Challenges of moving Information & Data Management to the cloud both software and data

Practical examples of how a small- medium E&P company can distribute their workforce and virtualise their office using modern cloud based approach

Hampton Data Services Ltd
www.hamptondata.com
Waclaw (Wally) Jakubowicz

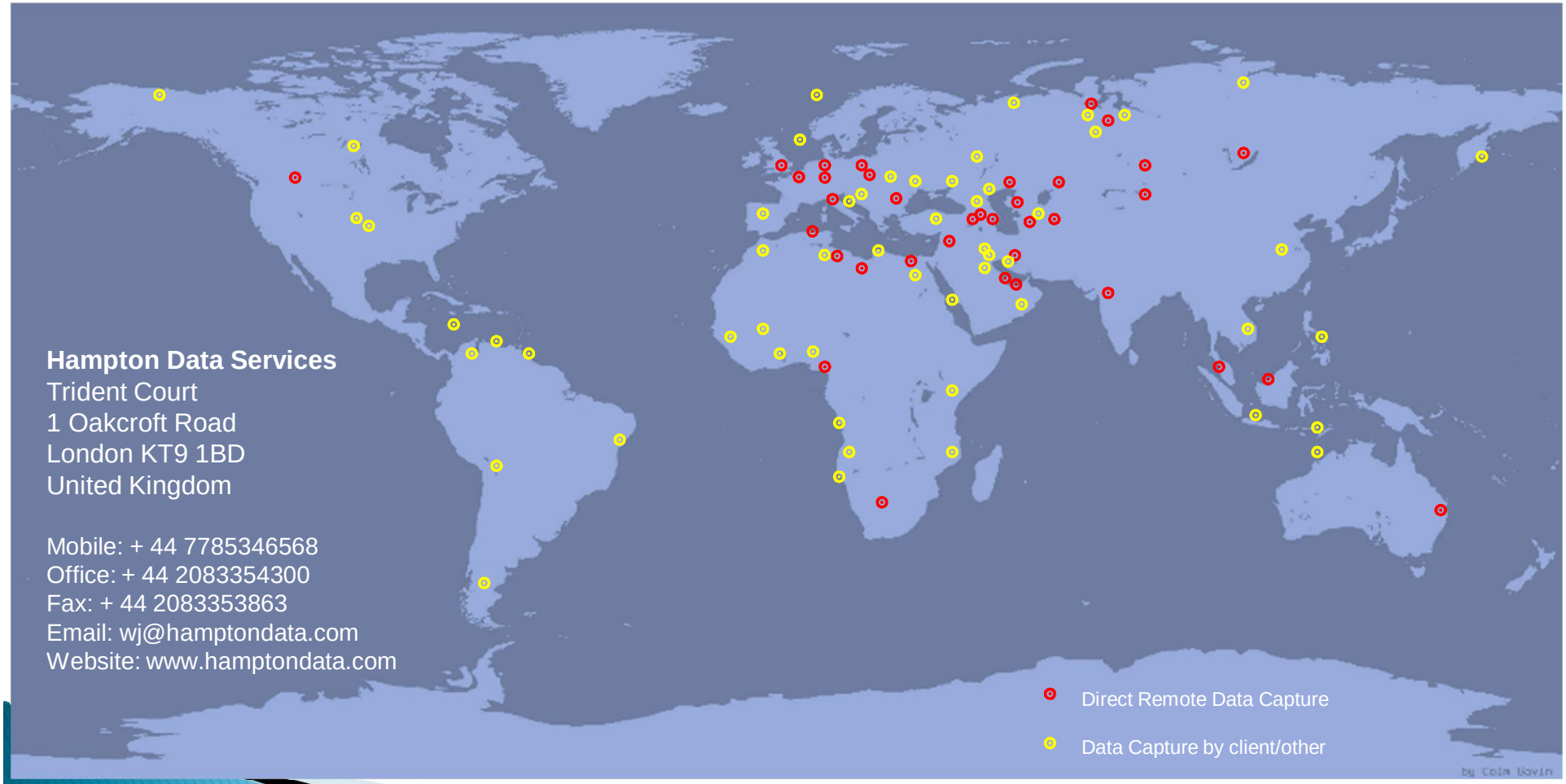
Finding Petroleum
Solving E&P Problems with Digitisation
19th November 2017

ISO9001 WCS UKAS QUALITY MANAGEMENT 060
Certificate No. 3474

Hampton Data

25 years of E&P Data Management

Worldwide experience of
Remote Data Capture
Data Rooms, Oil Co archives



Hampton Data Services
Trident Court
1 Oakcroft Road
London KT9 1BD
United Kingdom

Mobile: + 44 7785346568
Office: + 44 2083354300
Fax: + 44 2083353863
Email: wj@hamptondata.com
Website: www.hamptondata.com

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25 years of Worldwide E&P Data Management

D2D

Virtual Validated Data Room

Discover >> Index >> Capture >> Extract > Validate

The Intelligent way

Data to Decision ï Ready:

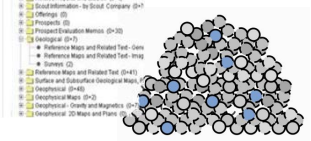
M&A, Due Diligence, Discovery, Farm In/Out

Assorted & Unsorted Unstructured Data ; physical, disk, database

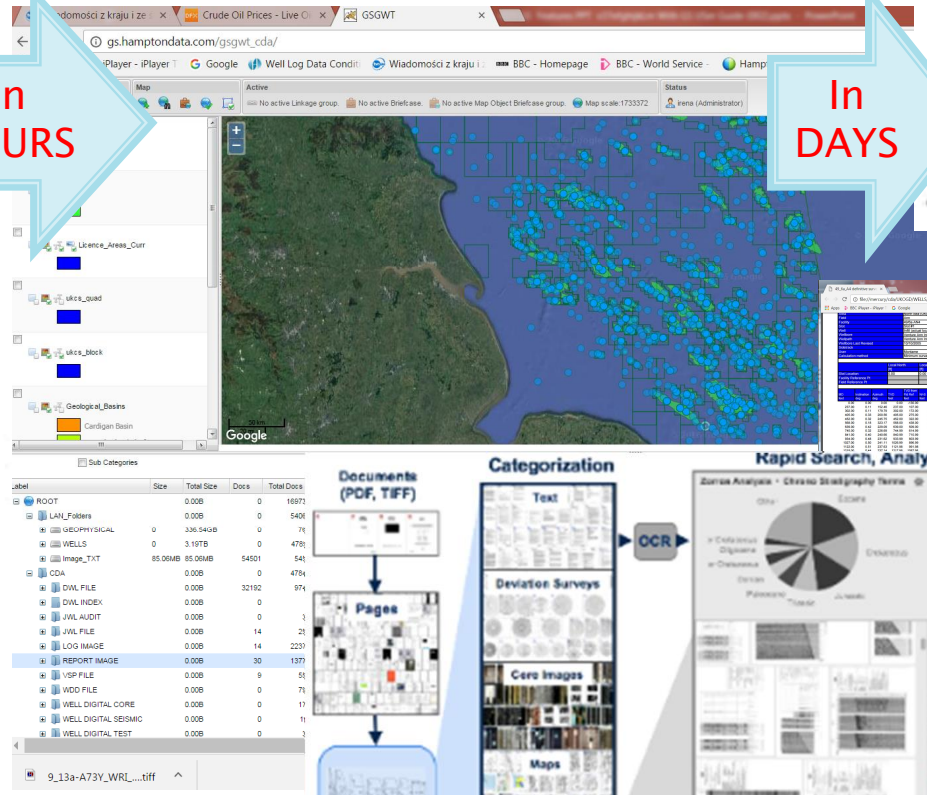
30,000 files
220 wells
7,500 Reports as PDF, Word
10,000 other docs
1500 xls
450 PPT
5500 LAS
120 DLIS
25 SEGY

Digital, analogue, data & metadata

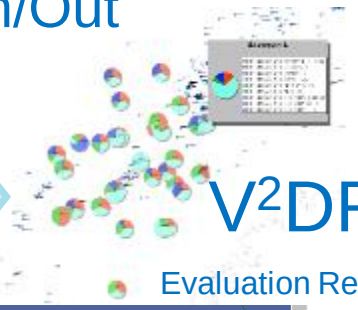
Using the latest in BI & Machine Learning to discover, index, extract, validate



In HOURS

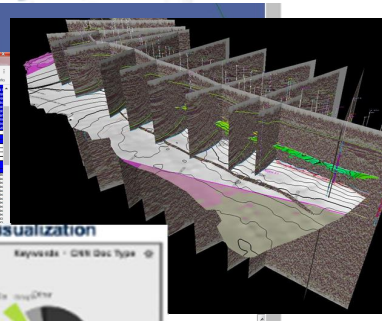


In DAYS



V²DR

Evaluation Ready



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www.hamptondata.com
Office: + 44 2083354300
info@hamptondata.com

Presentation Key Points

- E&P IM/DM Works on cloud
- How ?
- What can be done ?
  - Examples
    - Emir Oil
      - language – XTM
      - Services
        - HDS
        - XTM
    - Nephin
      - Volumes
      - Services
- Applications on the Cloud – where are they ?
  - SLB HLB Emmerson LR IHS
  - Antheus – GeoFIT

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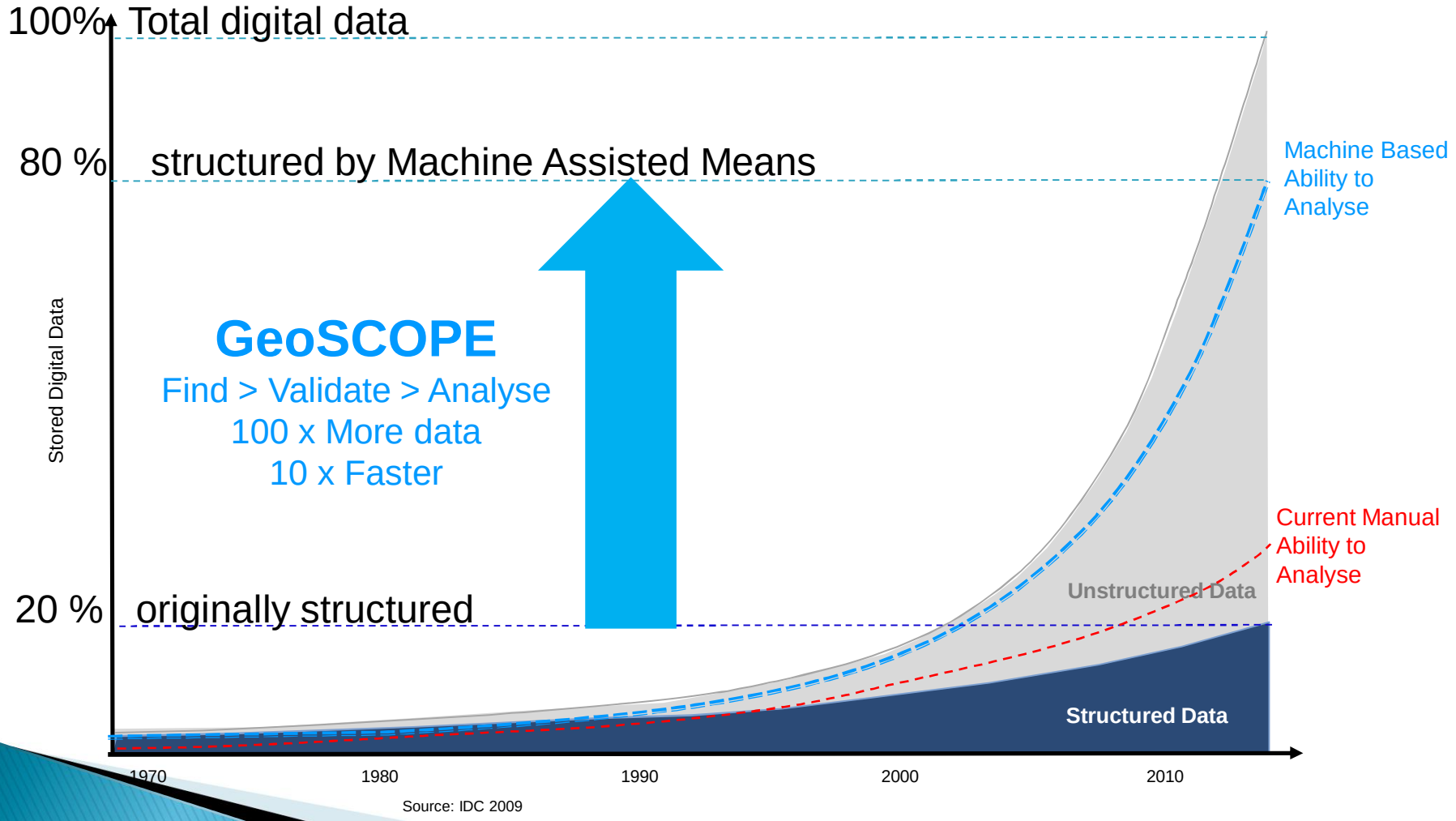
Computer Aided Indexing, Metadata Capture, Classification, Spatial Tagging

- Highly efficient > Machine Based Automated >
  - The E&P IM/DM Team can do More in Less Time : **Save Money $$$**
    - Process > Structure > Validate more data > **Reduce Risk**
      - Deliver Data to Decision Quickly > **D2D**



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Assorted & Unstructured E&P Data Input Can be effectively managed using Autonomous Machine Assisted & Machine Learned methods:

Physical, Hardcopy, Electronic
Live shared Hard Disk with >> 100,000s of unstructured data files

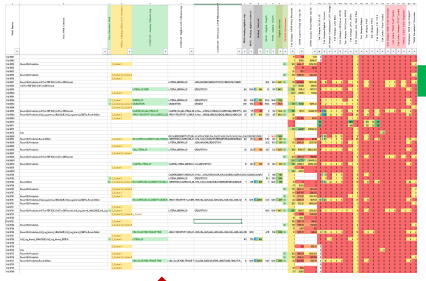
Digital, analogue, data & metadata

Physical files and folders

DATA is Locked in:

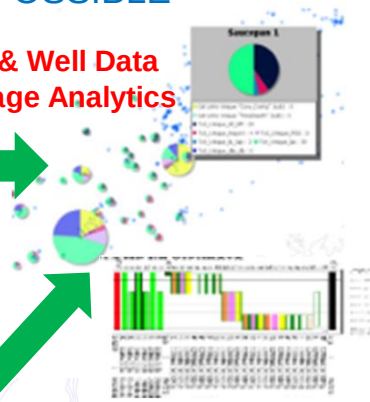
Digital E&P Standard Format Files:
SEGY DLIS LAS LIS P190 UKOOA etc
Other Digital Vector files:
MS Office PPT DOC XLS TXT ASCII XML HTML PDF etc
Other Raster Image & Graphic Files (& embedded in docs):
TIFF JPG PDS CGM WMF Physical & Hardcopy
Standard E&P Databases:
Petrel, R5000,OW/SW,Paradigm EPOS,
Geolog, RMS, VIP, Eclipse, IHS_Kingdom
ArcGIS, IKON RokDOC ? etc

Automated Full data Index with RICH Metadata

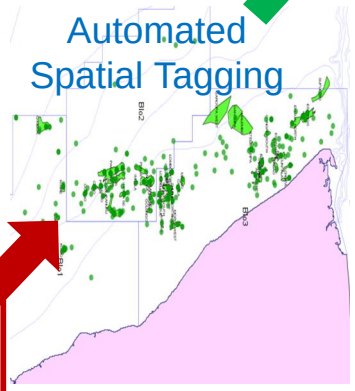


Advanced Data Analytics & Visualization becomes POSSIBLE

Curve & Well Data Coverage Analytics



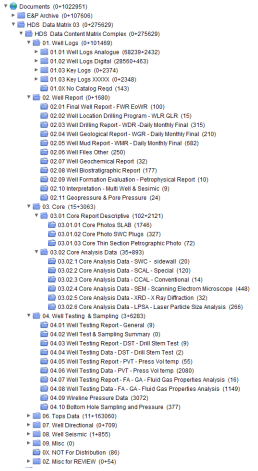
Automated Spatial Tagging



Using Workflows & Tools:
OCR
CNN
HD E&P Crawler
Tf-IDf
ML
AI?

Virtual folders

Automated Classification



OCR Optical Character Recognition
CNN Convolutional Neural Networks
Tf-IDf -Term Frequency/Inverse Document Frequency
HDS E&P File Metadata Extractor
OpenSpirit

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The Key to preforming these services is GeoSCOPE

GeoSCOPE is designed by E&P professionals working with real live project data

The Metadata Database that Autonomously Collects, Stores & Aggregates information about files and other DB records thus enabling Data Analytics to be done

Maintaining a comprehensive, high-quality, "trusted" information base is a critical activity in E & P projects. For the geoscientist, evaluating and interpreting data sets is the key to timely and effective decision making. Whilst traditional oilfield data management systems provide a framework for quantitative interpretation, their high cost, complex internal structures and narrow scope means that important information can often remain stranded on data islands outside the reach of the project team.

GeoScope provides a high performance, cost effective solution for staging and delivering all your E & P information to the whole project team. The intuitive map-based interface, powerful searching & data mining modes and flexible indexing schemes deliver results straight to your desktop. The client/server architecture exploits the latest networking standards and technologies to provide a centrally managed, low maintenance solution that is easily integrated into corporate networks and workflows.

GeoScope incorporates deep data mining and analytics that assist in data indexing and discovery. The tool and workflows used by GeoSCOPE ustilise:

- OCR (Optical Character Recognition), to provide metadata that can be searched and analysed
- CNN (Convolutional Neural Networks) to identify pictures, images and graphics, so as to classify maps, logs, seismic, graphs, well sketches etc
- Tf-IDf –(Term Frequency/Inverse Document Frequency) for full test signature analysis based on machine learning to classify content
- HDS E&P File Metadata Extractor – to extract metadata from industry file formats – SEGY LIS LAS DLIS P190 UKOOA
- 3rd party E&P Application metadata extractors - OpenSpirit, Kingdom, Petrel, OW,SW ,R500, Eclipse, Geolog etc

GeoScope is a highly efficient & autonomous document archiving and retrieval system utilising Java & Web technology to run through local Intranet and Internet applications on a broad range of platforms and operating systems. GeoScope combines the searchability of a database with the intuitive searching of objects within a graphical interface (typically a map) to recover appropriate documents for any given search criteria.

The built-in Entitlements and Workflow management modules, allow E&P IM/DM professionals to manage large scale E&P data workflows from reception, through discovery, classification, validation, editing and new data creation prior to delivery to trusted Master Data Stores with full auditability and identification of provenance and data quality.

The application and services can be purchased on a fixed monthly subscription

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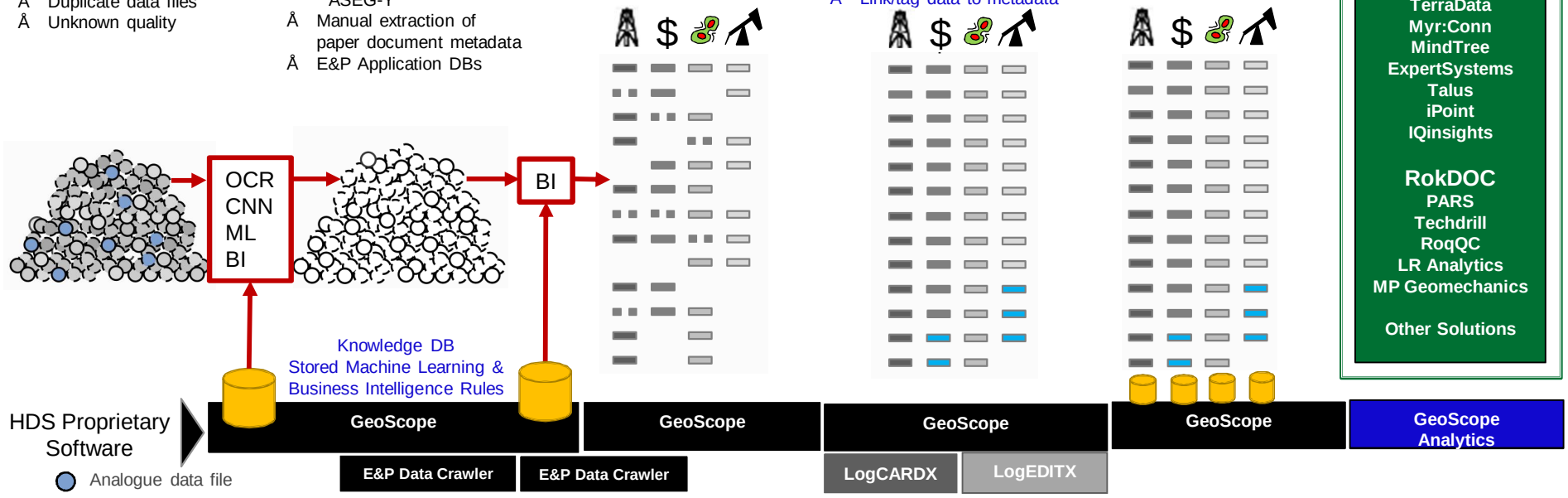
Transforming diverse unstructured E&P data into valuable interpretation & analytics ready assets

- HDS provides a range of services driven by proprietary software, carried out by analysts with direct experience in data acquisition and interpretation and managed in close association with customers

Automation

Unstructured Data	Crawl & Extract Metadata	Analyse & Characterise	Capture, Condition, Compose*	Database Interaction & Management	ANALYTICS & Visualisation
Different file formats and data types Analog files Digital files Data and metadata; complete incomplete missing Different vintages Duplicate data files Unknown quality	Disks, tapes, film, paper documents Digital file formats auto examined include Image Raster, Vector PDF TXT, MS Office LAS LIS,DLIS SEG-Y Manual extraction of paper document metadata E&P Application DBs	Identify / characterise data types, paths / structure Catalogue, Index Rank data QC important data Identify missing and / or incorrect data	Digitise analogue data Repair, correct and normalise data Splice & Composite Create digital audit trail Reconstruct metadata Organise data with user defined system (taxonomy) Link/tag data to metadata	Database design & build GIS interface Intuitive flexible search, retrieval and storage Clear audit trail of changes to data and metadata	**3rd Party Updated Content for SHAREPOINT** SpotFire Tableau TerraData Myr:Conn MindTree ExpertSystems Talus iPoint IQinsights **RokDOC** PARS Techdrill RoqQC LR Analytics MP Geomechanics Other Solutions



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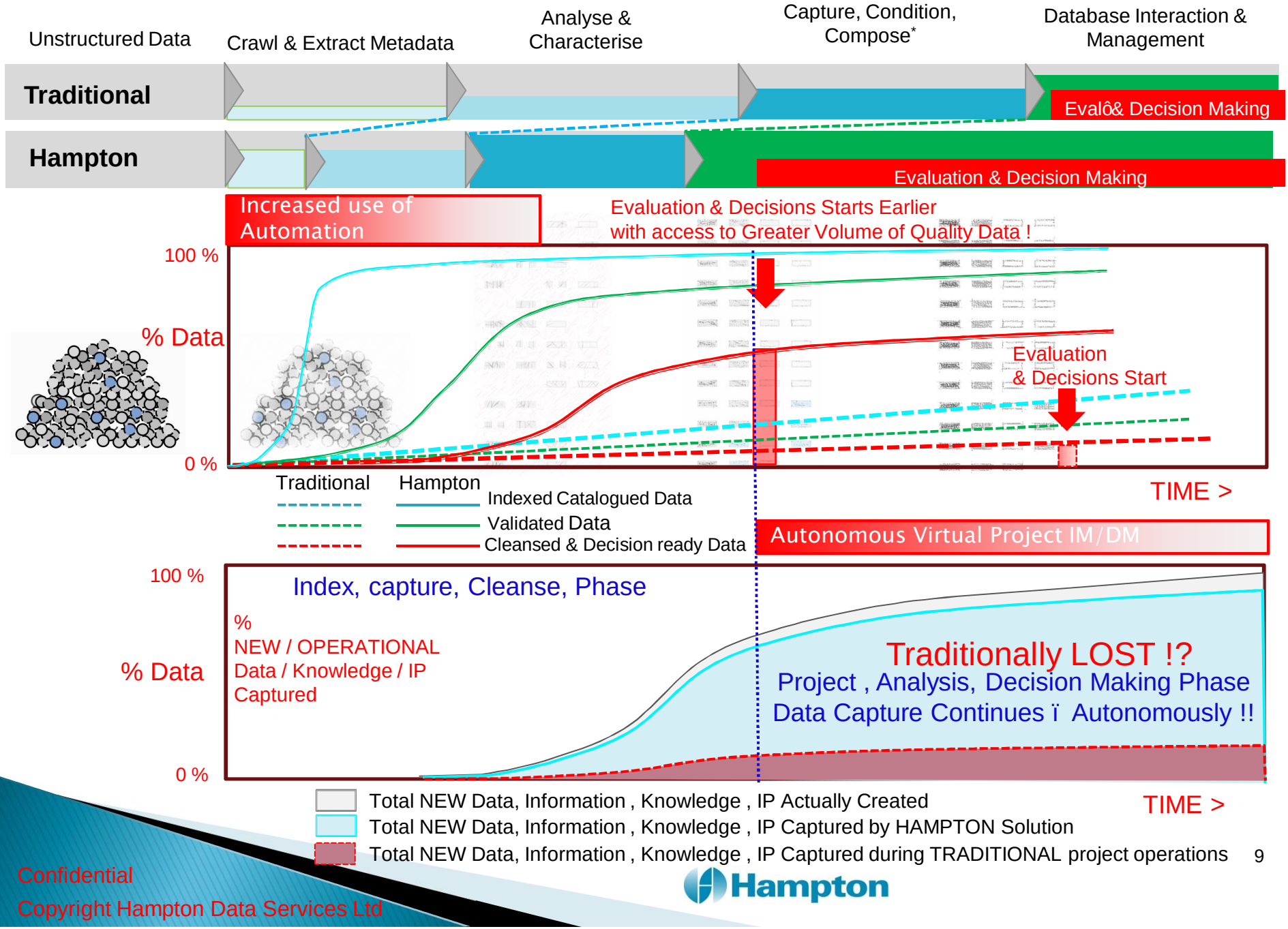
Efficiencies in The Hampton Data Solution 2



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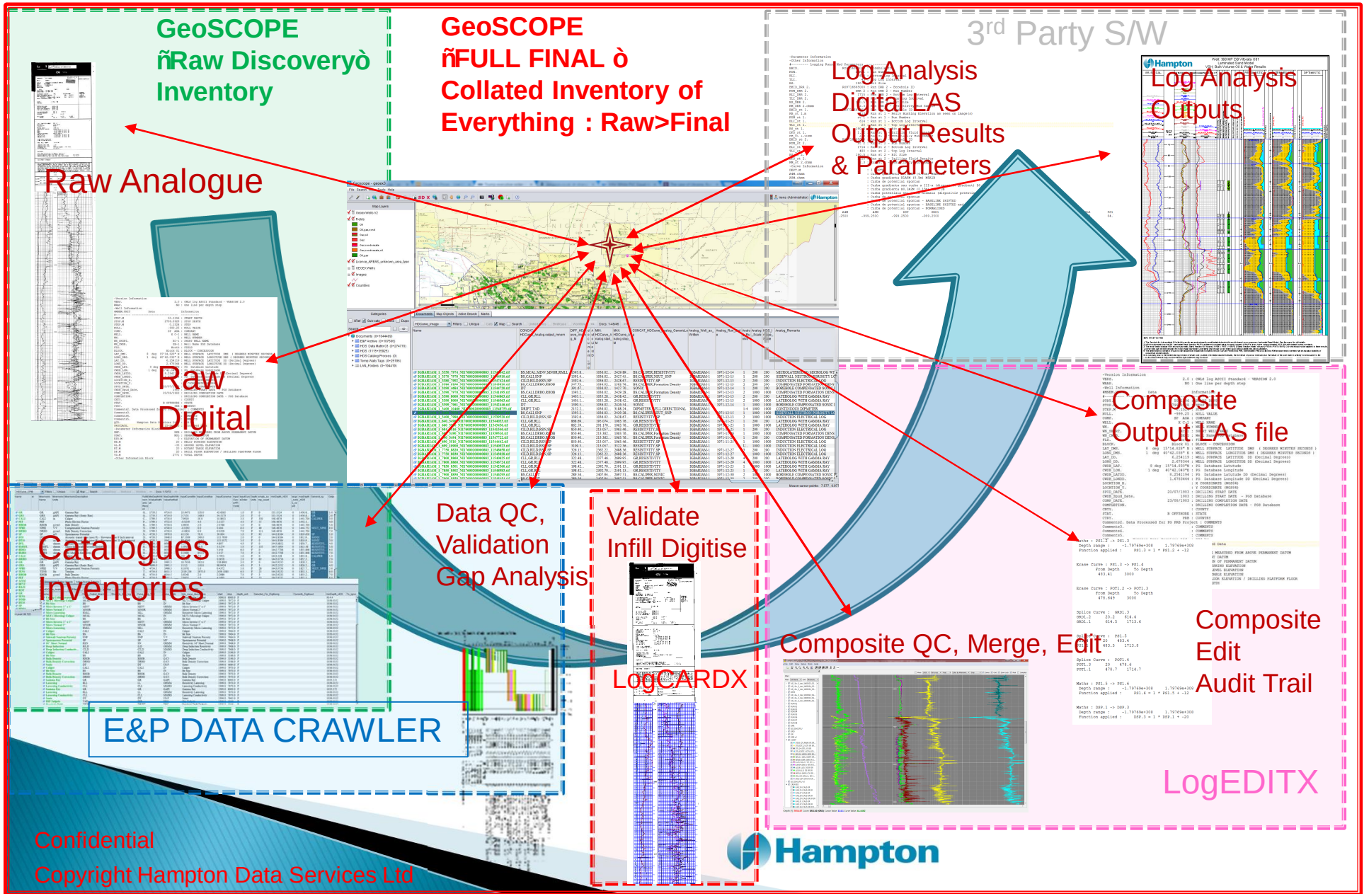
GeoSCOPE can manage E&P workflows and the data value chain:
Capture the Provenance and Audit information for each Data Object :



Example 1 – Reach Energy Bhd

- KL Registered and KL & HK funded E&P Co
- Acquires controlling interest in Emir Oil LLC Kazakhstan
  - Assets have seen several previous Operators
  - Legacy Data processed in different E&P cultures
    - Mixed English, Russian, Mandarin & Kazakh
  - Many data silos in different countries/institutes – gathered
  - Many previous studies done
  - Much data duplicated
  - Multiple seismic versions,
  - Multiple (poorly labelled) maps frequently with unknown datums etc
  - Mobile Expat Management – who want to "work & access data – on the move"
  - Require secure data access to consultants and consultancies doing reserves audits, evaluation, subsurface modelling

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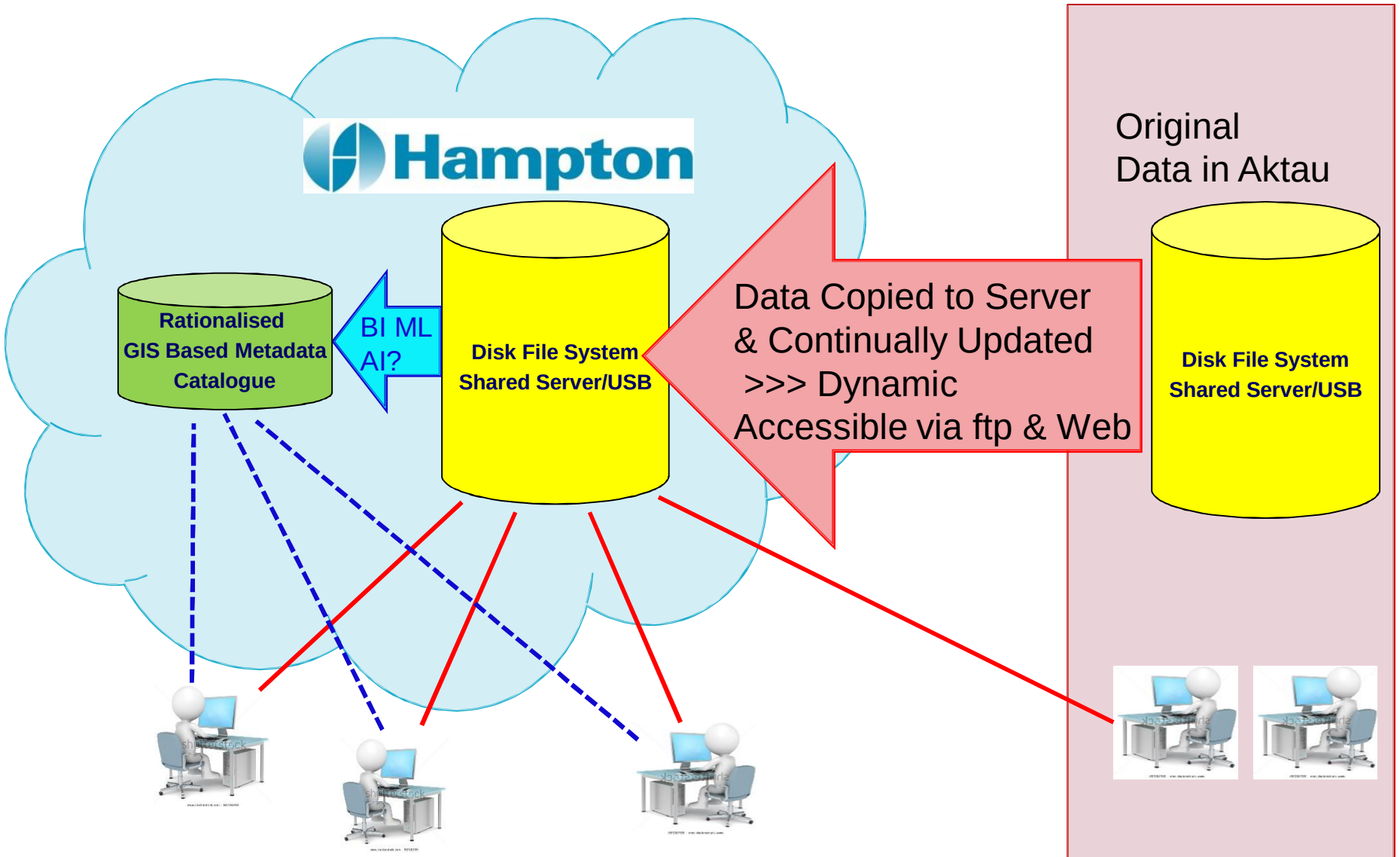

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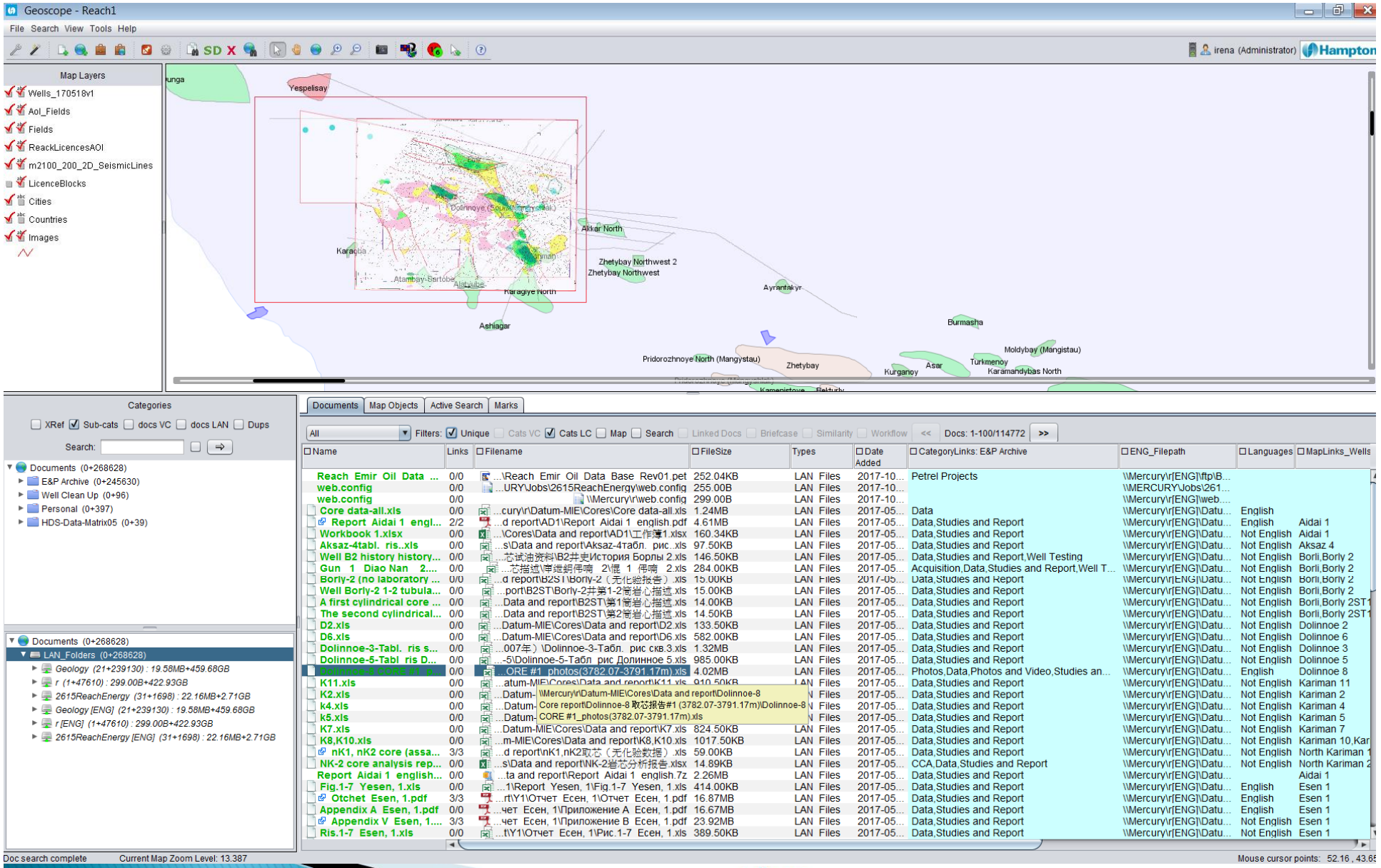
Total of 268,628 files managed by GeoSCOPE > without duplicates = 114722



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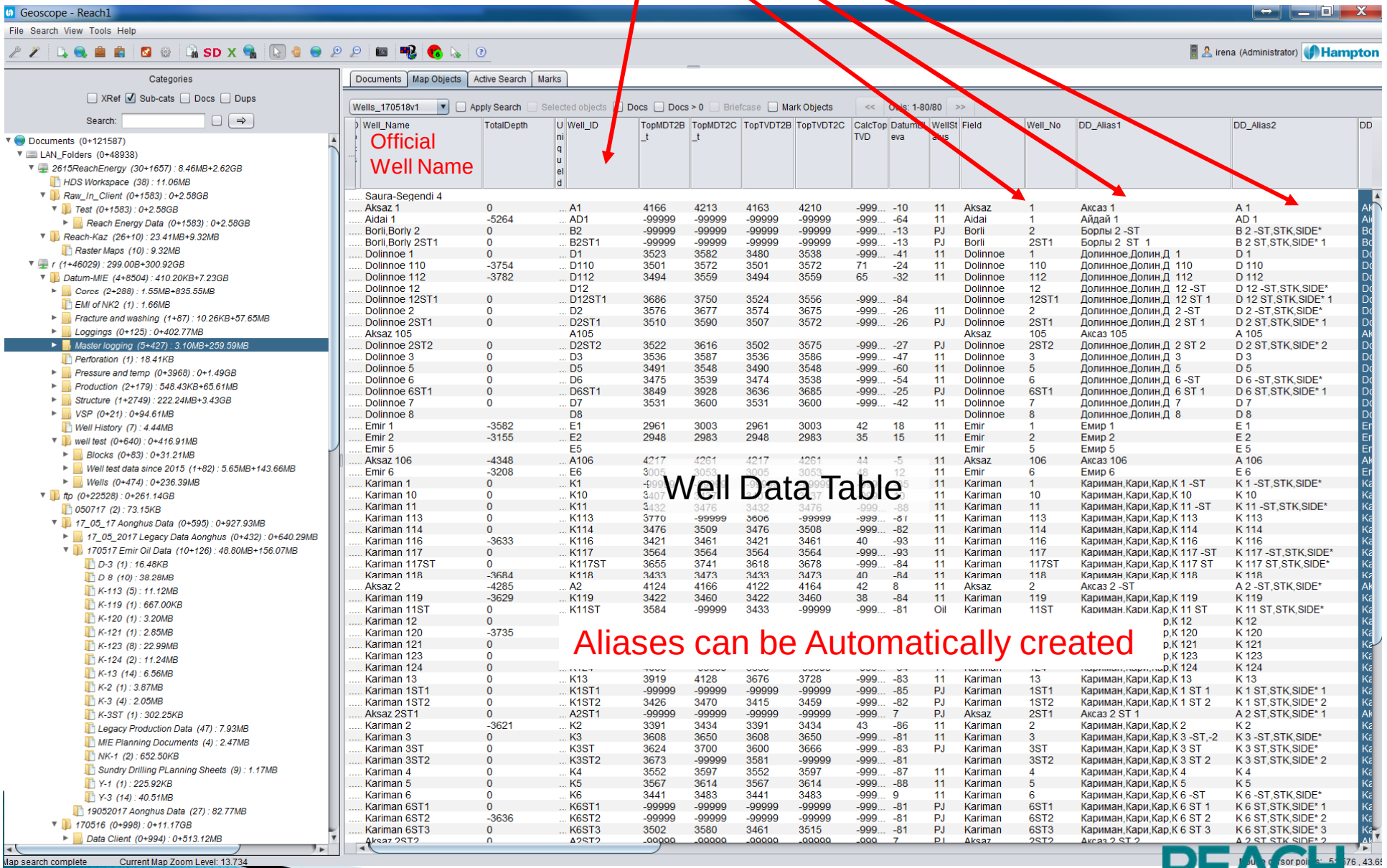
Added problem of well/field/asset ALIAS names



Well_Name	TotalDepth	Unique	Well_ID	TopMDT2B_t	TopMDT2C_t	TopTVDT2B	TopTVDT2C	CalcTopTVD	DatumElev a	WellStatus	Field	Well_No	DD_Alias1	DD_Alias2	DD
Saura-Segendi 4															
Aksaz 1	0		A1	4166	4213	4163	4210	-999...	-10	11	Aksaz	1	Аксаз 1	A 1	Ak
Aidai 1	-5264		AD1	-99999	-99999	-99999	-99999	-999...	-64	11	Aidai	1	Айдай 1	AD 1	Ai
Borli,Borly 2	0		B2	-99999	-99999	-99999	-99999	-999...	-13	PJ	Borli	2	Борлы 2 -ST	B 2 -ST,STK,SIDE*	Bo
Borli,Borly 2ST1	0		B2ST1	-99999	-99999	-99999	-99999	-999...	-13	PJ	Borli	2ST1	Борлы 2 ST 1	B 2 ST,STK,SIDE* 1	Bo
Dolinnoe 1	0		D1	3523	3582	3480	3538	-999...	-41	11	Dolinnoe	1	Долинное,Долин,Д 1	D 1	Do
Dolinnoe 110	-3754		D110	3501	3572	3501	3572	71	-24	11	Dolinnoe	110	Долинное,Долин,Д 110	D 110	Do
Dolinnoe 112	-3782		D112	3494	3559	3494	3559	65	-32	11	Dolinnoe	112	Долинное,Долин,Д 112	D 112	Do
Dolinnoe 12			D12								Dolinnoe	12	Долинное,Долин,Д 12 -ST	D 12 -ST,STK,SIDE*	Do
Dolinnoe 12ST1	0		D12ST1	3686	3750	3524	3556	-999...	-84		Dolinnoe	12ST1	Долинное,Долин,Д 12 ST 1	D 12 ST,STK,SIDE* 1	Do
Dolinnoe 2	0		D2	3576	3677	3574	3675	-999...	-26	11	Dolinnoe	2	Долинное,Долин,Д 2 -ST	D 2 -ST,STK,SIDE*	Do
Dolinnoe 2ST1	0		D2ST1	3510	3590	3507	3572	-999...	-26	PJ	Dolinnoe	2ST1	Долинное,Долин,Д 2 ST 1	D 2 ST,STK,SIDE* 1	Do
Aksaz 105			A105								Aksaz	105	Аксаз 105	A 105	Ak
Dolinnoe 2ST2	0		D2ST2	3522	3616	3502	3575	-999...	-27	PJ	Dolinnoe	2ST2	Долинное,Долин,Д 2 ST 2	D 2 ST,STK,SIDE* 2	Do
Dolinnoe 3	0		D3	3536	3587	3536	3586	-999...	-47	11	Dolinnoe	3	Долинное,Долин,Д 3	D 3	Do
Dolinnoe 5	0		D5	3491	3548	3490	3548	-999...	-60	11	Dolinnoe	5	Долинное,Долин,Д 5	D 5	Do
Dolinnoe 6	0		D6	3475	3539	3474	3538	-999...	-54	11	Dolinnoe	6	Долинное,Долин,Д 6 -ST	D 6 -ST,STK,SIDE*	Do
Dolinnoe 6ST1	0		D6ST1	3849	3928	3636	3685	-999...	-25	PJ	Dolinnoe	6ST1	Долинное,Долин,Д 6 ST 1	D 6 ST,STK,SIDE* 1	Do
Dolinnoe 7	0		D7	3531	3600	3531	3600	-999...	-42	11	Dolinnoe	7	Долинное,Долин,Д 7	D 7	Do
Dolinnoe 8			D8								Dolinnoe	8	Долинное,Долин,Д 8	D 8	Do
Emir 1	-3582		E1	2961	3003	2961	3003	42	18	11	Emir	1	Емир 1	E 1	Em
Emir 2	-3155		E2	2948	2983	2948	2983	35	15	11	Emir	2	Емир 2	E 2	Em
Emir 5			E5								Emir	5	Емир 5	E 5	Em
Aksaz 106	-4348		A106	4217	4261	4217	4261	44	-5	11	Aksaz	106	Аксаз 106	A 106	Ak
Emir 6	-3208		E6	3005	3053	3005	3053	48	12	11	Emir	6	Емир 6	E 6	Em
Kariman 1	0		K1	-999...	-999...	-999...	-999...	-999...	-85	11	Kariman	1	Кариман,Кари,Кар,К 1 -ST	K 1 -ST,STK,SIDE*	Ka
Kariman 10	0		K10	3407	3470	3407	3470	63	0	11	Kariman	10	Кариман,Кари,Кар,К 10	K 10	Ka
Kariman 11	0		K11	3432	3476	3432	3476	-999...	-88	11	Kariman	11	Кариман,Кари,Кар,К 11 -ST	K 11 -ST,STK,SIDE*	Ka
Kariman 113	0		K113	3770	-99999	3606	-99999	-999...	-81	11	Kariman	113	Кариман,Кари,Кар,К 113	K 113	Ka
Kariman 114	0		K114	3476	3509	3476	3508	-999...	-82	11	Kariman	114	Кариман,Кари,Кар,К 114	K 114	Ka
Kariman 116	-3633		K116	3421	3461	3421	3461	40	-93	11	Kariman	116	Кариман,Кари,Кар,К 116	K 116	Ka
Kariman 117	0		K117	3564	3564	3564	3564	-999...	-93	11	Kariman	117	Кариман,Кари,Кар,К 117 -ST	K 117 -ST,STK,SIDE*	Ka
Kariman 117ST	0		K117ST	3655	3741	3618	3678	-999...	-84	11	Kariman	117ST	Кариман,Кари,Кар,К 117 ST	K 117 ST,STK,SIDE*	Ka
Kariman 118	-3684		K118	3433	3473	3433	3473	40	-84	11	Kariman	118	Кариман,Кари,Кар,К 118	K 118	Ka
Aksaz 2	-4285		A2	4124	4166	4122	4164	42	8	11	Aksaz	2	Аксаз 2 -ST	A 2 -ST,STK,SIDE*	Ak
Kariman 119	-3629		K119	3422	3460	3422	3460	38	-84	11	Kariman	119	Кариман,Кари,Кар,К 119	K 119	Ka
Kariman 11ST	0		K11ST	3584	-99999	3433	-99999	-999...	-81	Oil	Kariman	11ST	Кариман,Кари,Кар,К 11 ST	K 11 ST,STK,SIDE*	Ka
Kariman 12	0												p,К 12	K 12	Ka
Kariman 120	-3735												p,К 120	K 120	Ka
Kariman 121	0												p,К 121	K 121	Ka
Kariman 123	0												p,К 123	K 123	Ka
Kariman 124	0												p,К 124	K 124	Ka
Kariman 13	0		K13	3919	4128	3676	3728	-999...	-83	11	Kariman	13	Кариман,Кари,Кар,К 13	K 13	Ka
Kariman 1ST1	0		K1ST1	-99999	-99999	-99999	-99999	-999...	-85	PJ	Kariman	1ST1	Кариман,Кари,Кар,К 1 ST 1	K 1 ST,STK,SIDE* 1	Ka
Kariman 1ST2	0		K1ST2	3426	3470	3415	3459	-999...	-82	PJ	Kariman	1ST2	Кариман,Кари,Кар,К 1 ST 2	K 1 ST,STK,SIDE* 2	Ka
Aksaz 2ST1	0		A2ST1	-99999	-99999	-99999	-99999	-999...	7	PJ	Aksaz	2ST1	Аксаз 2 ST 1	A 2 ST,STK,SIDE* 1	Ak
Kariman 2	-3621		K2	3391	3434	3391	3434	43	-86	11	Kariman	2	Кариман,Кари,Кар,К 2	K 2	Ka
Kariman 3	0		K3	3608	3650	3608	3650	-999...	-81	11	Kariman	3	Кариман,Кари,Кар,К 3 -ST,-2	K 3 -ST,STK,SIDE*	Ka
Kariman 3ST	0		K3ST	3624	3700	3600	3666	-999...	-83	PJ	Kariman	3ST	Кариман,Кари,Кар,К 3 ST	K 3 ST,STK,SIDE*	Ka
Kariman 3ST2	0		K3ST2	3673	-99999	3581	-99999	-999...	-81		Kariman	3ST2	Кариман,Кари,Кар,К 3 ST 2	K 3 ST,STK,SIDE* 2	Ka
Kariman 4	0		K4	3552	3597	3552	3597	-999...	-87	11	Kariman	4	Кариман,Кари,Кар,К 4	K 4	Ka
Kariman 5	0		K5	3567	3614	3567	3614	-999...	-88	11	Kariman	5	Кариман,Кари,Кар,К 5	K 5	Ka
Kariman 6	0		K6	3441	3483	3441	3483	-999...	9	11	Kariman	6	Кариман,Кари,Кар,К 6 -ST	K 6 -ST,STK,SIDE*	Ka
Kariman 6ST1	0		K6ST1	-99999	-99999	-99999	-99999	-999...	-81	PJ	Kariman	6ST1	Кариман,Кари,Кар,К 6 ST 1	K 6 ST,STK,SIDE* 1	Ka
Kariman 6ST2	-3636		K6ST2	-99999	-99999	-99999	-99999	-999...	-81	PJ	Kariman	6ST2	Кариман,Кари,Кар,К 6 ST 2	K 6 ST,STK,SIDE* 2	Ka
Kariman 6ST3	0		K6ST3	3502	3580	3461	3515	-999...	-81	PJ	Kariman	6ST3	Кариман,Кари,Кар,К 6 ST 3	K 6 ST,STK,SIDE* 3	Ka
Aksaz 2ST2	0		A2ST2	-99999	-99999	-99999	-99999	-999...	7	PJ	Aksaz	2ST2	Аксаз 2 ST 2	A 2 ST,STK,SIDE* 2	Ak

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REACH ENERGY

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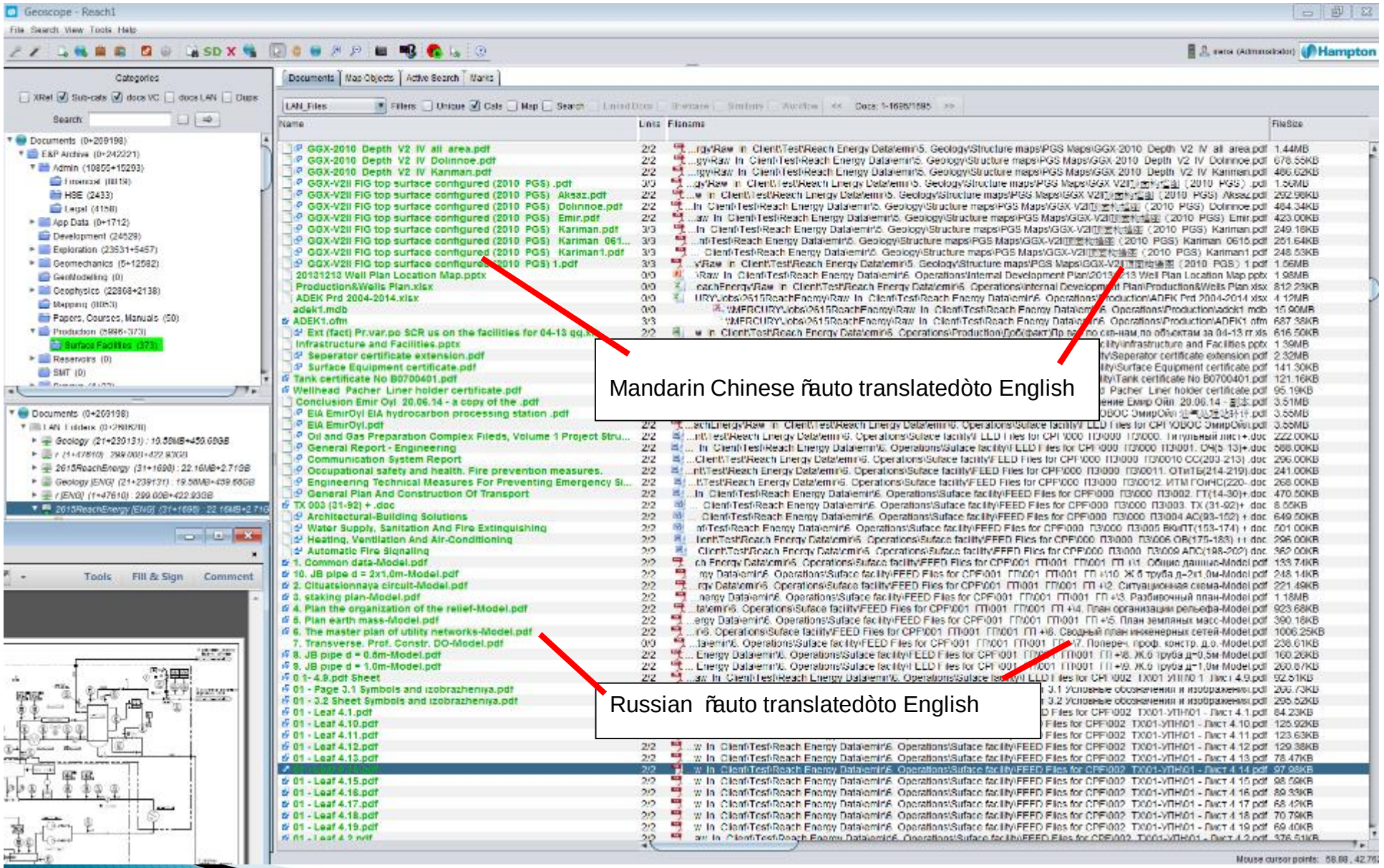

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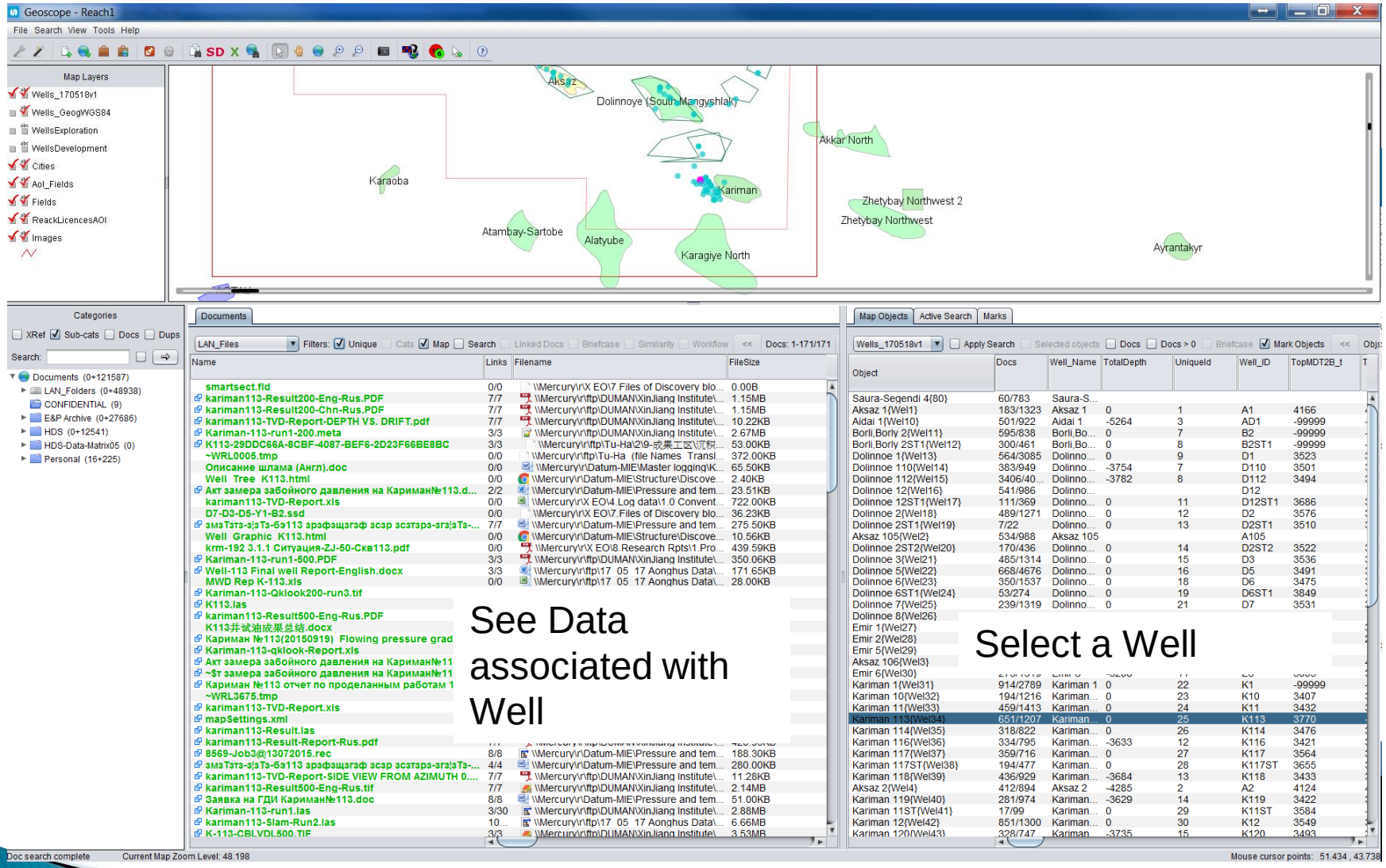

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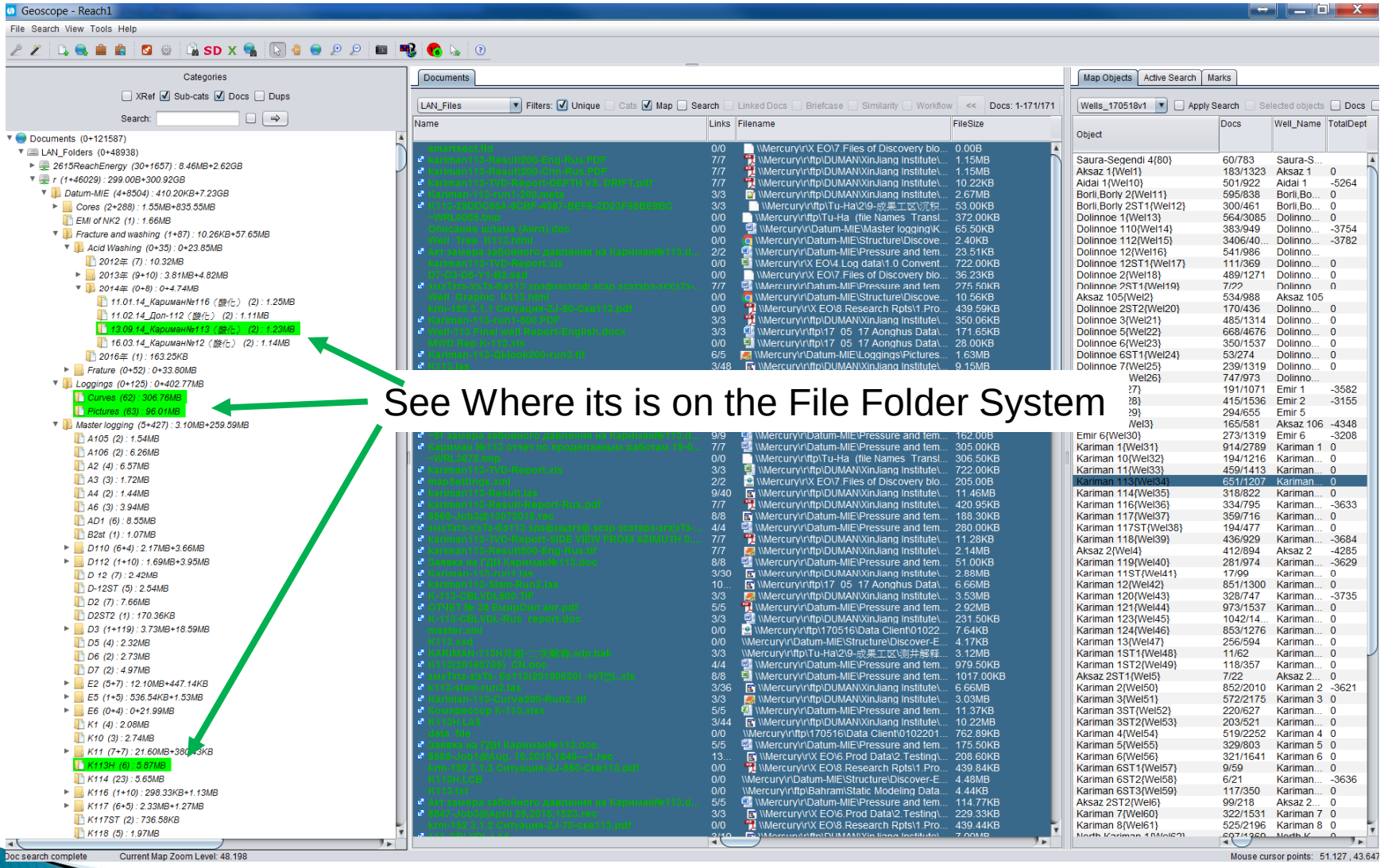

See Where its is on the File Folder System

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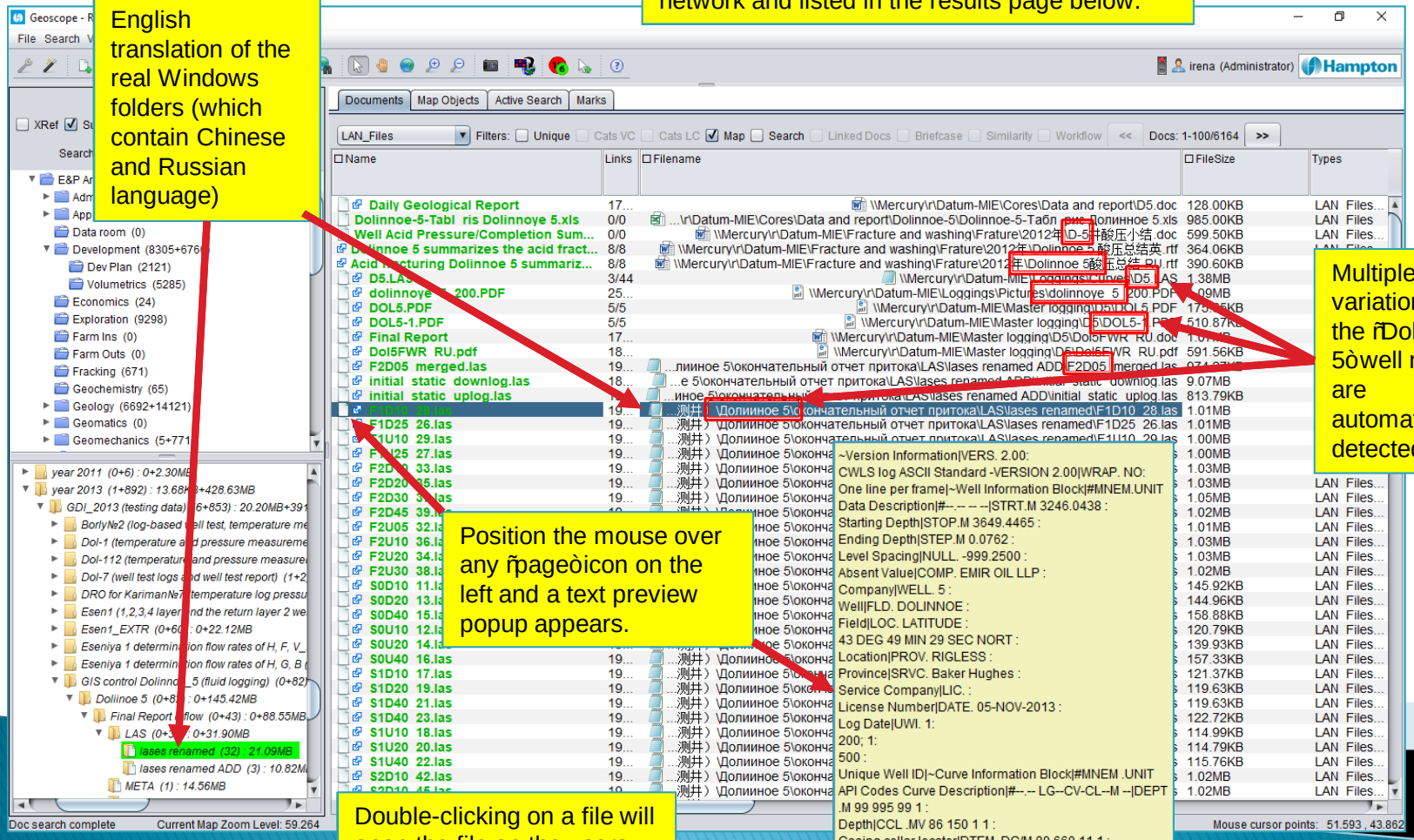
Selected file locations are shown in a virtual English translation of the real Windows folders (which contain Chinese and Russian language)

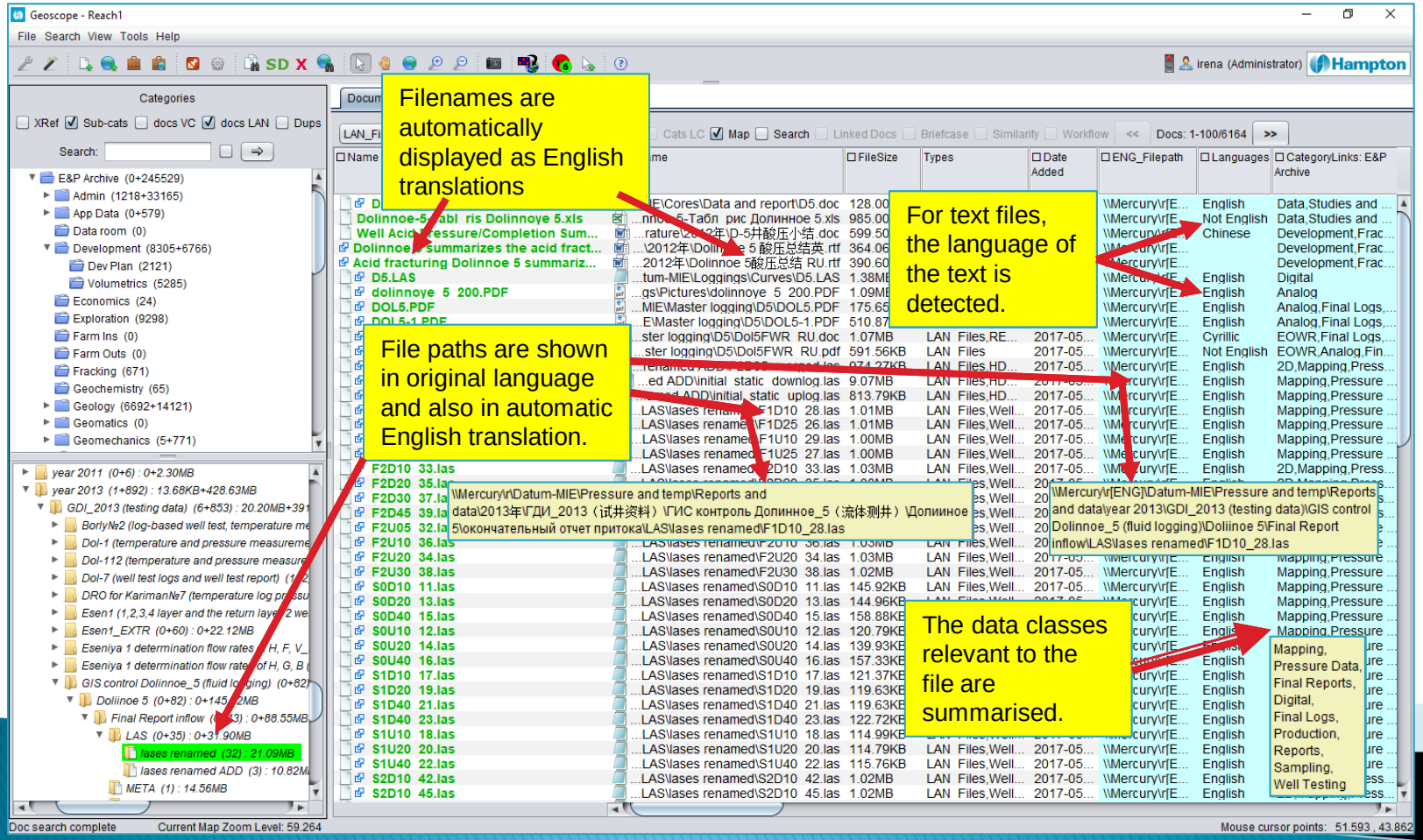
é after clicking on the well, the files for well ñDolinnoe-5òare gathered from across the network and listed in the results page below.

Multiple variations of the ñDolinnoe-5òwell name are automatically detected.

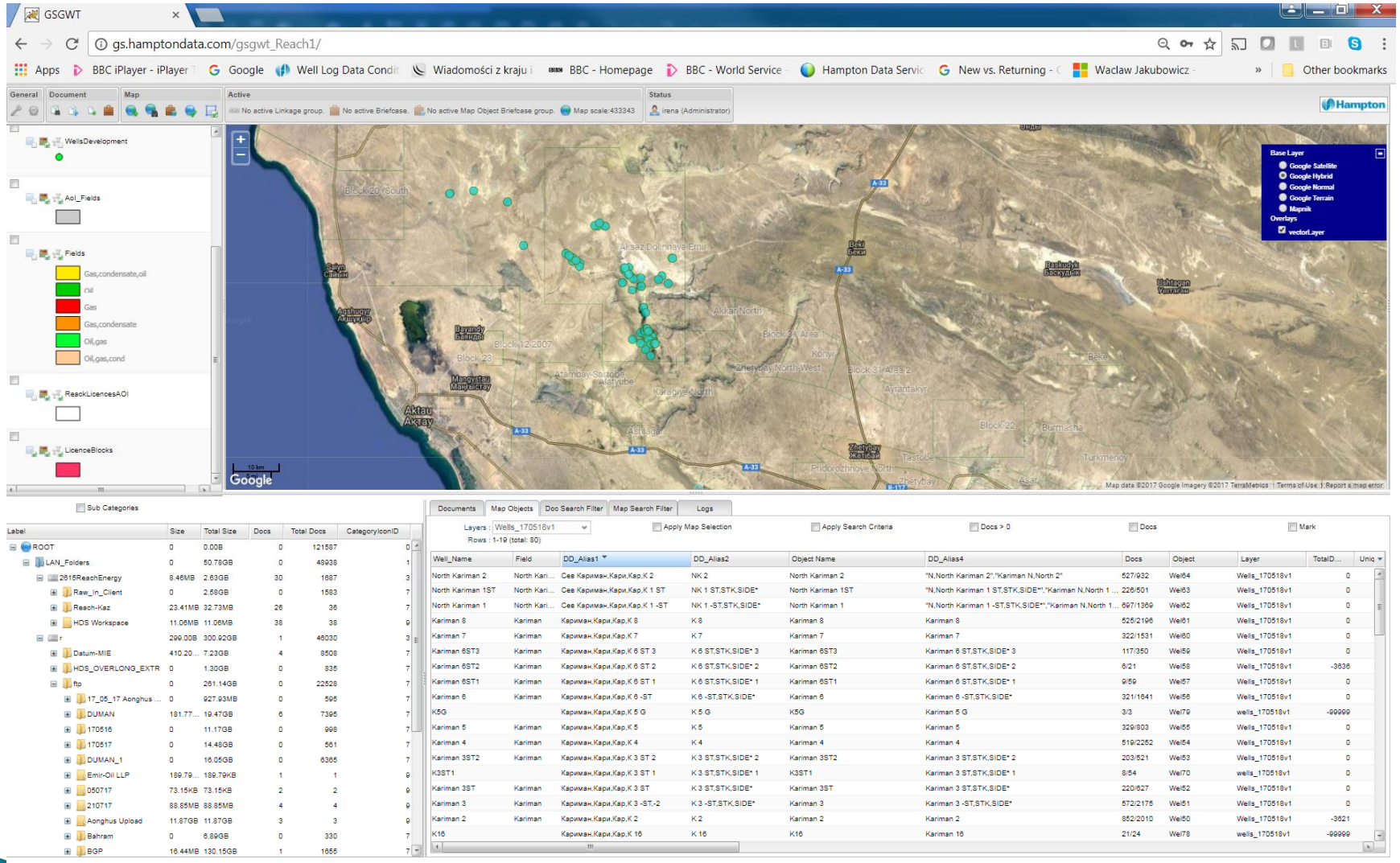
Position the mouse over any ñpageòicon on the left and a text preview popup appears.

Double-clicking on a file will open the file on the users PC.




Filenames are automatically displayed as English translations
For text files, the language of the text is detected.
File paths are shown in original language and also in automatic English translation.
The data classes relevant to the file are summarised.
Mapping, Pressure Data, Final Reports, Digital, Final Logs, Production, Reports, Sampling, Well Testing

Catalogue Delivered via a Web Browser



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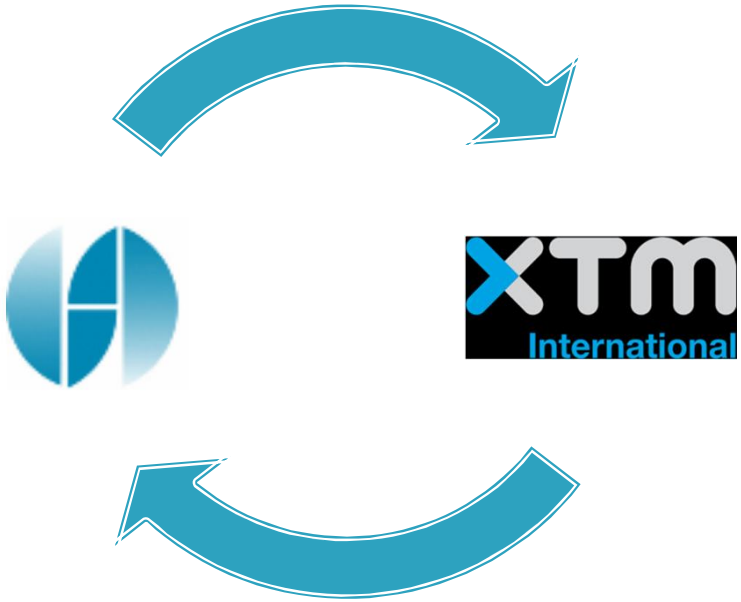
Phase 1: Project Initialisation

- Identify all documents in the project
- Derive actual and translated <folder>\<file> names
- Extract meta data from translated file paths and by document scanning to create virtual file folder hierarchy.
- GeoSCOPE and XTM operate collaboratively, in the background, to provide translation between >190 languages.



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Phase 2: Fast draft document translation

- Translate individual documents
- Batch process several files
  - Add to “Draft Translation” briefcase.
  - Completed Translations returned in “Completed Draft Translations”
- Translated documents stored in a separate folder/file hierarchy
  - Original document is tagged to show that a translation exists.
  - Translated document is tagged to indicate that it is a draft.
- GeoSCOPE works with XTM and and cloud based Machine Translation engines to provide a fast turnaround time

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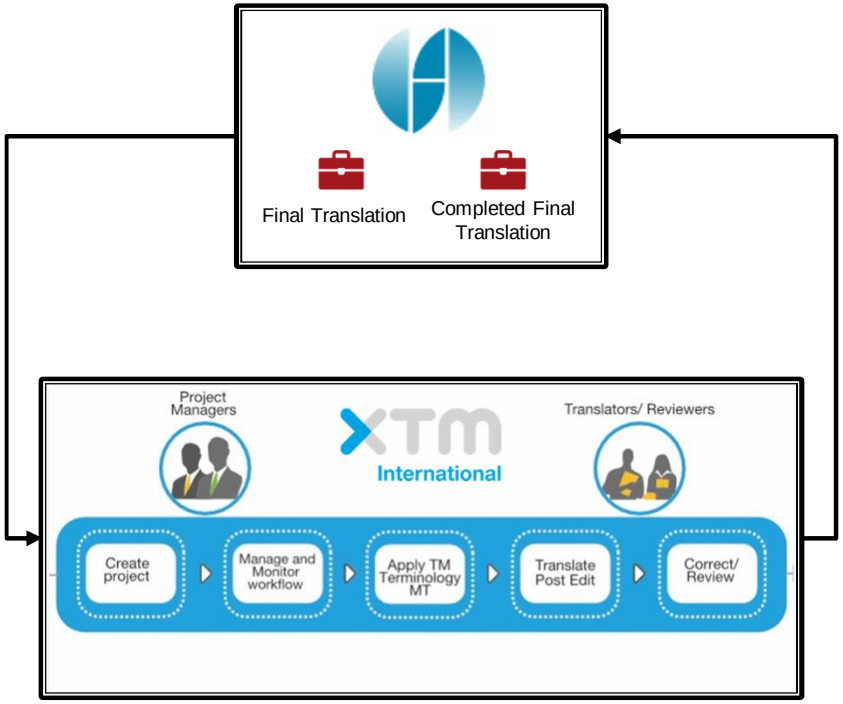
Phase 3: Final document translation

- Selected Files placed in a GeoSCOPE briefcase.
- The briefcase contents enter a XTM managed translation process:
  - Quality of the final document(s) is managed by linguistic and domain specialists.
- Finalised documents are returned to the user/project and are appropriately tagged.



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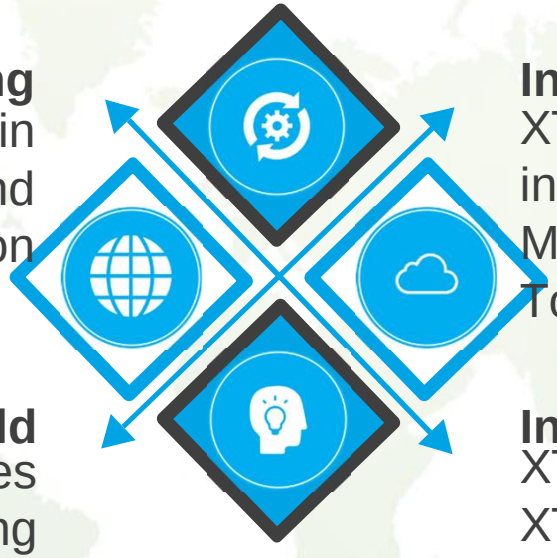
XTM International

The Beginning
XTM International was formed in 2002 by Bob Willans and Andrzej Zydron



Independent Developer
XTM International is an independent Translation Management System and CAT Tool developer.

Around the world
XTM International has offices around the world, including United Kingdom, United States, Poland, Argentina, Ireland and Japan

Innovative at its core
XTM International launched XTM Cloud a web based Translation Management System in 2010

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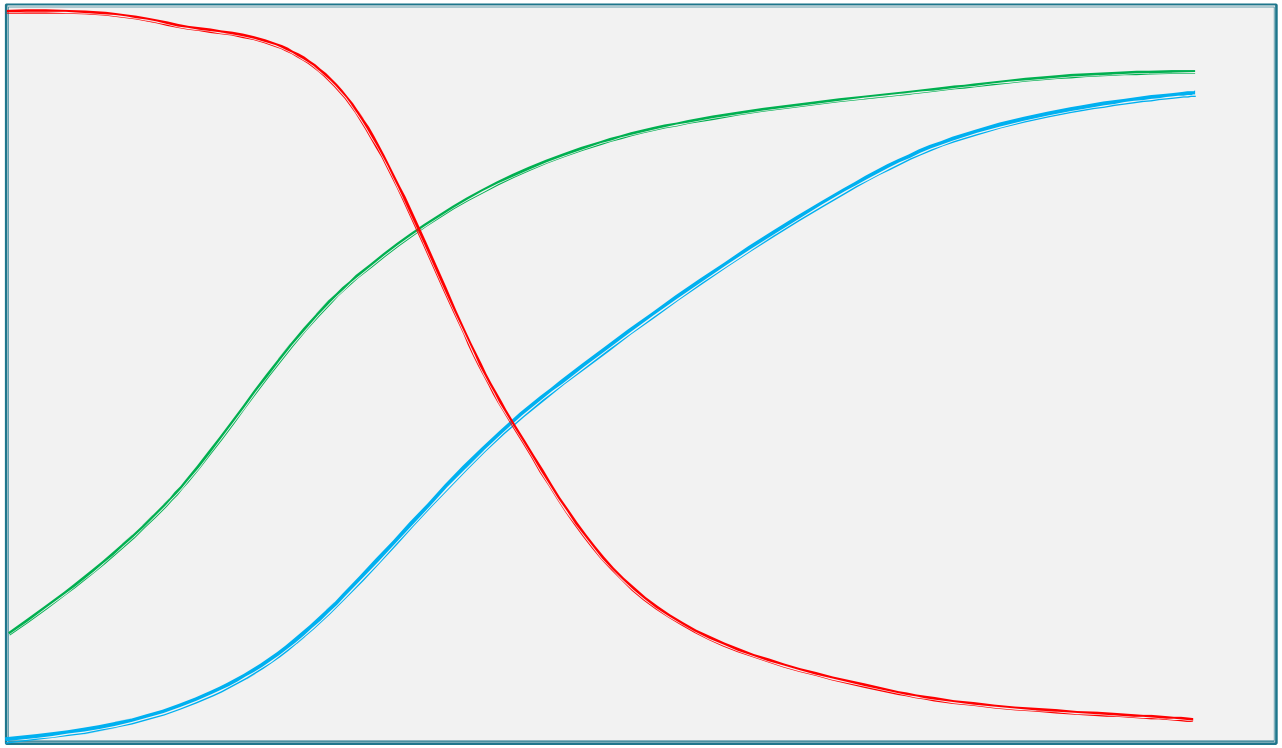
Change in IM/DM of Key Well Data for technical users

Original State

Current State



100 %

0 %

Average % of well Interval covered by Trusted Composite Log Change from ~ 25% to ~80%

% of key well data identified & Validated:
- Core
- Directional
- Logs
- Well tests/sampling
- Reports

Change from ~ 10% to ~70%

Time Reduction in Finding, Validating, Preparing Key Well data for analysis:
- Petrophysics
- Reservoir Engineering
- Geological

Saving ~ 80% time in finding/sorting/preparing data

Q3 2017 Q4 2017 Q1 2018 Q2 2018 Q3 2018 Q4 2018

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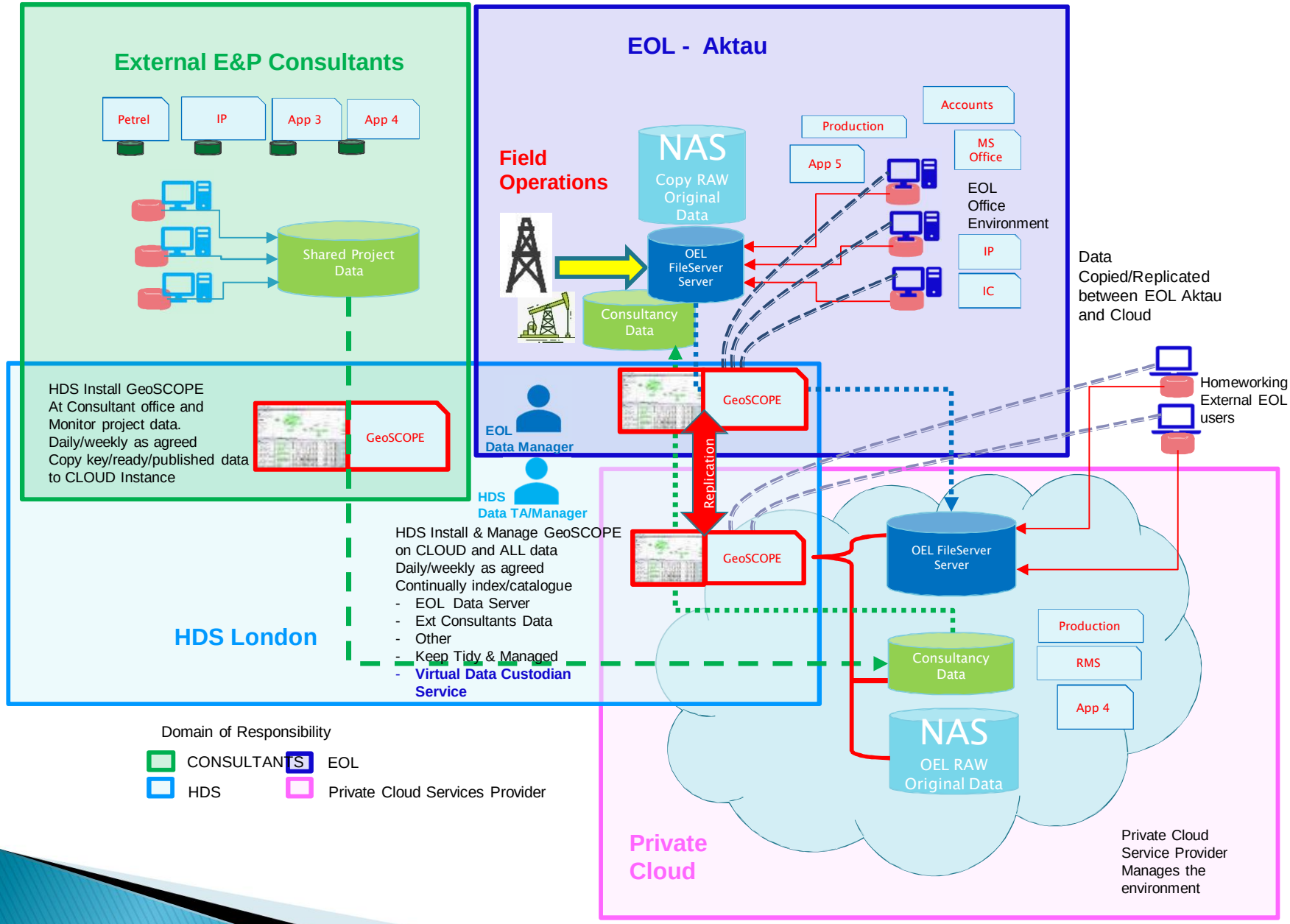
Developing Data Management Configuration



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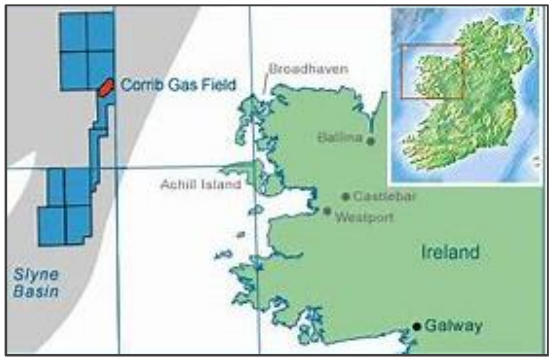
Example 2 – Nephin Energy Ltd

- New Dublin Registered Company
- Currently in process of acquiring SEPIL's share of Corrib Gas field – West of Ireland on behalf of a Canadian Pension Fund – CPPIB
- Corrib Produces ~60% of RoI Gas
- Non Operator
- >18TB & 170k of technical data transfer
- Quick & thorough audit of technical data required



- NEPHIN wish to outsource:
  - IT Infrastructure to the Cloud
  - IM/DM
  - Technical Services: Geology Geophysics Reservoir Engineering

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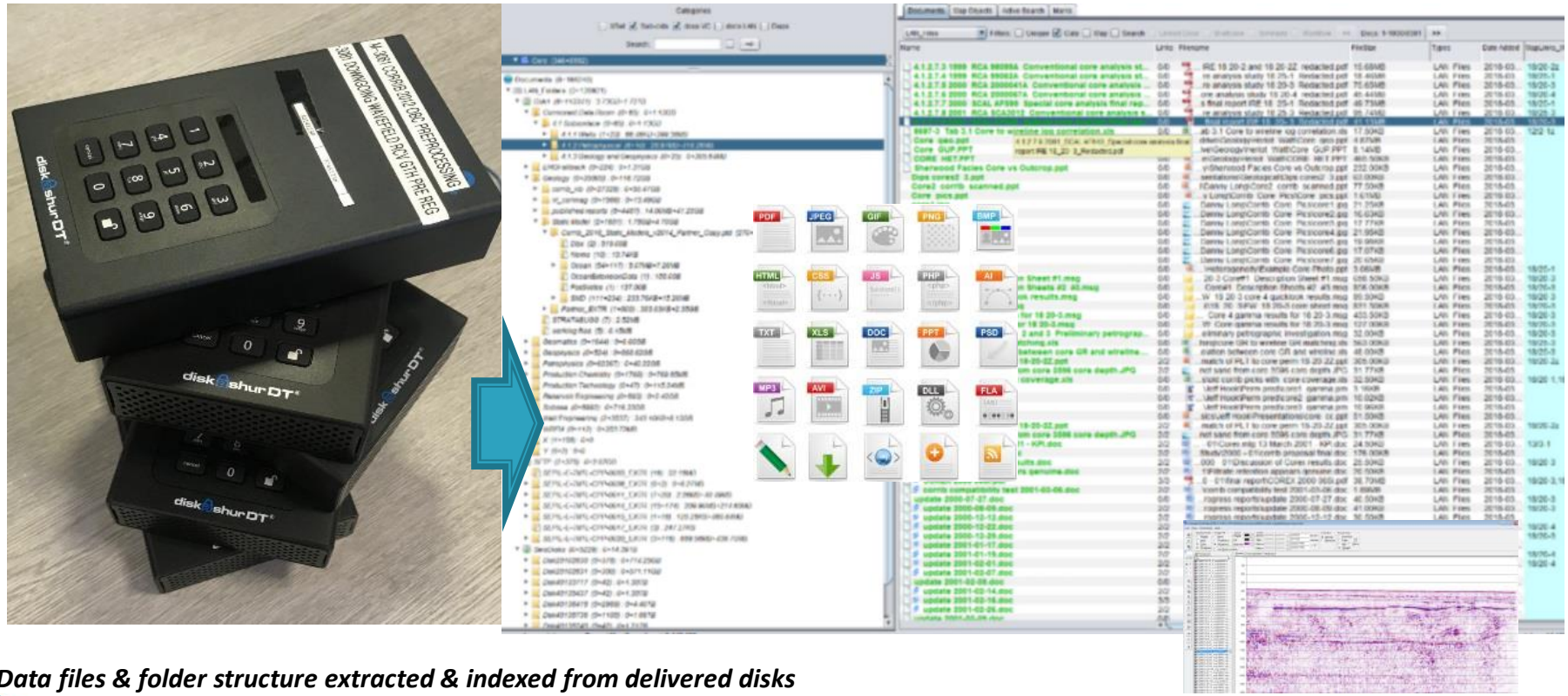
As part of the transfer process, Nephin is in the process of receiving the SEPIL technical data package of some 18 TB in disk volume, containing some 170k data files. Seismic data makes up the bulk of this data volume, taking up 15 TB, but other files include all the normal types associated with a producing field including but not limited to wells data, logs, PETREL subsurface models, production data, facilities drawings (CAD DXF DWG files) and ROV surveys



Data files & folder structure extracted & indexed from delivered disks

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Key Advantages of cloud based IT and IM/DM

- **Minimal IT costs in-house (massive total IT cost reductions)**

  This is primarily a result from outsourcing of Corporate IT to the CLOUD

- **Minimal IM/DM costs in-house**

  *This is primarily the result of outsourcing & virtualising Corporate IM/DM to a 'CLOUD Ready' environment using Hampton Data GeoSCOPE and **V**irtual **D**ata **C**ustodian **S**ervice which:*

- **Operates on the data structure "As Is" and therefore avoids the need to create new file folder systems & data duplication**
- **Operates "Virtually" & flexibly from anywhere, from multiple simultaneous locations, as long as broadband access to the www is available**
- **Allows easy access to data for consultants & other Co's as and when needed.**
- **Keeps ALL Data managed continually in real-time for all operational and evaluation needs, keeping it "Evergreen" and " Validated" 24/7 and "Operationally Ready " .**
  - *Data is Autonomously & Continually*
    - *scanned for :Duplications / New data arrivals / creations /deletions / renames / Changes in file content or file movement*
    - *Mined for content which is extracted from files and records*
    - *Tagged/classified to multiple Taxonomies (client defined) using "intelligent HDS data mining" algorithms (both BI & ML based)*
    - *Tagged/linked to spatial entities (Geo-tagged) – wells, surveys, field, block etc*
  - *Manually Validated as regards set TAXONOMIES (Classes) and SPATIAL Links made,*

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Key Advantages of cloud based IT and IM/DM

- **Manages ALL "users work & activity " in the background, WITHOUT the need for the users to be involved in an IM/DM role (and EDMS form filling or data entry to Corp DB) - providing apparent seamless "Lite" E&P IM/DM for the user.**

- **Allows users to continue working and creating data, information and KNOWLEDGE without any superimposed IM/DM workflows.**
  - *Users have freedom to work, create and evaluate in the style that is most comfortable to them*
  - *Petroleum Engineers, Geologist, Geophysicist, etc. can spend max time in evaluation and decision making and minimise time spent in DM & search, therefore releasing them from non-core tasks*

- **Efficiently and thoroughly Captures Data, Information, Knowledge & Corporate IP**

- **Provides online Data Support Services centre at fixed commodity charges on a per usage basis for:**
  - **Workstation loading**
  - **Data conversion**
  - **Data validation**
  - **Digitising**
  - **Editing/compositing**
  - **Processing etc**

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Summary of Advantages of Cloud Based Virtual & Autonomous E&P IM/DM

- **IT and IM/DM costs are significantly reduced**
- **Allows flexibility & distributed remote working**
- **Provides an "central" automated indexing, classification, geo-tagging of the content on a dynamic shared filesystem, therefore:**
  - **KNOWLEDGE and INFORMATION Created and placed anywhere on the filesystem, by all company users & contractors, is automatically identified, tagged and retained.**
- **The "IM/DM Management" of KNOWLEDGE & IP becomes independent of :**
  - **the users and corporate IM/DM skills and capability,** and does not rely on the users to do any "tagging" or" data key-in" or "entry" into a DM systems for future retrieval and search by others.
    - **the presence of the data originator (or former data owner) in the Company** and therefore NEVER lost. It's quickly, easily & intuitively found by new personnel and other staff unfamiliar with the data, as well as any outside consultants on demand.
  - **The Company retains its KNOWLEDGE & IP** once the key staff member/consultant leaves the project or the Company.

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E&P Applications on the Cloud ï where are they ?

Basic cloud based IM/DM ï is here !.

But the big E&P applications providers tend to favour use of ótheirô software on their cloud. Reluctant to park it on private clouds. Licencing is generally restrictive.

The majority of the E&P applications are still traditional client server , desktop applications working on in-house infrastructure. Few are web browser / internet enabled. But Virtual Machines can be created on a cloud environment allowing them to accessed and used remotely (providing the licence keys allow).

But ósomeô significant E&P software providers, without a large vested interest in promoting ñtheir cloudò, are becoming flexible

There are however smaller embryonic E&P development initiatives that are developing browser & cloud based applications

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https://operations.antaeus.cloud/

Why did we create Antaeus?

O&G Industry challenges of today

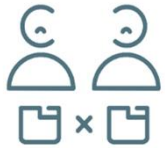
Scattered Data,
Impaired Analysis

Siloed
Solutions

Outdated
Systems

Inaccessible
Solutions

Poor User
Experience



Limited
Worksharing

High
Capital Cost

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Why did we build our cloud platform?

How Antaeus' platform (GeoFitTM) is designed

Data Management

Single Global Platform
Accessible Anywhere

Innovative &
secure cloud
technology

Open to 3rd Party Apps
Continuous Development

Intuitive User Interface,
Improved Connectivity

Internal and External
Workspaces

Scalable Cost
Software As A Service
SaaS model

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GeoFit™ Cloud Collaborative Platform

Internal and External Workspaces

Independent internal Project Collaboration Workspaces (PCW)

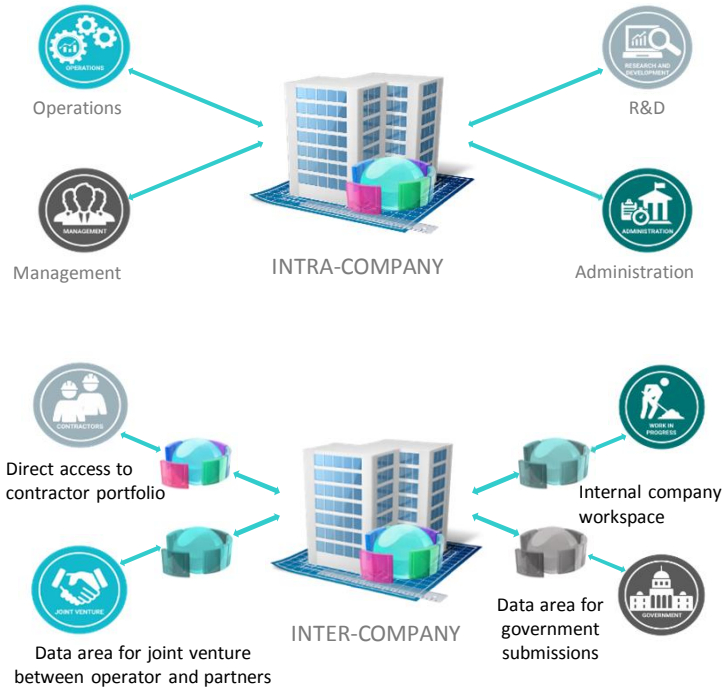
Partner Collaboration Workspace for external worksharing

Instantaneous changes reflected on common workspaces

→ No breach of security during worksharing

→ Preserved confiden□ality for projects and nego□a□ons

→ Enhanced collabora□on within the company and with partners



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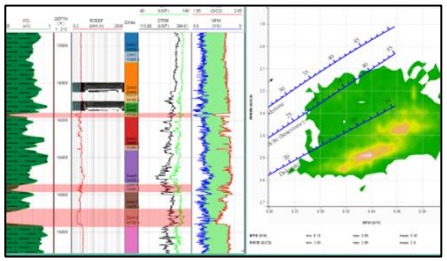
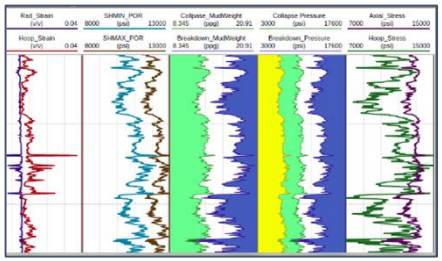
Current Domain Algorithms

Petrophysics



(Conventionals and Unconventionals Interpretation)

Geomechanics



(Pore pressure and Wellbore Stability)

Coming Soon;

Realtime Measurement
Drilling & Completion
Production

+ Custom Development to suit client Requirements

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Our Plan.

Open to Third Party Solutions, Continuous Development

Independent development, no vendor partiality

Secure hosting for third party applications

Plan for continuous expansion of Antaeus suite technical apps

→ One-stop shop for all current and future technical software needs on the cloud

→ User freedom to choose best app for the job

3rd party Apps

Partners added monthly

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Thank You

Hampton Data Services Ltd

Tel : +44 208(0) 335 4300

Fax : +22 208(0) 335 3863

info@hamptondata.com

www.hamptondata.com

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