Grooper™

WHAT'S NEW IN 2.9

UPCOMING FEATURES AND FUNCTIONALITY

28 July 2020

Grooper™

WHAT'S NEW IN 2.9

- Data Integration Improvements
  - New MS Office Integration
  - New Box integration
  - Enhanced database export
  - New document viewer, supporting multiple document views
  - Data lookups can now be performed against CMIS sources
  - Improved OCR synthesis and paragraph detection
  - Classify, Extract, and Data review now support content type filtering
- Improvements for Architects
  - New Extractor weighting mechanisms
  - TF/IDF training builds training batch
  - Compile stats command for content containers
  - New TF/IDF variants for lexical classification
  - New weighted classification properties allow for new classification methodologies
  - New Inheritance Architecture
- Separation Improvements
  - Improved unstructured document separation training
  - Improved ESP auto-separation logic
  - New settings on document types to aid separation
  - New separation review UI
- New Data Annotation Option in data review
- Code expressions support LINQ and String Interpolation

DATA INTEGRATION IMPROVEMENTS

MS OFFICE INTEGRATION

Natively ingest multiple file formats generated by the MS Office suite:

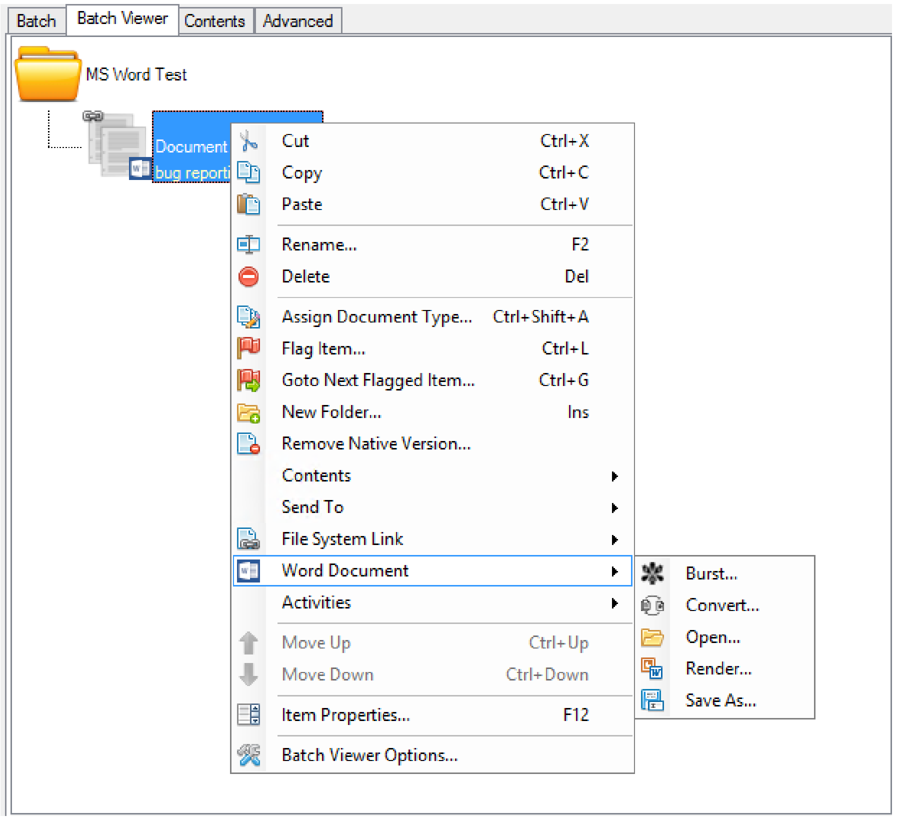
- Word document
- PowerPoint presentation
- Excel spreadsheet
- via CMIS, Outlook messages and mailboxes

Natively pull text from all supported filetypes

Removes the need for single-threaded rendering

MS Office must be installed on machine running Design Studio

Represents better integration with content production systems



NEW BOX INTEGRATION

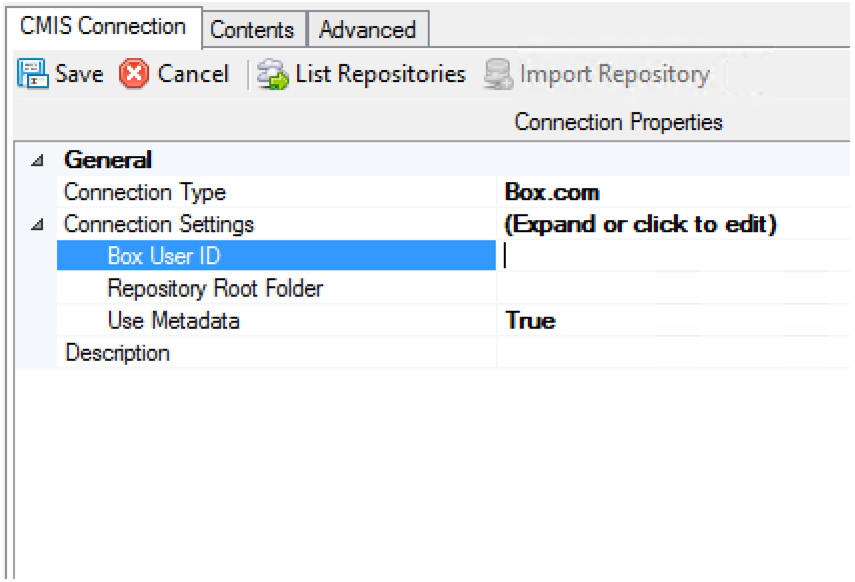
Connect directly to a Box account to import or export files

Works with Box Business or Enterprise

Takes advantage of Grooper's existing CMIS+ architecture, giving you access to CMIS metadata mapping and expressions, CMIS lookups, etc.

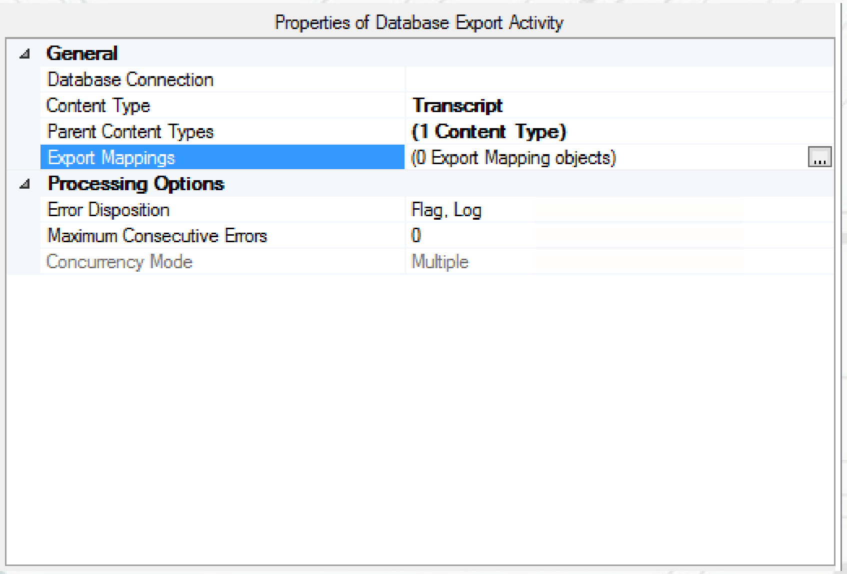
Our first-ever integration with a cloud only provider; positions deployments to take advantage of one of the leading storage providers

Can use folders with governance level assigned to take advantage of governance features



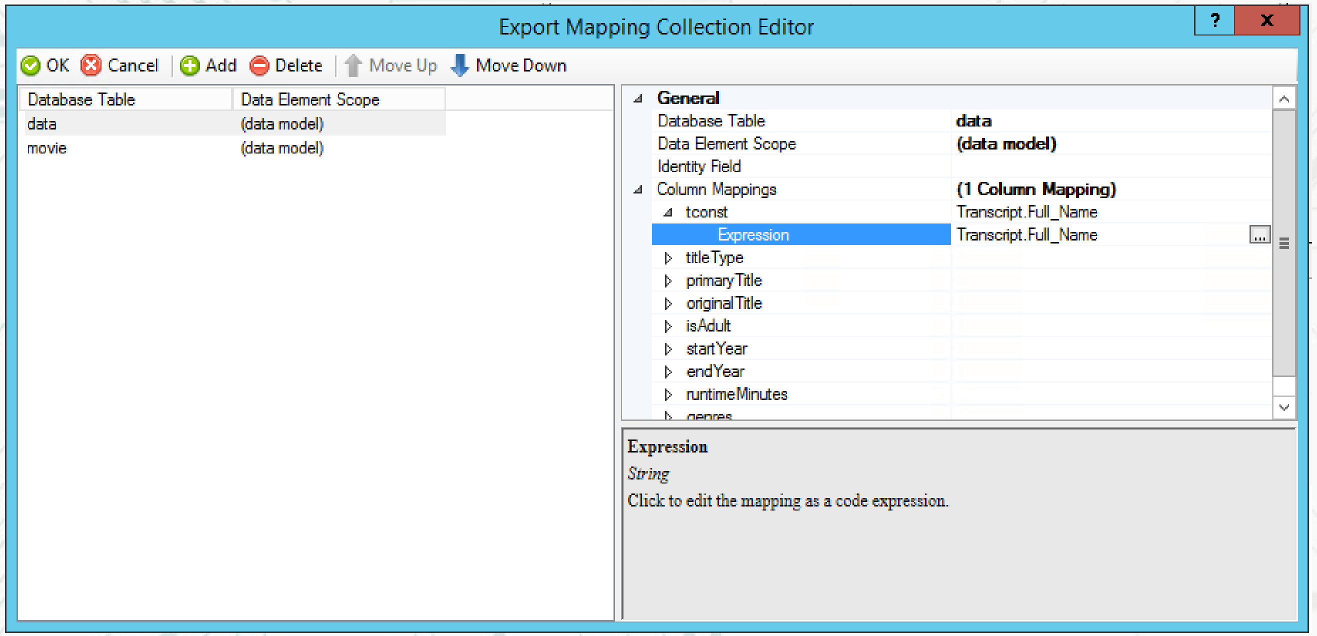
Connection Properties

General	
Connection Type	**Box.com**
Connection Settings	**(Expand or click to edit)**
Box User ID	
Repository Root Folder	
Use Metadata	**True**
Description	



Properties of Database Export Activity

General	
Database Connection	
Content Type	**Transcript**
Parent Content Types	**(1 Content Type)**
Export Mappings	(0 Export Mapping objects)
Processing Options	
Error Disposition	Flag, Log
Maximum Consecutive Errors	0
Concurrency Mode	Multiple



Export Mapping Collection Editor

Database Table	Data Element Scope
data	(data model)
movie	(data model)

General	
Database Table	**data**
Data Element Scope	**(data model)**
Identity Field	
Column Mappings	**(1 Column Mapping)**
tconst	Transcript.Full_Name
Expression	Transcript.Full_Name
titleType	
primaryTitle	
originalTitle	
isAdult	
startYear	
endYear	
runtimeMinutes	
genres	

Expression

String

Click to edit the mapping as a code expression.

ENHANCED DATABASE EXPORT

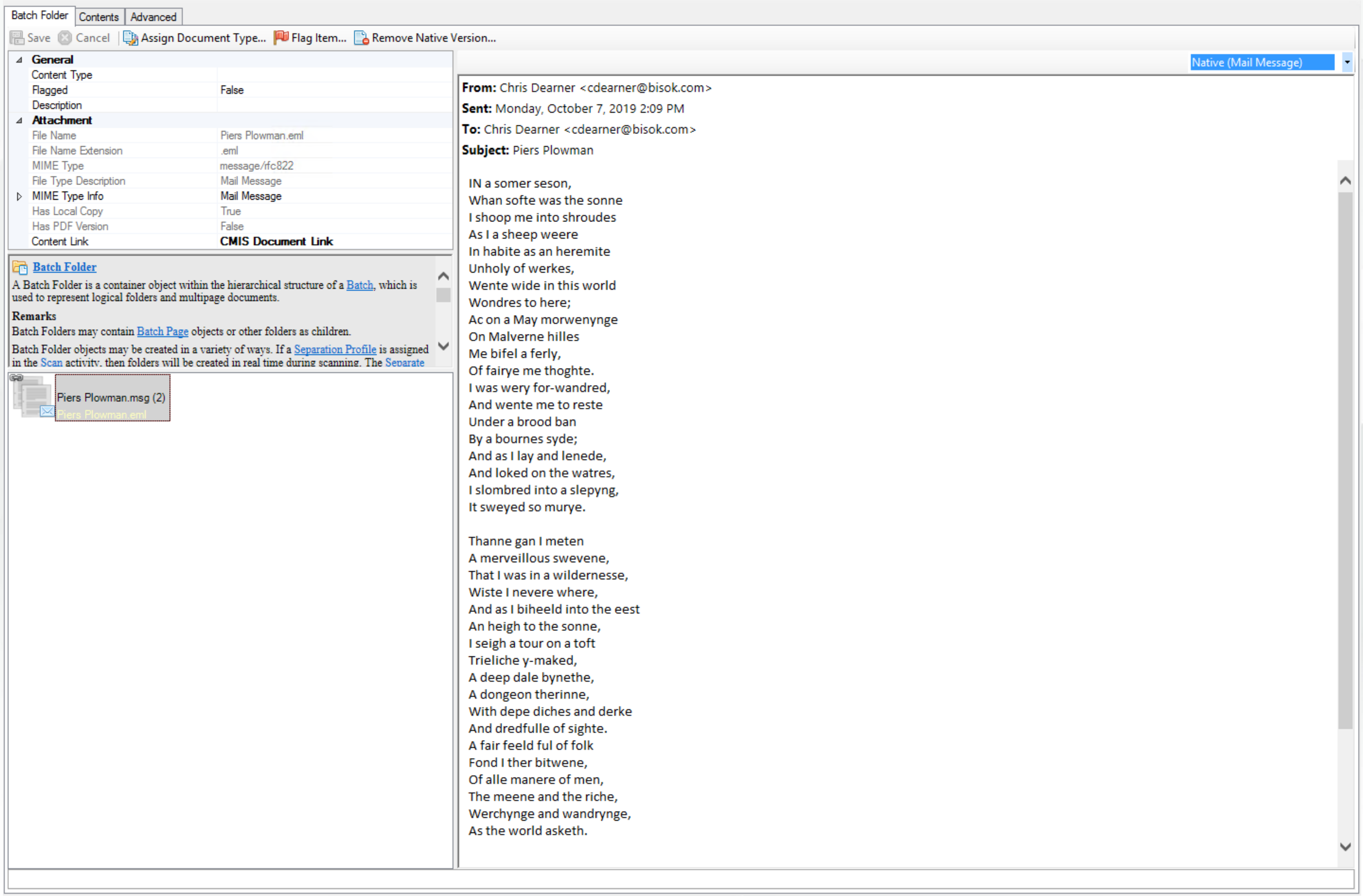
Multiple exports can now be defined on a single database export step

- Must be within a single database; can span multiple tables
- Can choose separate data element scope on each table mapping object
- Greatly simplifies complicated or multipart database exports
- Supports SQL-server generated identity columns

NEW DOCUMENT VIEWER

ALLOWS FOR DISPLAY OF MULTIPLE DOCUMENT "RENDITIONS"

NEW VIEWER: NATIVE RENDITION



General	
Content Type	
Flagged	False
Description	
Attachment	
File Name	Piers Plowman.eml
File Name Extension	.eml
MIME Type	message/rfc822
File Type Description	Mail Message
MIME Type Info	Mail Message
Has Local Copy	True
Has PDF Version	False
Content Link	**CMIS Document Link**

Batch Folder

A Batch Folder is a container object within the hierarchical structure of a Batch, which is used to represent logical folders and multipage documents.

Remarks

Batch Folders may contain Batch Page objects or other folders as children.

Batch Folder objects may be created in a variety of ways. If a Separation Profile is assigned in the Scan activity, then folders will be created in real time during scanning. The Separate

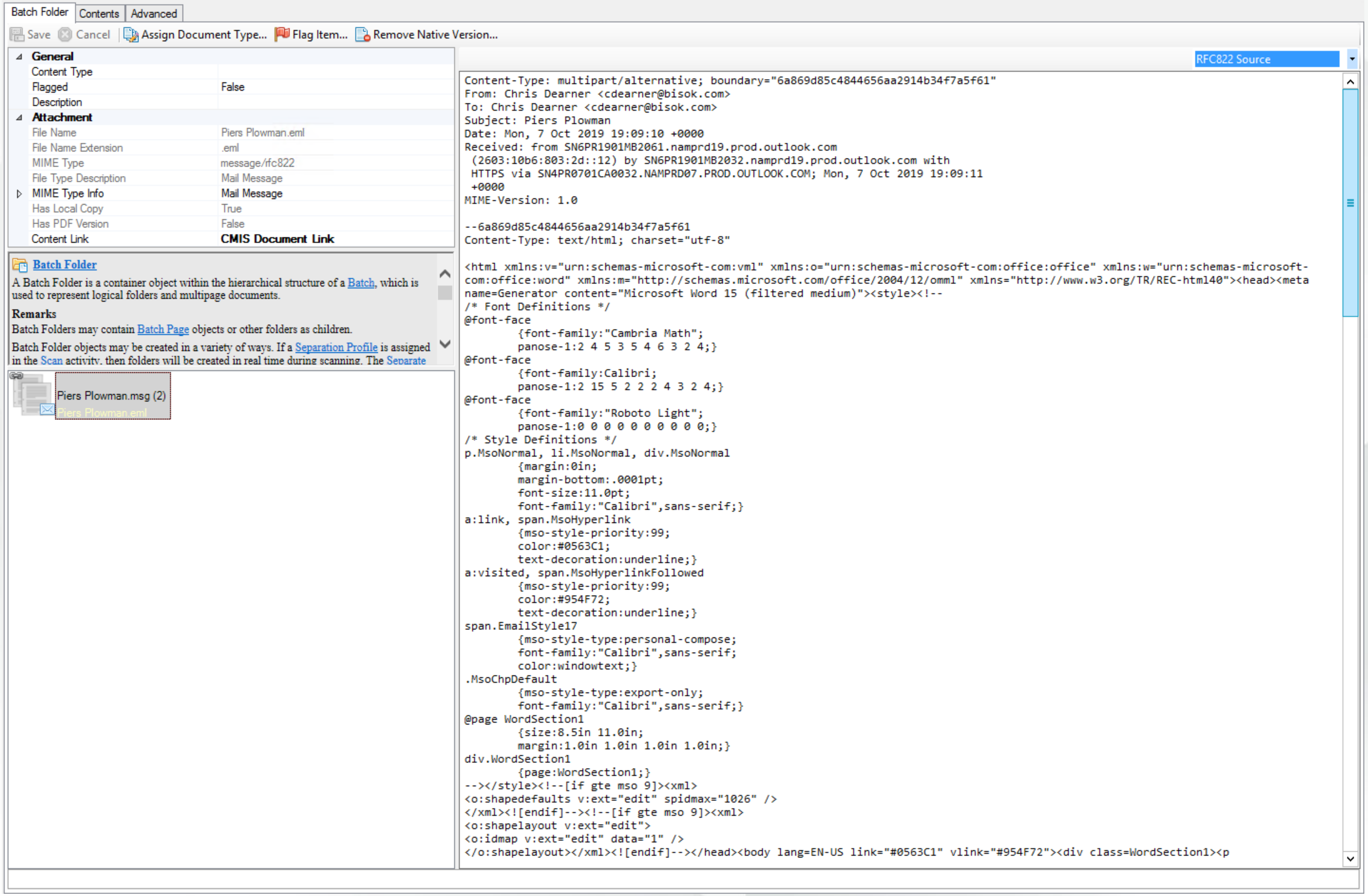
Piers Plowman.msg (2)
Piers Plowman.eml

From: Chris Dearner <cdearner@bisok.com>
Sent: Monday, October 7, 2019 2:09 PM
To: Chris Dearner <cdearner@bisok.com>
Subject: Piers Plowman

IN a somer seson,
Whan softe was the sonne
I shoop me into shroudes
As I a sheep weere
In habite as an heremite
Unholy of werkes,
Wente wide in this world
Wondres to here;
Ac on a May morwenynge
On Malverne hilles
Me bifel a ferly,
Of fairye me thoghte.
I was wery for-wandred,
And wente me to reste
Under a brood ban
By a bournes syde;
And as I lay and lenede,
And loked on the watres,
I slombred into a slepyng,
It sweyed so murye.

Thanne gan I meten
A merveillous swevene,
That I was in a wildernesse,
Wiste I nevere where,
And as I biheeld into the eest
An heigh to the sonne,
I seigh a tour on a toft
Trieliche y-maked,
A deep dale bynethe,
A dongeon therinne,
With depe diches and derke
And dredfulle of sighte.
A fair feeld ful of folk
Fond I ther bitwene,
Of alle manere of men,
The meene and the riche,
Werchynge and wandrynge,
As the world asketh.

NEW VIEWER: ALTERNATIVE RENDITION



General	
Content Type	
Flagged	False
Description	
Attachment	
File Name	Piers Plowman.eml
File Name Extension	.eml
MIME Type	message/rfc822
File Type Description	Mail Message
MIME Type Info	Mail Message
Has Local Copy	True
Has PDF Version	False
Content Link	**CMIS Document Link**

Batch Folder

A Batch Folder is a container object within the hierarchical structure of a Batch, which is used to represent logical folders and multipage documents.

Remarks

Batch Folders may contain Batch Page objects or other folders as children.

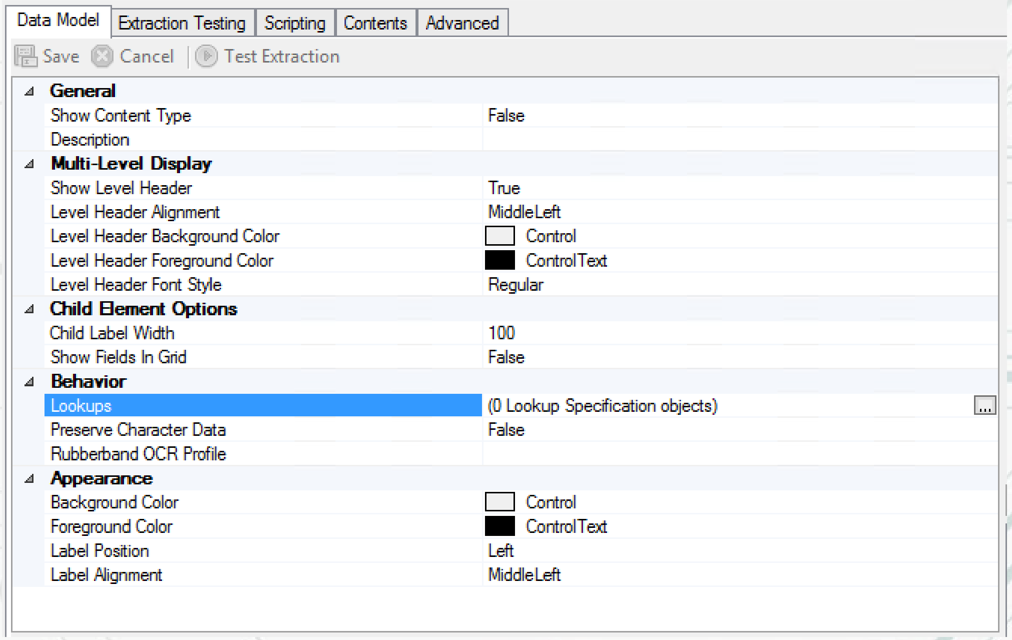
Batch Folder objects may be created in a variety of ways. If a Separation Profile is assigned in the Scan activity, then folders will be created in real time during scanning. The Separate

```
Content-Type: multipart/alternative; boundary="6a869d85c4844656aa2914b34f7a5f61"
From: Chris Dearner <cdearner@bisok.com>
To: Chris Dearner <cdearner@bisok.com>
Subject: Piers Plowman
Date: Mon, 7 Oct 2019 19:09:10 +0000
Received: from SN6PR1901MB2061.namprd19.prod.outlook.com
 (2603:10b6:803:2d::12) by SN6PR1901MB2032.namprd19.prod.outlook.com with
 HTTPS via SN4PR0701CA0032.NAMPRD07.PROD.OUTLOOK.COM; Mon, 7 Oct 2019 19:09:11
 +0000
MIME-Version: 1.0

--6a869d85c4844656aa2914b34f7a5f61
Content-Type: text/html; charset="utf-8"

<html xmlns:v="urn:schemas-microsoft-com:vml" xmlns:o="urn:schemas-microsoft-com:office:office" xmlns:w="urn:schemas-microsoft-
com:office:word" xmlns:m="http://schemas.microsoft.com/office/2004/12/omml" xmlns="http://www.w3.org/TR/REC-html40"><head><meta
name=Generator content="Microsoft Word 15 (filtered medium)"><style><!--
/* Font Definitions */
@font-face
	{font-family:"Cambria Math";
	panose-1:2 4 5 3 5 4 6 3 2 4;}
@font-face
	{font-family:Calibri;
	panose-1:2 15 5 2 2 2 4 3 2 4;}
@font-face
	{font-family:"Roboto Light";
	panose-1:0 0 0 0 0 0 0 0 0 0;}
/* Style Definitions */
p.MsoNormal, li.MsoNormal, div.MsoNormal
	{margin:0in;
	margin-bottom:.0001pt;
	font-size:11.0pt;
	font-family:"Calibri",sans-serif;}
a:link, span.MsoHyperlink
	{mso-style-priority:99;
	color:#0563C1;
	text-decoration:underline;}
a:visited, span.MsoHyperlinkFollowed
	{mso-style-priority:99;
	color:#954F72;
	text-decoration:underline;}
span.EmailStyle17
	{mso-style-type:personal-compose;
	font-family:"Calibri",sans-serif;
	color:windowtext;}
.MsoChpDefault
	{mso-style-type:export-only;
	font-family:"Calibri",sans-serif;}
@page WordSection1
	{size:8.5in 11.0in;
	margin:1.0in 1.0in 1.0in 1.0in;}
div.WordSection1
	{page:WordSection1;}
--></style><!--[if gte mso 9]><xml>
<o:shapedefaults v:ext="edit" spidmax="1026" />
</xml><![endif]--><!--[if gte mso 9]><xml>
<o:shapelayout v:ext="edit">
<o:idmap v:ext="edit" data="1" />
</o:shapelayout></xml><![endif]--></head><body lang=EN-US link="#0563C1" vlink="#954F72"><div class=WordSection1><p
```

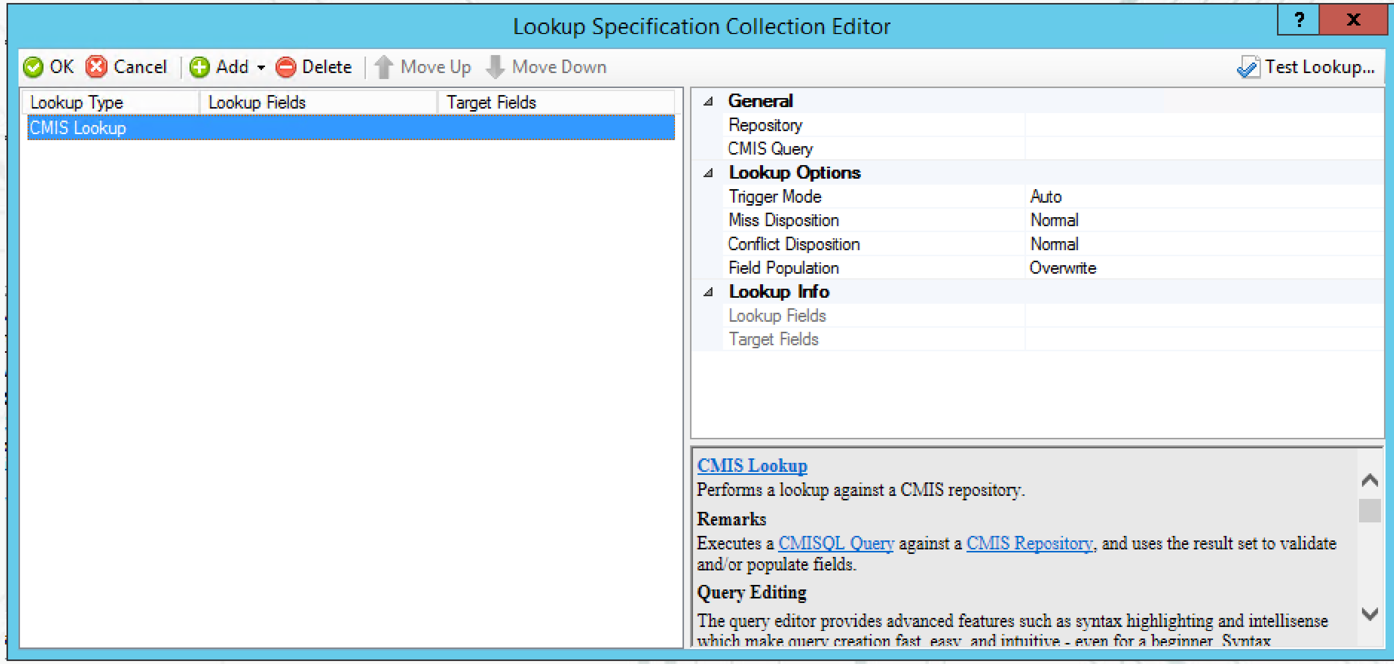
CMIS DATA LOOKUPS

Functions similarly to a Database lookup and allows for population or validation of Grooper fields based on metadata located on CMIS objects

- Allows for better integration with CMIS data sources
- Allows for treating CMIS data sources as containing queryable information



General	
Show Content Type	False
Description	
Multi-Level Display	
Show Level Header	True
Level Header Alignment	MiddleLeft
Level Header Background Color	□ Control
Level Header Foreground Color	■ ControlText
Level Header Font Style	Regular
Child Element Options	
Child Label Width	100
Show Fields In Grid	False
Behavior	
Lookups	(0 Lookup Specification objects)
Preserve Character Data	False
Rubberband OCR Profile	
Appearance	
Background Color	□ Control
Foreground Color	■ ControlText
Label Position	Left
Label Alignment	MiddleLeft



Lookup Type	Lookup Fields	Target Fields
CMIS Lookup		

General	
Repository	
CMIS Query	
Lookup Options	
Trigger Mode	Auto
Miss Disposition	Normal
Conflict Disposition	Normal
Field Population	Overwrite
Lookup Info	
Lookup Fields	
Target Fields	

CMIS Lookup

Performs a lookup against a CMIS repository.

Remarks

Executes a CMISQL Query against a CMIS Repository, and uses the result set to validate and/or populate fields.

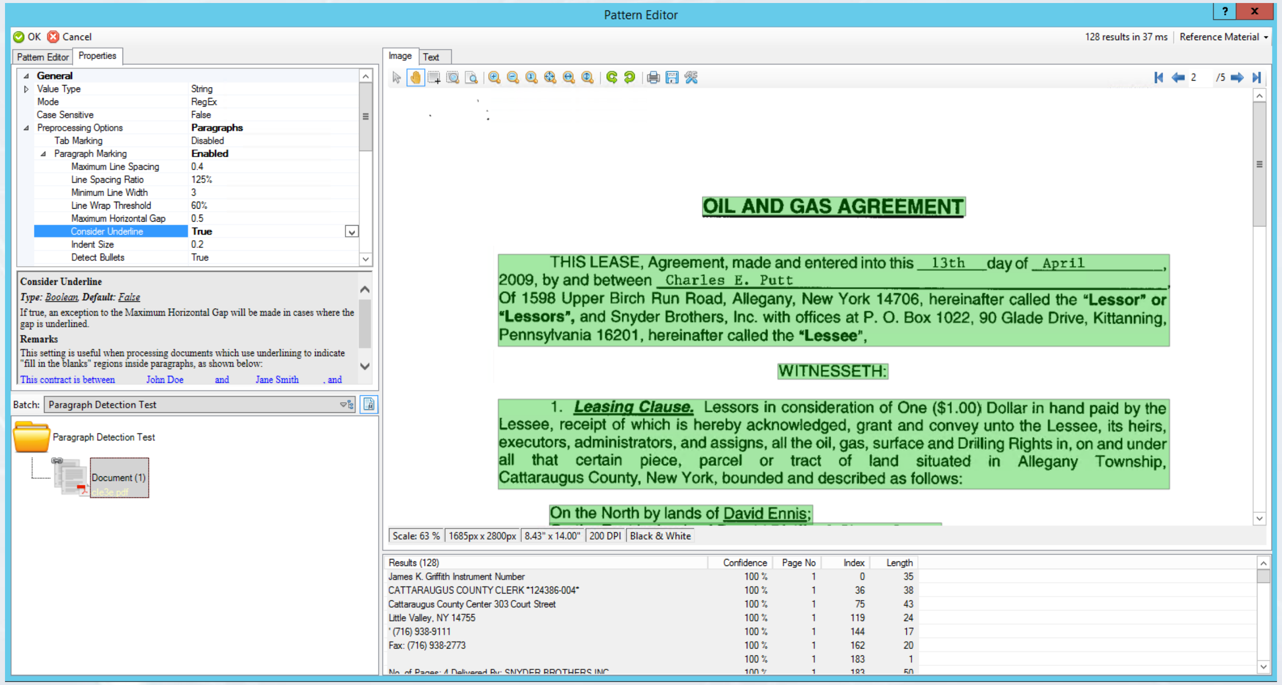
Query Editing

The query editor provides advanced features such as syntax highlighting and intellisense which make query creation fast, easy, and intuitive - even for a beginner. Syntax

IMPROVED OCR SYNTHESIS AND PARAGRAPH DETECTION

Grooper can now detect paragraphs containing large sections of blank underlines correctly

There are additional various improvements to OCR Synthesis



General	
Value Type	String
Mode	RegEx
Case Sensitive	False
Preprocessing Options	**Paragraphs**
Tab Marking	Disabled
Paragraph Marking	**Enabled**
Maximum Line Spacing	0.4
Line Spacing Ratio	125%
Minimum Line Width	3
Line Wrap Threshold	60%
Maximum Horizontal Gap	0.5
Consider Underline	**True**
Indent Size	0.2
Detect Bullets	True

Consider Underline

Type: *Boolean*, ***Default:*** *False*

If true, an exception to the Maximum Horizontal Gap will be made in cases where the gap is underlined.

Remarks

This setting is useful when processing documents which use underlining to indicate "fill in the blanks" regions inside paragraphs, as shown below:

This contract is between John Doe and Jane Smith , and

Batch: Paragraph Detection Test

Paragraph Detection Test

Document (1)
cle3e.pdf

OIL AND GAS AGREEMENT

THIS LEASE, Agreement, made and entered into this 13th day of April , 2009, by and between Charles E. Putt , Of 1598 Upper Birch Run Road, Allegany, New York 14706, hereinafter called the **"Lessor" or "Lessors",** and Snyder Brothers, Inc. with offices at P. O. Box 1022, 90 Glade Drive, Kittanning, Pennsylvania 16201, hereinafter called the **"Lessee"**,

WITNESSETH:

1. ***Leasing Clause.*** Lessors in consideration of One ($1.00) Dollar in hand paid by the Lessee, receipt of which is hereby acknowledged, grant and convey unto the Lessee, its heirs, executors, administrators, and assigns, all the oil, gas, surface and Drilling Rights in, on and under all that certain piece, parcel or tract of land situated in Allegany Township, Cattaraugus County, New York, bounded and described as follows:

On the North by lands of David Ennis;

Scale: 63 % | 1685px x 2800px | 8.43" x 14.00" | 200 DPI | Black & White

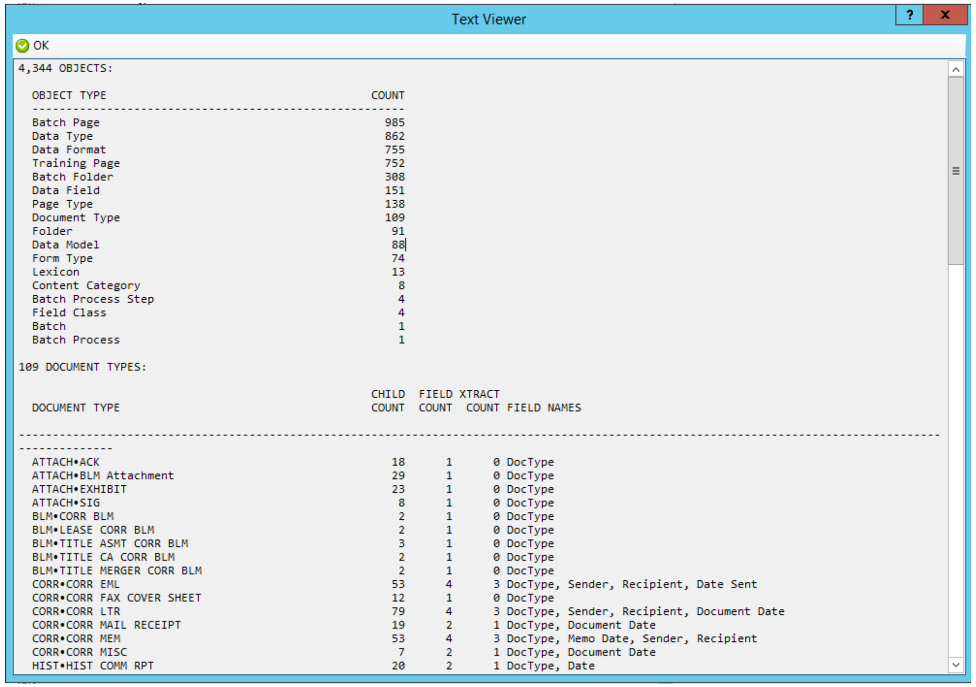
Results (128)	Confidence	Page No	Index	Length
James K. Griffith Instrument Number	100 %	1	0	35
CATTARAUGUS COUNTY CLERK *124386-004*	100 %	1	36	38
Cattaraugus County Center 303 Court Street	100 %	1	75	43
Little Valley, NY 14755	100 %	1	119	24
' (716) 938-9111	100 %	1	144	17
Fax: (716) 938-2773	100 %	1	162	20
	100 %	1	183	1
No. of Pages: 4 Delivered By: SNYDER BROTHERS INC	100 %	1	183	50

IMPROVEMENTS FOR ARCHITECTS

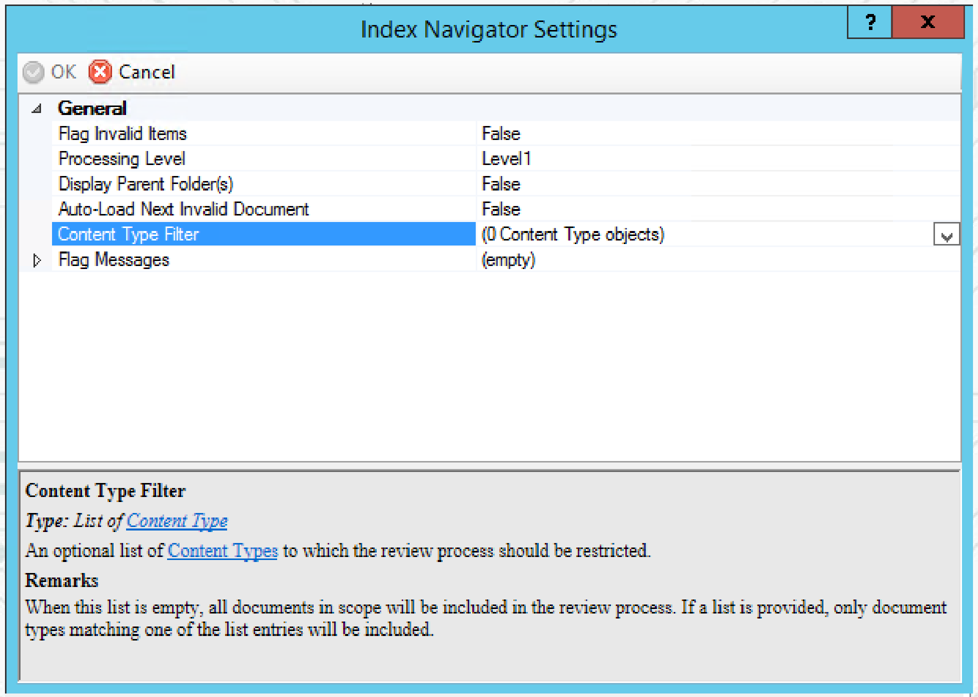
COMPILE STATS

COMPILE STATS PROVIDES COMPREHENSIVE STATISTICS ON CLASSIFICATION AND EXTRACTION ACROSS AN ENTIRE CONTENT MODEL

ASSISTS ADMINISTRATORS IN DEVELOPING AND TROUBLESHOOTING CONTENT MODELS, ALLOWING FOR MORE TARGETED WORK AND SHORTER DEVELOPMENT TIMES.



```
4,344 OBJECTS:

  OBJECT TYPE                                       COUNT
  -------------------------------------------------------
  Batch Page                                          985
  Data Type                                           862
  Data Format                                         755
  Training Page                                       752
  Batch Folder                                        308
  Data Field                                          151
  Page Type                                           138
  Document Type                                       109
  Folder                                               91
  Data Model                                           88
  Form Type                                            74
  Lexicon                                              13
  Content Category                                      8
  Batch Process Step                                    4
  Field Class                                           4
  Batch                                                 1
  Batch Process                                         1

109 DOCUMENT TYPES:

                                                    CHILD  FIELD XTRACT
  DOCUMENT TYPE                                     COUNT  COUNT  COUNT FIELD NAMES

----------------------------------------------------------------------------------------------------------------------------------------
--------------
  ATTACH•ACK                                           18      1      0 DocType
  ATTACH•BLM Attachment                                29      1      0 DocType
  ATTACH•EXHIBIT                                       23      1      0 DocType
  ATTACH•SIG                                            8      1      0 DocType
  BLM•CORR BLM                                          2      1      0 DocType
  BLM•LEASE CORR BLM                                    2      1      0 DocType
  BLM•TITLE ASMT CORR BLM                               3      1      0 DocType
  BLM•TITLE CA CORR BLM                                 2      1      0 DocType
  BLM•TITLE MERGER CORR BLM                             2      1      0 DocType
  CORR•CORR EML                                        53      4      3 DocType, Sender, Recipient, Date Sent
  CORR•CORR FAX COVER SHEET                            12      1      0 DocType
  CORR•CORR LTR                                        79      4      3 DocType, Sender, Recipient, Document Date
  CORR•CORR MAIL RECEIPT                               19      2      1 DocType, Document Date
  CORR•CORR MEM                                        53      4      3 DocType, Memo Date, Sender, Recipient
  CORR•CORR MISC                                        7      2      1 DocType, Document Date
  HIST•HIST COMM RPT                                   20      2      1 DocType, Date
```



General	
Flag Invalid Items	False
Processing Level	Level1
Display Parent Folder(s)	False
Auto-Load Next Invalid Document	False
Content Type Filter	(0 Content Type objects)
Flag Messages	(empty)

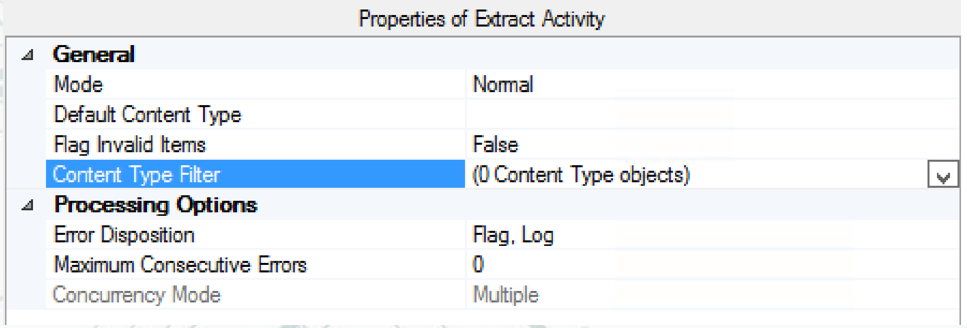
Content Type Filter

Type: List of Content Type

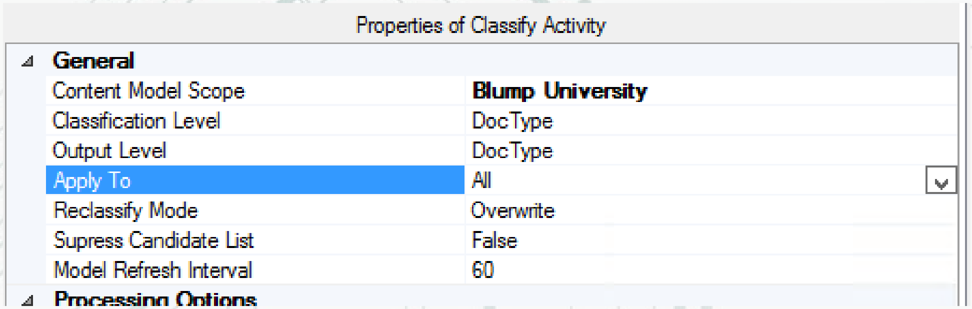
An optional list of Content Types to which the review process should be restricted.

Remarks

When this list is empty, all documents in scope will be included in the review process. If a list is provided, only document types matching one of the list entries will be included.


Properties of Extract Activity

General	
Mode	Normal
Default Content Type	
Flag Invalid Items	False
Content Type Filter	(0 Content Type objects)
Processing Options	
Error Disposition	Flag, Log
Maximum Consecutive Errors	0
Concurrency Mode	Multiple


Properties of Classify Activity

General	
Content Model Scope	**Blump University**
Classification Level	DocType
Output Level	DocType
Apply To	All
Reclassify Mode	Overwrite
Supress Candidate List	False
Model Refresh Interval	60
Processing Options	

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CONTENT TYPE FILTERING

SUPPORTED IN EXTRACTION, CLASSIFICATION, AND DATA REVIEW ACTIVITIES

- Appears in “index navigator settings” on Data Review Activity
- Allows for more focused or partial classification, extraction, and review
- Allows classification, extraction, and review to proceed in stages for larger or more complicated projects
- Supports targeted expansion or improvement
- Supports tiered classification decisioning
- Allows for classification to target only unclassified documents (“All,” “Classified”, or “Unclassified”)

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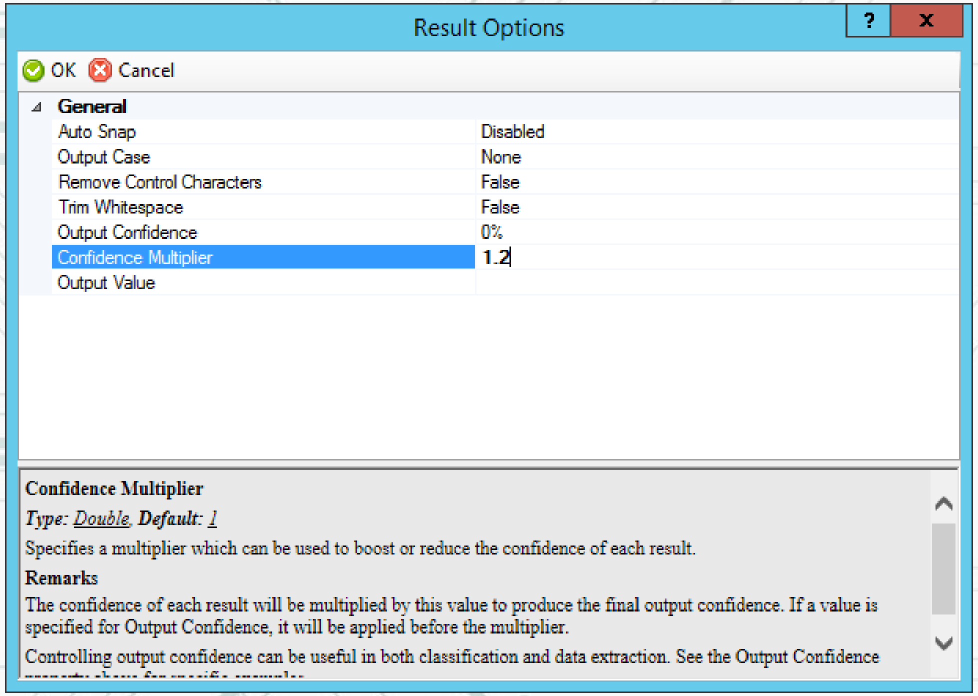
NEW EXTRACTOR WEIGHTING MECHANISMS

CONFIGURABLE OUTPUT CONFIDENCE AND OUTPUT MUTIPILIERS ON DATA TYPES



General

Auto Snap	Disabled
Output Case	None
Remove Control Characters	False
Trim Whitespace	False
Output Confidence	0%
Confidence Multiplier	1.2
Output Value	

Confidence Multiplier

Type: *Double*, ***Default:*** *1*

Specifies a multiplier which can be used to boost or reduce the confidence of each result.

Remarks

The confidence of each result will be multiplied by this value to produce the final output confidence. If a value is specified for Output Confidence, it will be applied before the multiplier.

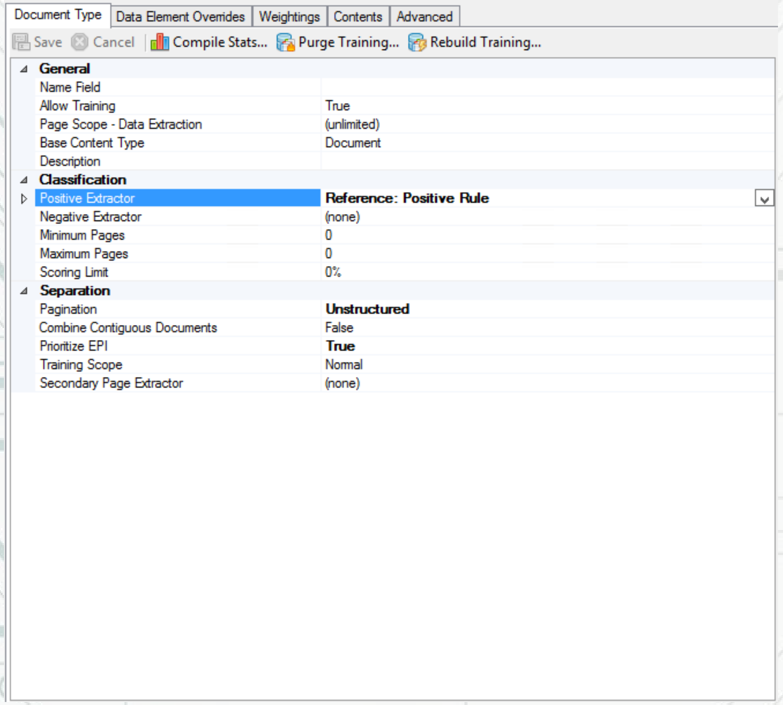
Controlling output confidence can be useful in both classification and data extraction. See the Output Confidence

- Manually set extraction confidence and multiply confidence by a set amount
- Allows for waterfall extraction techniques: most reliable methods can be backed up by less-reliable methods by using “order by confidence”

WEIGHTED CLASSIFICATION PROPERTIES AND WATERFALL CLASSIFICATION

ADVANCED CLASSIFICATION STRATEGIES FOR COMPLICATED DOCUMENT SETS

- Positive extractors now classify documents with the confidence of their referenced extractor
- Using the confidence multiplier and output confidence configuration items on data types allows for the creation of waterfall classification strategies
- This allows for documents that are highly lexically dissimilar within a group or highly lexically similar across groups to be targeted with better accuracy (e.g. legal documents, oil and gas leases vs lease acknowledgements, etc.)



General

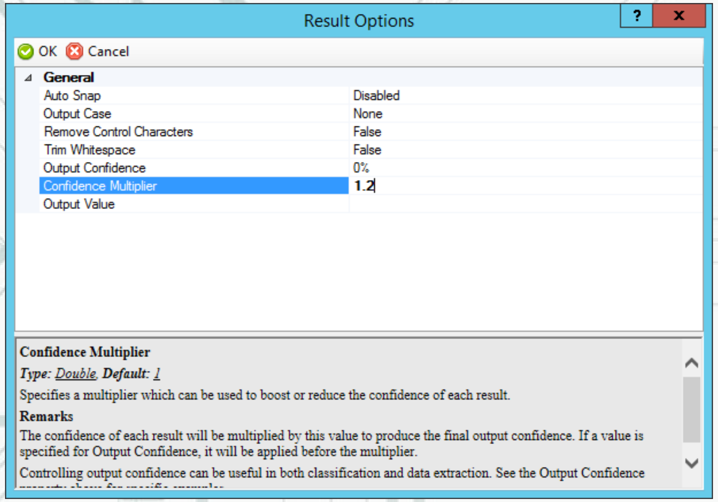
Name Field	
Allow Training	True
Page Scope - Data Extraction	(unlimited)
Base Content Type	Document
Description	

Classification

Positive Extractor	**Reference: Positive Rule**
Negative Extractor	(none)
Minimum Pages	0
Maximum Pages	0
Scoring Limit	0%

Separation

Pagination	**Unstructured**
Combine Contiguous Documents	False
Prioritize EPI	**True**
Training Scope	Normal
Secondary Page Extractor	(none)



General

Auto Snap	Disabled
Output Case	None
Remove Control Characters	False
Trim Whitespace	False
Output Confidence	0%
Confidence Multiplier	1.2
Output Value	

Confidence Multiplier

***Type:** Double, **Default:** 1*

Specifies a multiplier which can be used to boost or reduce the confidence of each result.

Remarks

The confidence of each result will be multiplied by this value to produce the final output confidence. If a value is specified for Output Confidence, it will be applied before the multiplier.

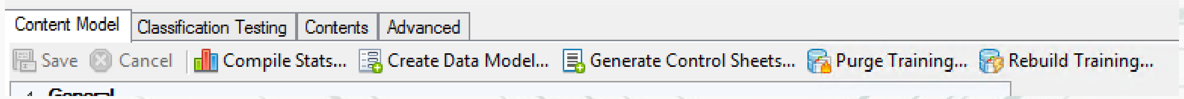
Controlling output confidence can be useful in both classification and data extraction. See the Output Confidence

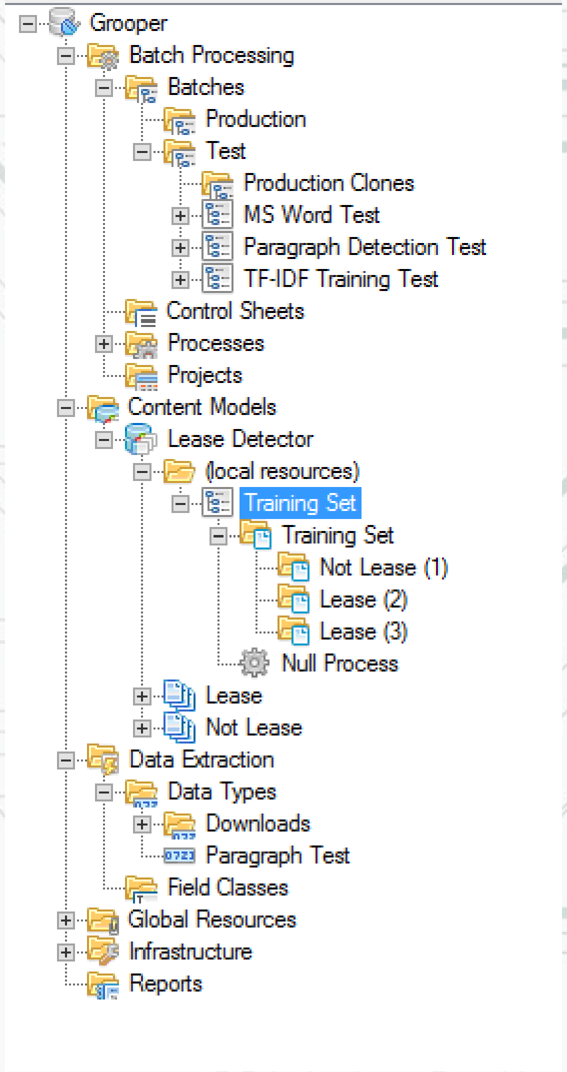
Grooper™

AUTOBUILT TF/IDF TRAINING BATCH

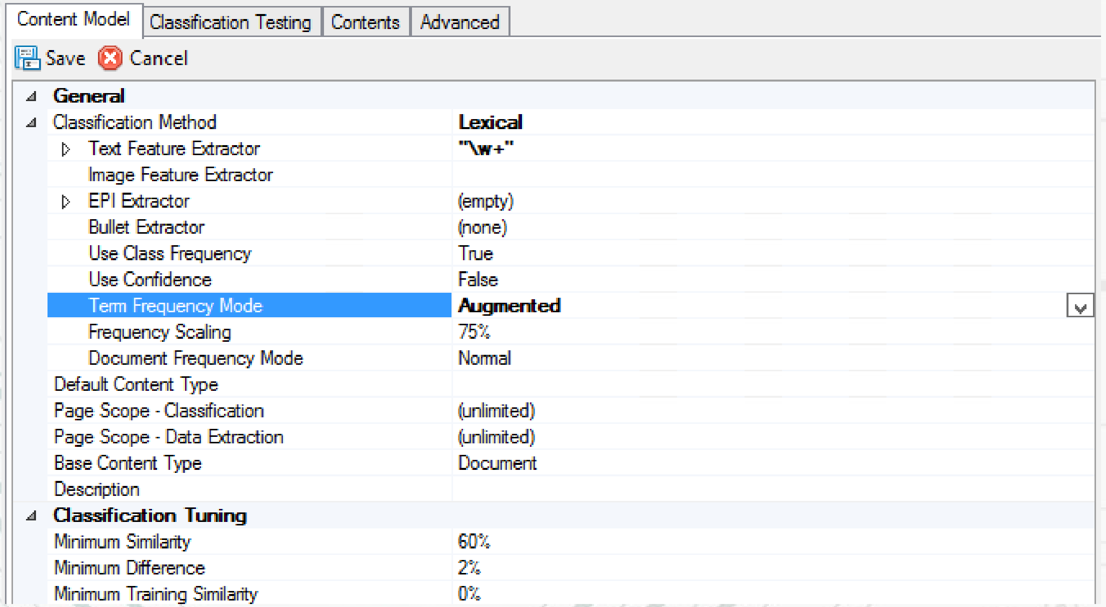
TF/IDF training now automatically builds training batch, allowing for easier training after changes to feature collection or TF/IDF settings.

“Rebuild training” allows for tuning and A/B testing using identical training set and document training decisions

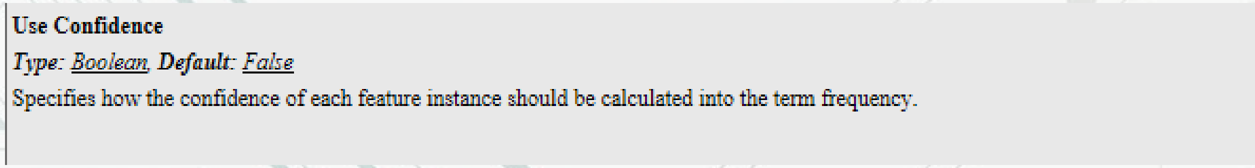




NEW TF/IDF VARIANTS



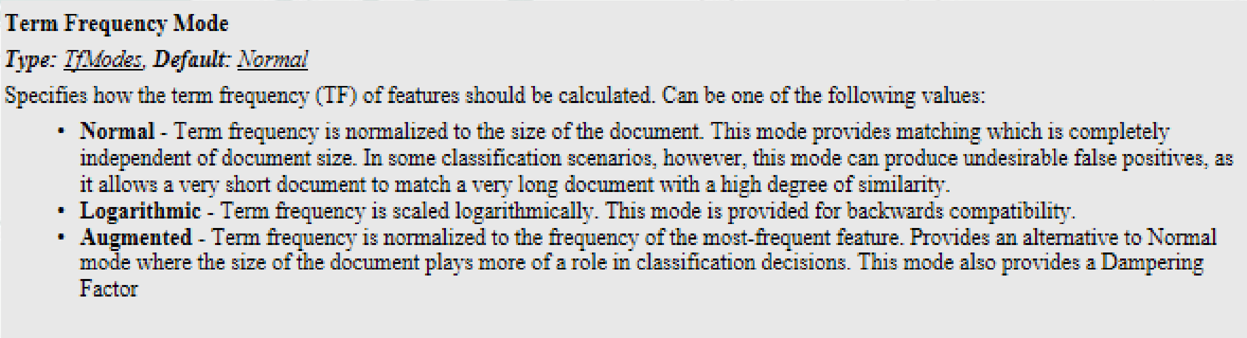
General	
Classification Method	**Lexical**
Text Feature Extractor	**"\w+"**
Image Feature Extractor	
EPI Extractor	(empty)
Bullet Extractor	(none)
Use Class Frequency	True
Use Confidence	False
Term Frequency Mode	**Augmented**
Frequency Scaling	75%
Document Frequency Mode	Normal
Default Content Type	
Page Scope - Classification	(unlimited)
Page Scope - Data Extraction	(unlimited)
Base Content Type	Document
Description	
Classification Tuning	
Minimum Similarity	60%
Minimum Difference	2%
Minimum Training Similarity	0%



Use Confidence

Type: Boolean, Default: False

Specifies how the confidence of each feature instance should be calculated into the term frequency.

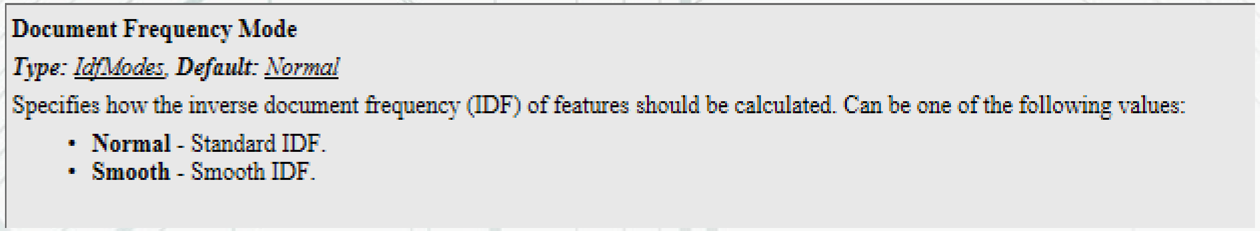


Term Frequency Mode

Type: TfModes, Default: Normal

Specifies how the term frequency (TF) of features should be calculated. Can be one of the following values:

- **Normal** - Term frequency is normalized to the size of the document. This mode provides matching which is completely independent of document size. In some classification scenarios, however, this mode can produce undesirable false positives, as it allows a very short document to match a very long document with a high degree of similarity.
- **Logarithmic** - Term frequency is scaled logarithmically. This mode is provided for backwards compatibility.
- **Augmented** - Term frequency is normalized to the frequency of the most-frequent feature. Provides an alternative to Normal mode where the size of the document plays more of a role in classification decisions. This mode also provides a Dampering Factor



Document Frequency Mode

Type: IdfModes, Default: Normal

Specifies how the inverse document frequency (IDF) of features should be calculated. Can be one of the following values:

- **Normal** - Standard IDF.
- **Smooth** - Smooth IDF.

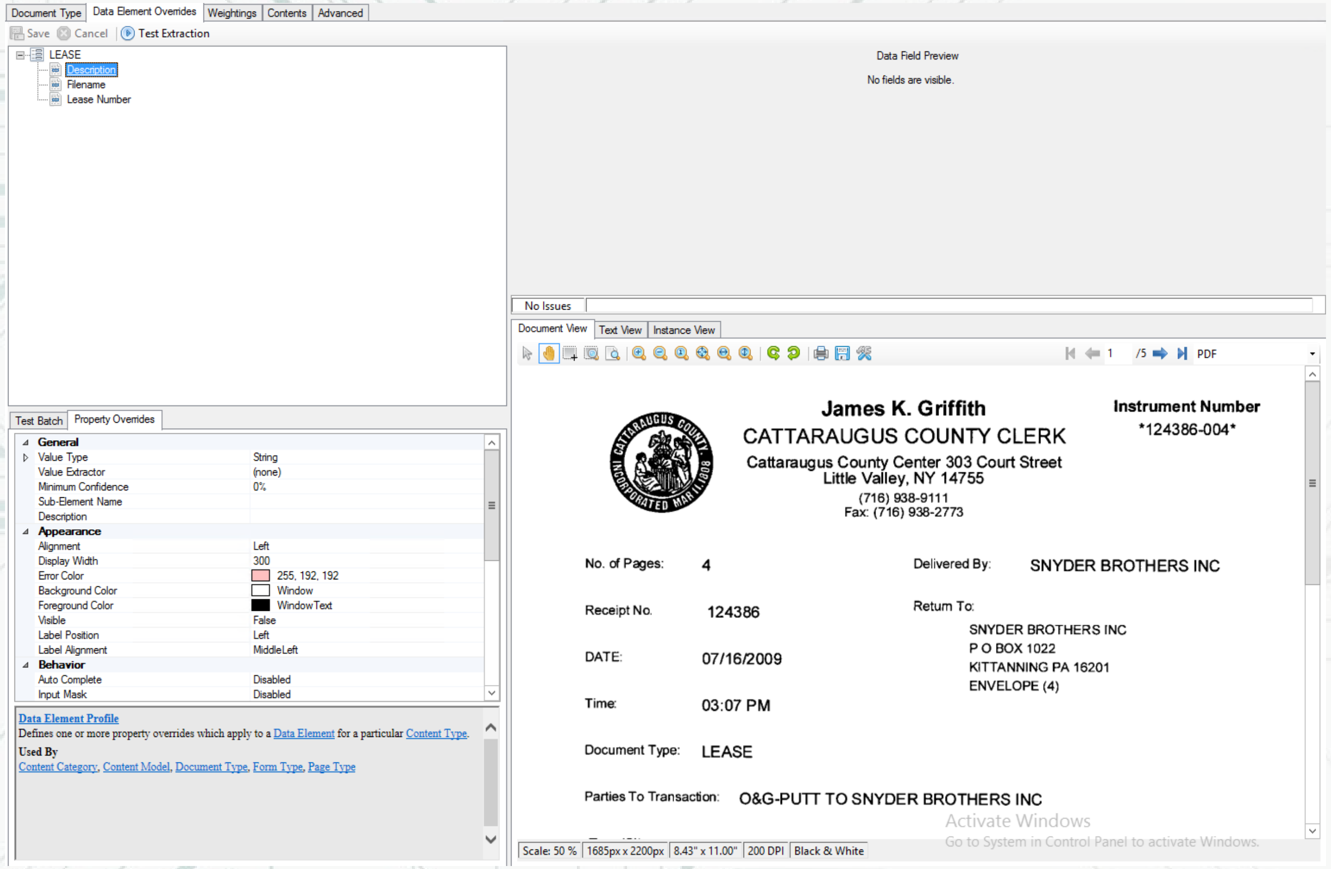
- ‘Use confidence’ allows extraction confidence to factor into TF/IDF feature scoring
- ‘Augmented’ TF mode (in addition to logarithmic/’sublinear’) allows for TF/IDF to partially account for document length (standard TF/IDF tends to favor longer documents)
- Smooth TF/IDF selectable under “Document Frequency Mode”

Grooper™

NEW INHERITANCE ARCHITECTURE

DATA ELEMENT PROFILES ARE GONE; LONG LIVE DATA ELEMENT OVERRIDES

- Data element profiles have been replaced by data element overrides
- Every property is now overridable
- Data Element Overrides tab includes built-in tester
- A fuller realization of Grooper's inheritance-based architecture; allows for more robust, more scalable data models.
- Saves time and reduces complexity when architecting large systems



LEASE
- Description
- Filename
- Lease Number

Data Field Preview

No fields are visible.

General	
Value Type	String
Value Extractor	(none)
Minimum Confidence	0%
Sub-Element Name	
Description	
Appearance	
Alignment	Left
Display Width	300
Error Color	🟥 255, 192, 192
Background Color	□ Window
Foreground Color	■ WindowText
Visible	False
Label Position	Left
Label Alignment	MiddleLeft
Behavior	
Auto Complete	Disabled
Input Mask	Disabled

Data Element Profile

Defines one or more property overrides which apply to a Data Element for a particular Content Type.

Used By

Content Category, Content Model, Document Type, Form Type, Page Type

James K. Griffith
CATTARAUGUS COUNTY CLERK
Cattaraugus County Center 303 Court Street
Little Valley, NY 14755
(716) 938-9111
Fax: (716) 938-2773

Instrument Number
124386-004

No. of Pages: 4

Delivered By: SNYDER BROTHERS INC

Receipt No. 124386

Return To:
SNYDER BROTHERS INC
P O BOX 1022
KITTANNING PA 16201
ENVELOPE (4)

DATE: 07/16/2009

Time: 03:07 PM

Document Type: LEASE

Parties To Transaction: O&G-PUTT TO SNYDER BROTHERS INC

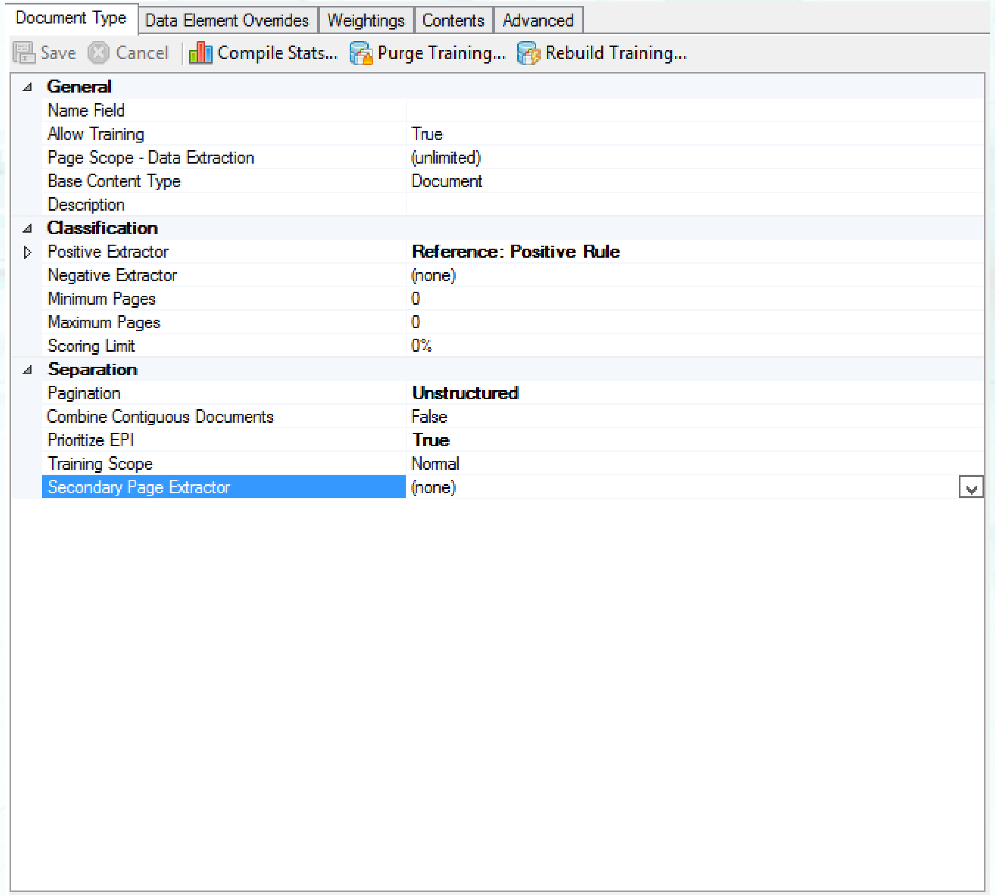
Scale: 50 % | 1685px x 2200px | 8.43" x 11.00" | 200 DPI | Black & White

SEPARATION IMPROVEMENTS

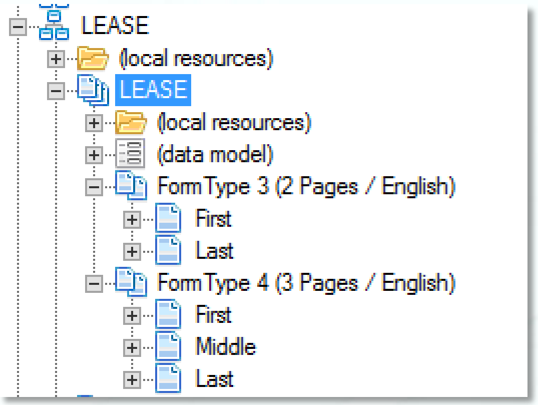
ESP AUTO-SEPARATION IMPROVEMENTS

Separation is more robust and accurate than ever

- Improved ESP auto-separation logic
- New Secondary Page Extractor
- Unstructured Documents now consider only first, middle, last pages; each n-page version is no longer considered a different formtype



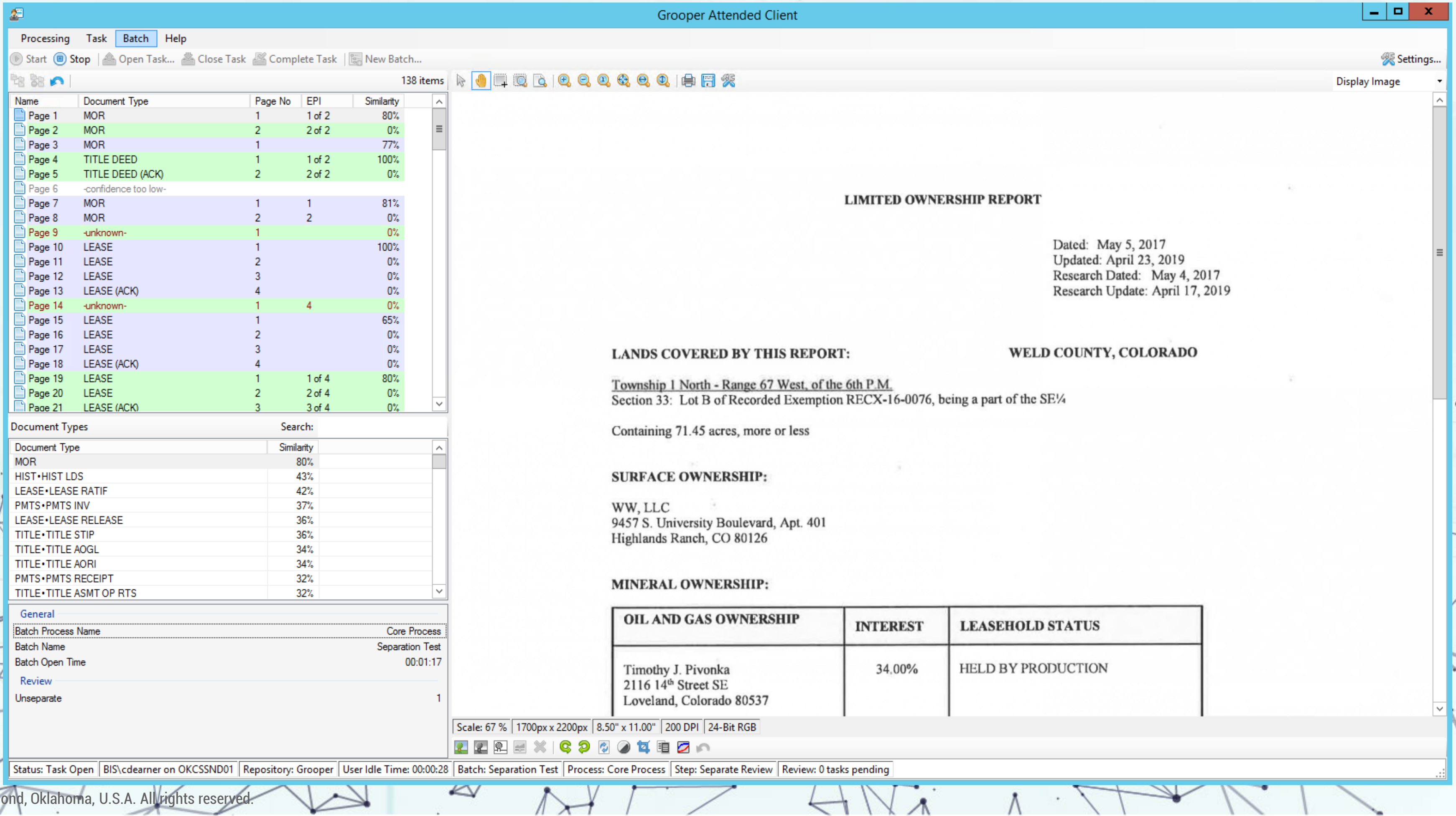
General	
Name Field	
Allow Training	True
Page Scope - Data Extraction	(unlimited)
Base Content Type	Document
Description	
Classification	
Positive Extractor	**Reference: Positive Rule**
Negative Extractor	(none)
Minimum Pages	0
Maximum Pages	0
Scoring Limit	0%
Separation	
Pagination	**Unstructured**
Combine Contiguous Documents	False
Prioritize EPI	**True**
Training Scope	Normal
Secondary Page Extractor	(none)



```
LEASE
  (local resources)
  LEASE
    (local resources)
    (data model)
    Form Type 3 (2 Pages / English)
      First
      Last
    Form Type 4 (3 Pages / English)
      First
      Middle
      Last
```

New Separation review UI

SIMILAR TO ESP AUTO-SEPARATION TESTER



138 items

Name	Document Type	Page No	EPI	Similarity
Page 1	MOR	1	1 of 2	80%
Page 2	MOR	2	2 of 2	0%
Page 3	MOR	1		77%
Page 4	TITLE DEED	1	1 of 2	100%
Page 5	TITLE DEED (ACK)	2	2 of 2	0%
Page 6	-confidence too low-			
Page 7	MOR	1	1	81%
Page 8	MOR	2	2	0%
Page 9	-unknown-	1		0%
Page 10	LEASE	1		100%
Page 11	LEASE	2		0%
Page 12	LEASE	3		0%
Page 13	LEASE (ACK)	4		0%
Page 14	-unknown-	1	4	0%
Page 15	LEASE	1		65%
Page 16	LEASE	2		0%
Page 17	LEASE	3		0%
Page 18	LEASE (ACK)	4		0%
Page 19	LEASE	1	1 of 4	80%
Page 20	LEASE	2	2 of 4	0%
Page 21	LEASE (ACK)	3	3 of 4	0%

Document Types   Search:

Document Type	Similarity
MOR	80%
HIST•HIST LDS	43%
LEASE•LEASE RATIF	42%
PMTS•PMTS INV	37%
LEASE•LEASE RELEASE	36%
TITLE•TITLE STIP	36%
TITLE•TITLE AOGL	34%
TITLE•TITLE AORI	34%
PMTS•PMTS RECEIPT	32%
TITLE•TITLE ASMT OP RTS	32%

General

Batch Process Name	Core Process
Batch Name	Separation Test
Batch Open Time	00:01:17

Review

Unseparate	1

LIMITED OWNERSHIP REPORT

Dated: May 5, 2017
Updated: April 23, 2019
Research Dated: May 4, 2017
Research Update: April 17, 2019

LANDS COVERED BY THIS REPORT: **WELD COUNTY, COLORADO**

Township 1 North - Range 67 West, of the 6th P.M.
Section 33: Lot B of Recorded Exemption RECX-16-0076, being a part of the SE¼

Containing 71.45 acres, more or less

SURFACE OWNERSHIP:

WW, LLC
9457 S. University Boulevard, Apt. 401
Highlands Ranch, CO 80126

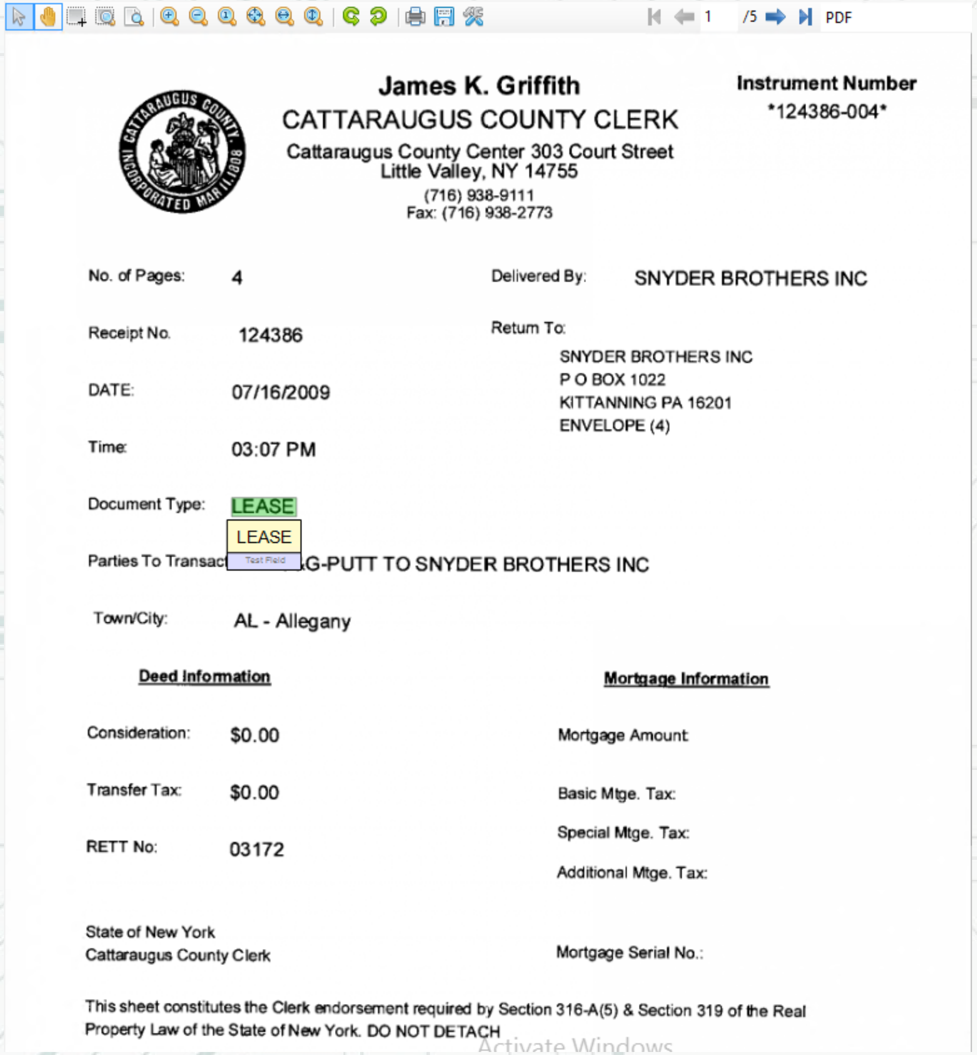
MINERAL OWNERSHIP:

OIL AND GAS OWNERSHIP	INTEREST	LEASEHOLD STATUS
Timothy J. Pivonka 2116 14th Street SE Loveland, Colorado 80537	34.00%	HELD BY PRODUCTION

Scale: 67 % | 1700px x 2200px | 8.50" x 11.00" | 200 DPI | 24-Bit RGB

Status: Task Open | BIS\cdearner on OKCSSND01 | Repository: Grooper | User Idle Time: 00:00:28 | Batch: Separation Test | Process: Core Process | Step: Separate Review | Review: 0 tasks pending

OTHER IMPROVEMENTS



James K. Griffith
CATTARAUGUS COUNTY CLERK
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Document Type: LEASE

LEASE
Test Field

Parties To Transact &G-PUTT TO SNYDER BROTHERS INC

Town/City: AL - Allegany

Deed Information

Consideration: $0.00

Transfer Tax: $0.00

RETT No: 03172

Mortgage Information

Mortgage Amount:

Basic Mtge. Tax:

Special Mtge. Tax:

Additional Mtge. Tax:

State of New York
Cattaraugus County Clerk

Mortgage Serial No.:

This sheet constitutes the Clerk endorsement required by Section 316-A(5) & Section 319 of the Real Property Law of the State of New York. DO NOT DETACH

NEW DATA ANNOTATION OPTION IN DATA REVIEW

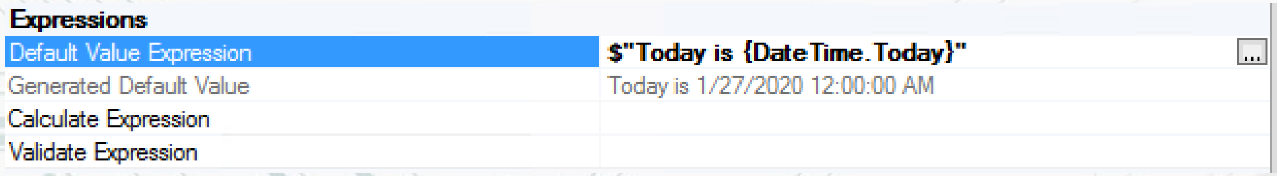
DISPLAYS EXTRACTED DATA AT THE EXTRACTION LOCATION ON THE DOCUMENT

- Greatly speeds up review
- Configurable properties include color, location
- Can disable for simple extraction cases or documents.

CODE EXPRESSIONS: LINQ AND STRING INTERPOLATION SUPPORT IN EXPRESSIONS

Do more with expressions

- .NET string interpolation now supported in expressions
- LINQ now supported in expressions



Expressions	
Default Value Expression	$"Today is {DateTime.Today}"
Generated Default Value	Today is 1/27/2020 12:00:00 AM
Calculate Expression	
Validate Expression	