You never have enough time to do it correctly, focus on making it better!