



A New Approach to Information Discovery

Betsy Palkowsky
Product Manager, MetaCarta, Inc.
March 7, 2005
Booth 308

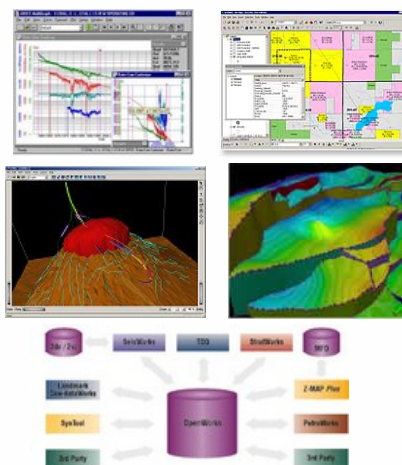
The energy industry has made large investments in the use of new technologies, GIS, Search and Document Management to better utilize semi-structured and unstructured information. While these technologies address many needs, they fall short of pulling the information together in a common way. The energy industry requires access to data, information, and knowledge located across the virtual organization.

A mechanism is needed which enables data search and visual data fusion to increase the value of the corporate investment. Geographic text search provides a new approach to information discovery. Knowing as much as possible about geographic locations is essential to an energy companies' economic viability. Although 70% of all documents refer to locations, until recently there has been no way to take full advantage of this geographically rich information. Fusing geographic text search with existing technologies is a key component to successfully finding what an organization knows and where they know it.

- Challenges of Information Discovery
- Traditional Approaches
- A New Approach
- Dramatic Results
- Questions

Structured Data

**Well,
Production,
Historical,
Economic,
Drilling,
Projects**



**GIS
Interpretation Systems
CAD/CAM
Commercial Resources
Business Applications**

- Industry focus for 20+ years has been on structured data
- Structured data implies a well understood underlying data model
- Lends itself to analysis, data mining, information discovery

Unstructured Data

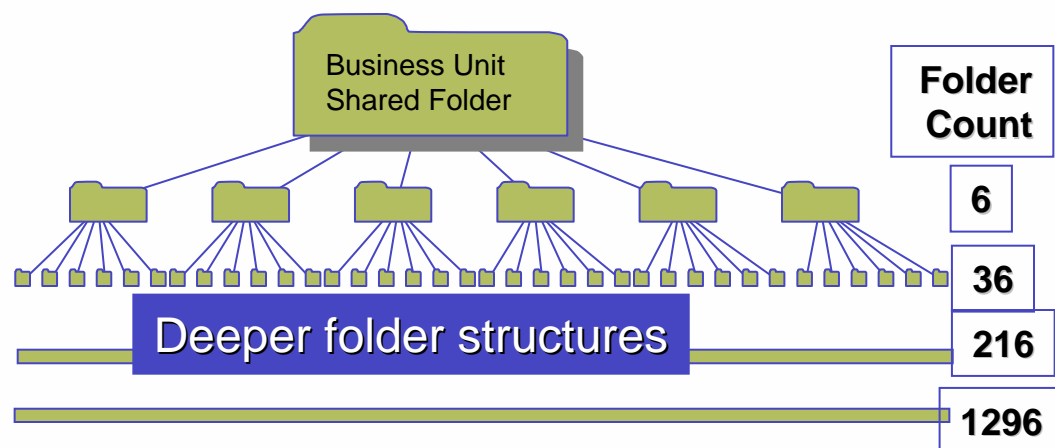
e-mail
Tech Reports
Spreadsheets
Web Pages
News Feeds
Text Docs
Powerpoint



Intranet / Internet
Document Management
Shared Drives
CDs
Commercial Resources

National Academy of Science

- 80% of decisions are from unstructured data
- 75-85% of all data stored is unstructured
- 80% of unstructured data has some geographic context



- Slow, manual navigation
- Optimized for one taxonomy
- Thousands of files

Traditional Text Search

- Fast – <1 second
- Search across multiple collections
- Results not in decision space

Search Results:

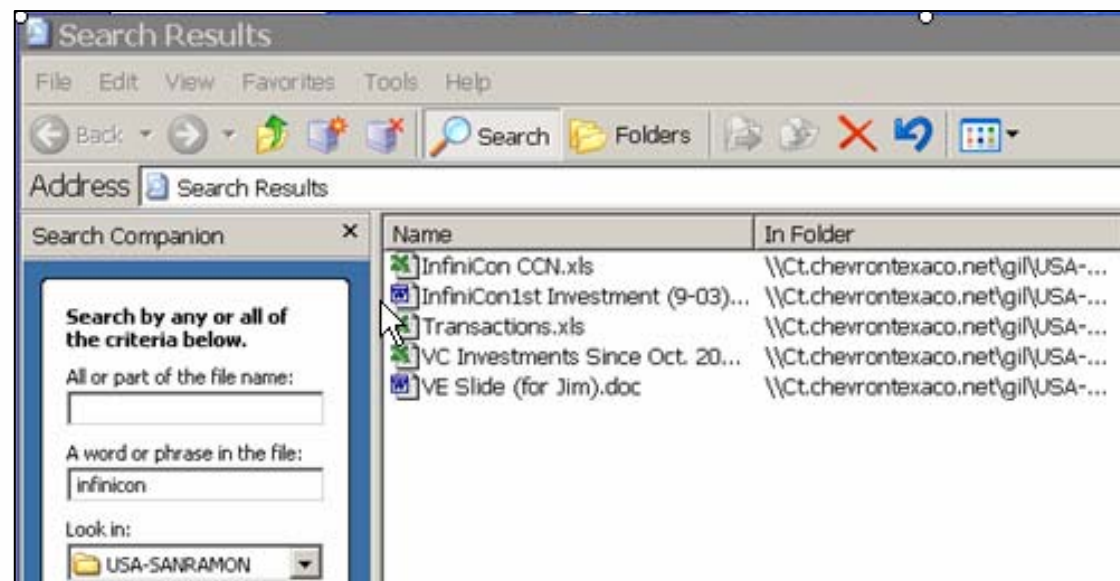
- Chevron Press Release - Chevron's Oronite Additives Division Plans Acquisition**
SAN RAMON, Calif., May 19, 1998 -- Oronite Additives, a division of Chevron Chemical Co. LLC, and Exxon Chemical Co. today announced that Oronite
http://www.chevrontexaco.com/news/archive/chevron_press/1998/98-05-19.asp
size 7,531 bytes - 8/21/2003 11:45:08 PM GMT
- Chevron Press Release - Chevron Chemical Co. LLC Opens Singapore Plant**
SAN RAMON, Jan. 27, 1999 -- Oronite Additives, a division of Chevron Chemical Co. LLC, today announced that it has started commercial production
http://www.chevrontexaco.com/news/archive/chevron_press/1999/99-01-27.asp
size 5,871 bytes - 8/21/2003 11:46:29 PM GMT
- Chevron Press Release - Chevron Chemical Co. Awards Engineering Contract**
SINGAPORE, Oct. 5, 1995 -- Chevron Chemical Co. announced today that it has awarded Chiyoda Corporation (Yokohama, Japan) a contract.
http://www.chevrontexaco.com/news/archive/chevron_press/1995/95-10-5.asp
size 5,225 bytes - 8/21/2003 11:36:36 PM GMT

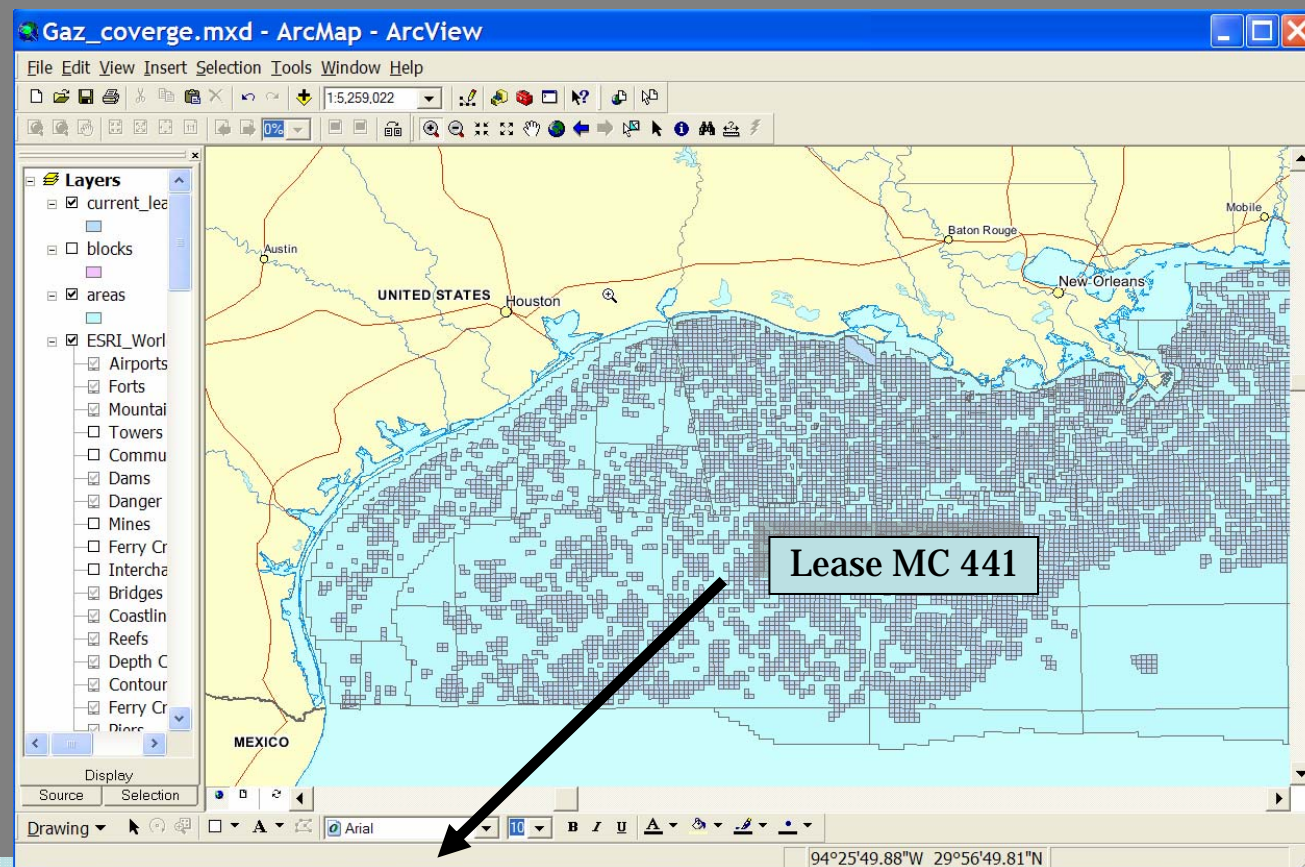
70% of us are visual learners

Yet typical search results have text based displays

Search Results Results 1 - 2 of about 11 for "chevron press release"

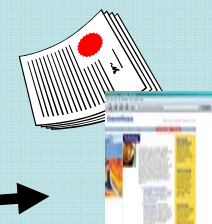
1. [Chevron Press Release - Chevron's Oronite Additives Division Plans Acquisition](#)
SAN RAMON, Calif., May 19, 1998 -- **Oronite** Additives, a division of Chevron Chemical Co. LLC, and Exxon Chemical Co. today announced that **Oronite** ... **Chevron Press Release** Archives Index. CHEVRON'S **ORONITE** ADDITIVES DIVISION PLANS ACQUISITION OF EXXON CHEMICAL'S ...
www.chevrontexaco.com/news/archive/chevron_press/1998/98-05-19.asp - 16k - [Cached](#) - [More from this site](#)
2. [Chevron Press Release - Chevron Division Buys Viscosity Improver Business](#)
SAN RAMON, Calif., Oct. 5, 1998 -- **Oronite** Additives, a division of Chevron Chemical Co. LLC, today announced that it has acquired ... **Oronite** is a leading developer, manufacturer and marketer of lubricant and fuel additives. **Chevron Press Release** ...
www.chevrontexaco.com/news/archive/chevron_press/1998/98-10-05.asp - 14k - [Cached](#) - [More from this site](#)



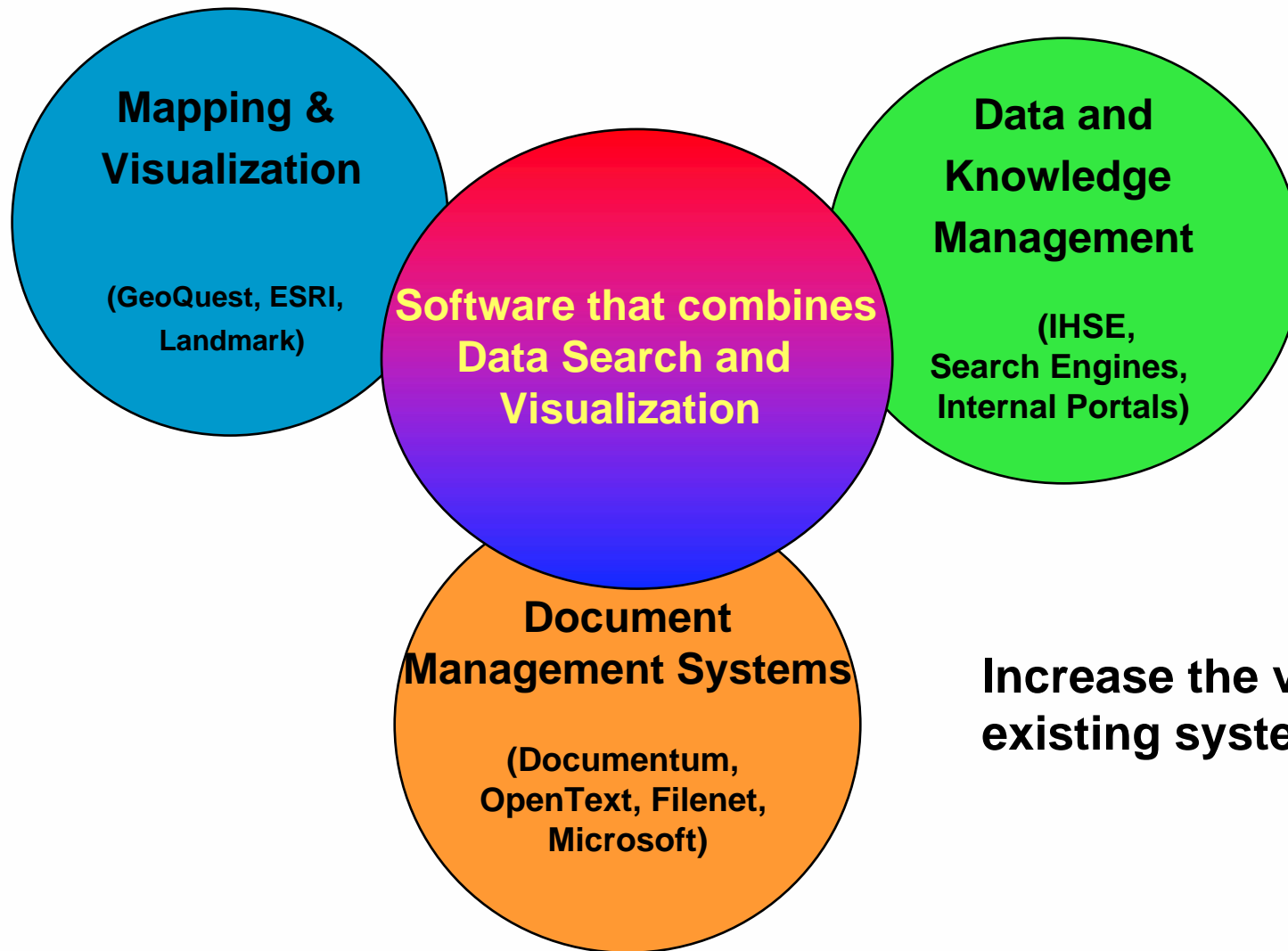


Lease
Database

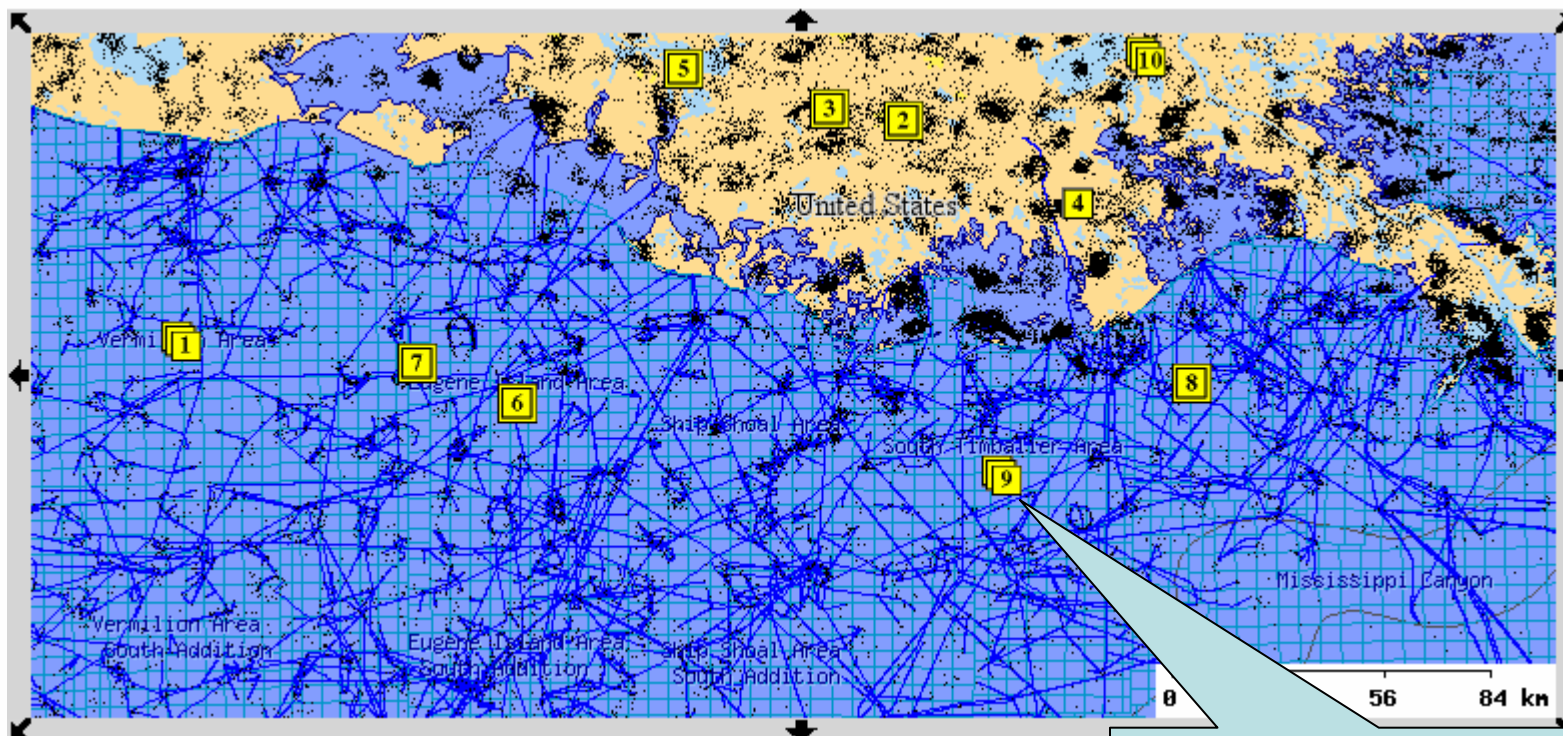
DESIGDT	OPERNUM	OPERATOR	ESAOP	
0 00003		Union Oil Company of California	UNOCAL	E1 384
0 01777		Ocean Energy, Inc.	OCEAN ENERGY	GA 195A
19980528 02010		BHP Billiton Petroleum (GOM) Inc.	BHP	MC 944
20020529 02349		ATP Oil & Gas Corporation	ATP OIL & GAS	H3 354A
0 02219		Magnum Hunter Production, Inc.	MAGNUM HUNTER PRODUCTION INC	E1 384
19980528 02010		Kerr-McGee Oil & Gas Corporation	KERR-MCGEE	MC 943
0 02481		BHP Billiton Petroleum (GOM) Inc.	BHP	MC 942
0 00276		BP Exploration & Production Inc.	BP	MI 657
0 01384		Exxon Mobil Corporation	EXXON	H3 353A
20020225 02481		Newfield Exploration Company	NEWFIELD EXPLORATION COMPANY	MC 941
		BP Exploration & Production Inc.	BP	



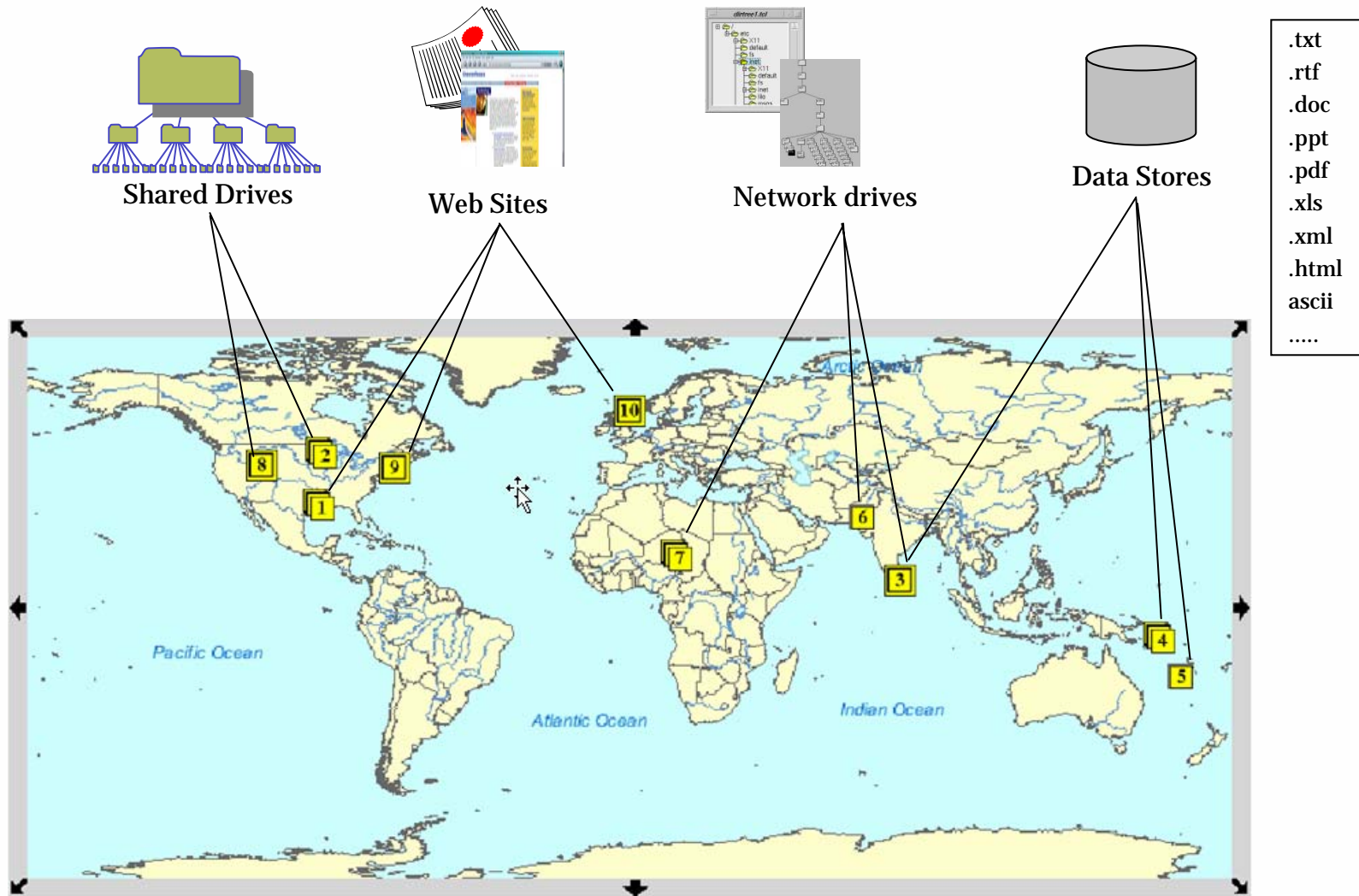
Lease Document

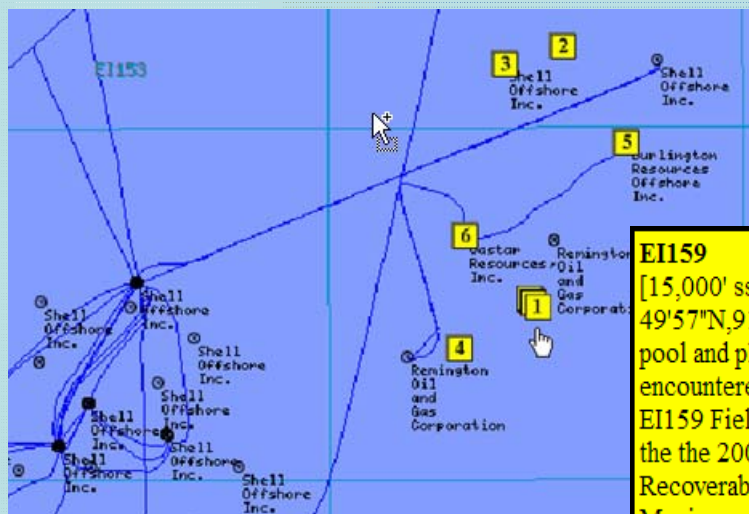
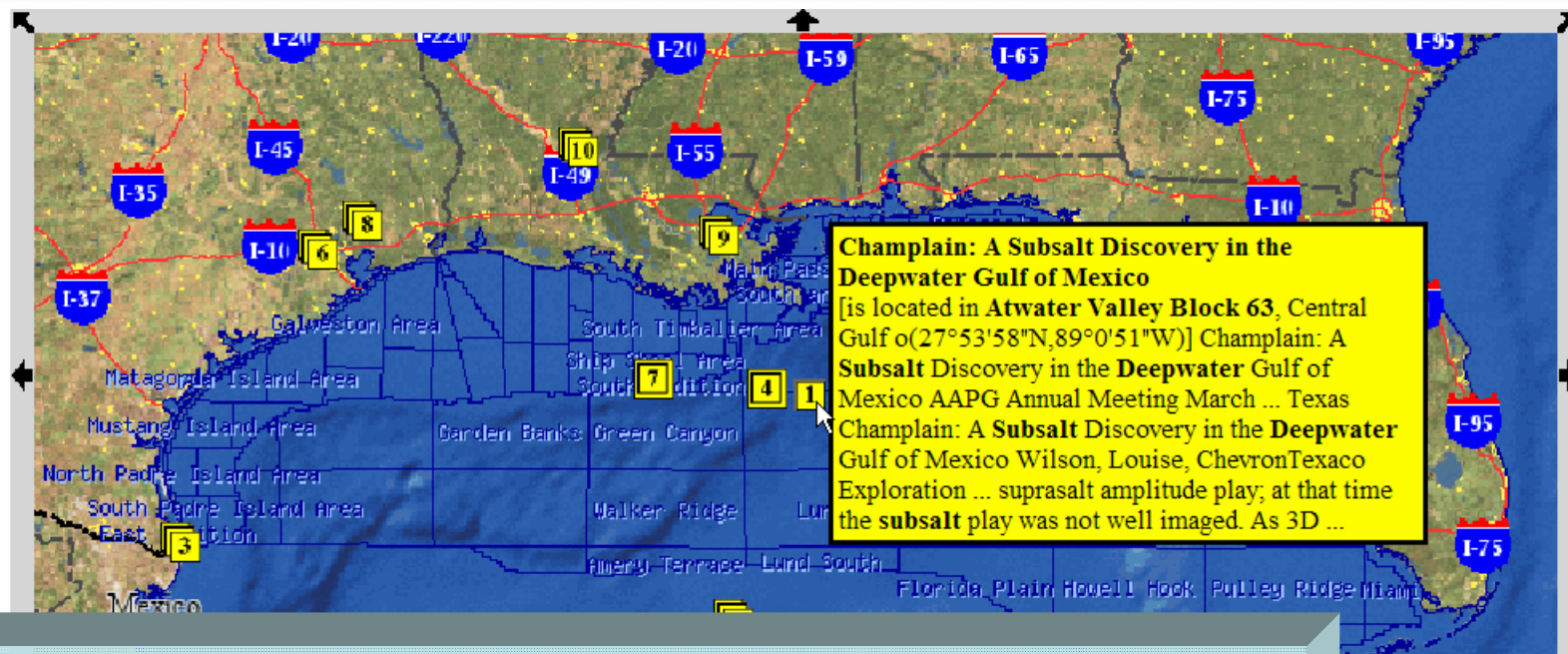


Increase the value of existing systems



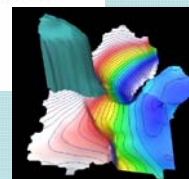
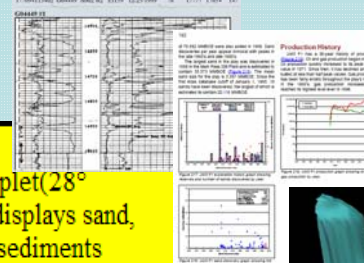
Fast - <1 second response
3 collections
600,000 documents
Precise location
Tied to well names





Engine Island 159 Block

API #	Lease	Well	Field	TD Date	Water Depth	MD	SL	BLM
2770866400	02115	1	22174	06/10/07	76	17229	17126	10
2770866400	02115	1	22174	06/10/07	76	22880	22843	102
2770866400	02115	1	22174	06/10/07	76	22880	22843	102
2770866400	02115	1	22174	06/10/07	76	22880	22843	102
2770866400	02115	1	22174	06/10/07	76	22880	22843	102
2770866400	02115	1	22174	06/10/07	76	22880	22843	102
2770866400	02115	1	22174	06/10/07	76	22880	22843	102
2770866400	02115	1	22174	06/10/07	76	22880	22843	102
2770866400	02115	1	22174	06/10/07	76	22880	22843	102
2770866400	02115	1	22174	06/10/07	76	22880	22843	102





Bulletin Vol. 88 (2004), No. 13 (Supplement)

AAPG Annual Meeting

Dallas, Texas

April 18-21, 2004

Schumacher, Dietmar¹, Daniel Hitzman¹

(1) Geo-Microbial Technologies, Inc., Ochelata, OK

ABSTRACT: Geochemical Exploration in North Africa: Recent Successes from Algeria, Tunisia, and Egypt

Detailed geochemical and research studies document that hydrocarbon microseepage from petroleum accumulations is common, is predominantly vertical (with obvious exceptions in some geologic settings), and is dynamic (responds quickly to changes in reservoir conditions). Since microseepage is nearly vertical, the extent of an anomaly at the surface can approximate the productive limits of the reservoir at depth.

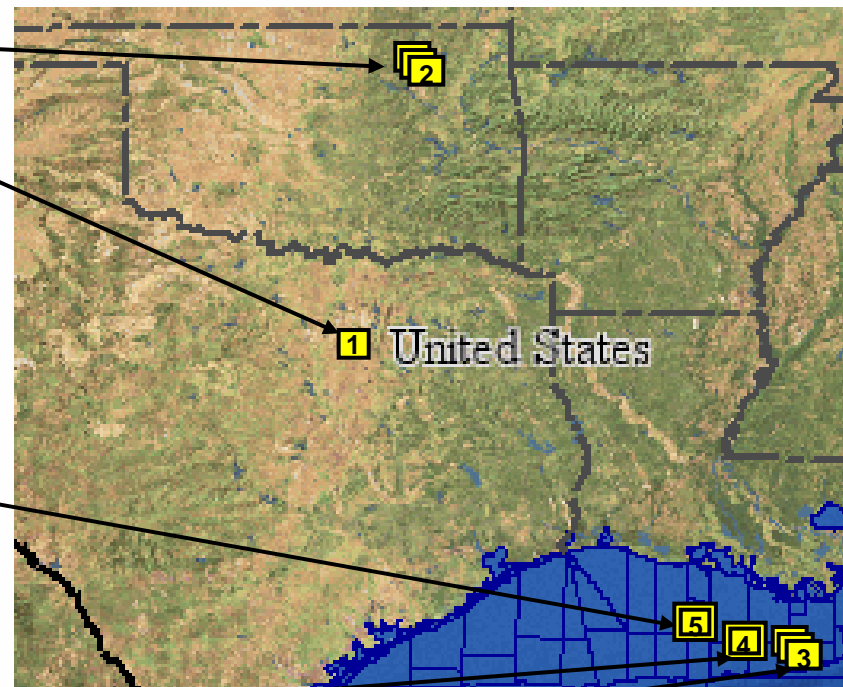
**Crazy Horses and Mad Dogs[™]
New Deep Fields Show Gulf Trends**

The deep water play in the Gulf of Mexico -- the hot exploration province for the last decade -- just keeps getting deeper and hotter.

Recently BP-Amoco announced four major new discoveries, two of which are in over 6,000 feet of water. The most important of these new finds is Crazy Horse on

Mississippi Canyon block 778 and surrounding blocks in the Boarshead Basin

125 miles southeast of New Orleans. The new field has estimated resources of at least one billion barrels of oil equivalent -- the largest discovery ever in the Gulf deep water, according to the company.



- Toponyms : *Alaska, Baltimore, Cambridge, DC, ...* (points and regions)
- Explicit coordinates: *48.3N 33.5W*
- Relative references: *40 miles south of Fallujah*
- Street addresses: *1489 Jefferson Davis Highway*
- Phone numbers: *01155663224123 – Feliz Natal, Brazil*
- IP addresses: *171.64.22.122 – Palo Alto, CA*
- Company Names: *Y-Not Variety – Somerville, MA*

The macho prospect of Harrison Ford

The



Macho



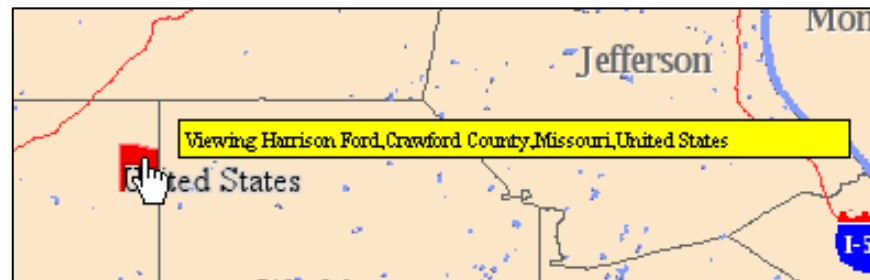
Prospect



Of



Harrison Ford



Cost of Geotagging

- AAPG ~ \$2 million to do hand tagging digital collection going back to 1970 (72,000 documents)
- Auto- geotagging 90,000 ChevronTexaco technical documents took less than one day and were immediately available for search
- 75000 technical docs from acquisition would take 5 man years, auto-tagging done in < 2 hrs, saving and saved ~\$400,000 USD

Productivity gains

- Using geographic indexing and keyword search: **20% improvement**
- Estimated time savings per employee: **1.5%**
- Cost savings using FTE rate of \$200K: **\$3000 / employee / year**

Validated by large energy company

3 results in this stack First result:
Chevron Press Release - Chevron Discovers Oil Offshore Zaire
 [Oil Offshore **Zaire** Chevron Pres(6°4'0"S,12°24'0"E)] ... interest; and Unocal International Corporation, with a 17.72-percent interest. # # # Chevron Press Release Archives Index Back to Top © 2001-2004 **ChevronTexaco** Corp. All rights reserved. | Privacy & Terms of Use ...

Chevron Press Release - Chevron Acquires Exploration Interest
 [barrels a day **to Cabinda** where productio(5°33'0"S,12°12'0"E)] ... kilometers (26 miles) northwest of the N'Kossa oil field. # # # Chevron Press Release Archives Index Back to Top © 2001-2004 **ChevronTexaco** Corp. All rights reserved. | Privacy & Terms of Use ...

Chevron Press Release - Chevron Announces Positive Results On
 [Results **On Moho Field** Offshore Cong(5°18'30"S,11°22'43"E)] ... 15 percent and Engen Exploration (Congo) Limited at four percent. Chevron Press Release Archives Index Back to Top © 2001-2004 **ChevronTexaco** Corp. All rights reserved. | Privacy & Terms of Use ...

2 results in this cluster First result:
Texaco Press Release - Texaco Signs Production Sharing Contra...
 [the Kwanza Basin, **approximately 140 miles south of Luanda**. Water depth in th(10°52'26"S,13°14'4"E)] ... Block 16 (Congo Basin) and Block 20 (Kwanza Basin). -xxx- Texaco Press Release Archives Index Back to Top © 2001-2004 **ChevronTexaco** Corp. All rights reserved. | Privacy & Terms of Use ...

5 results in this cluster First result:
Chevron Press Release - Chevron Confirms New Tertiary Crude Oil
 [Rupubli **C Of Congo** Chevron Pres(6°4'0"S,12°24'0"E)] ... **Chevron Confirms New Tertiary Crude Oil Discovery** Offshore Republic Of Congo Chevron Press Release Archives Index **CHEVRON CONFIRMS NEW TERTIARY CRUDE OIL DISCOVERY** OFFSHORE RUPUBLIC OF ... Chevron Press Release Archives Index **CHEVRON CONFIRMS NEW TERTIARY CRUDE OIL DISCOVERY** OFFSHORE RUPUBLIC OF ...

5 results in this cluster First result:
ChevronTexaco Press Release - \$50 Million "Angola Partnership..."
 [Programme **LUANDA, ANGOLA**, Nov. 2(7°3'0"S,14°49'0"E)] ... ceremony **ChevronTexaco** to Partner with Government **of Angola**, U.S. Agency for International Development
 5 results in this cluster First result:
ChevronTexaco Press Release - ChevronTexaco Announces Ninth S...
 [Tomboco and **Lobito**, Tombua, an(11°31'0"S,14°32'0"E)] ... is a further success for our deepwater **Angola** program," Kirkland added. Negage is the latest ... **Lobito**, **Tombua**, and earlier in 2002, **Gabela**. **ChevronTexaco's Angola**-based affiliate, **Cabinda Gulf Oil** ... SONANGOL P&P (20 percent); Agip

Document Query:
 Keywords to search: My Collection and Document Collection

 The map is a filter: results are for documents located in the current map view only.

Traditional Text Search

Questions ?

Demo at Booth 308

- John Hanten, ChevronTexaco Technology Ventures

- **Enterprise Search Engine Technology Strikes Gold**, Drew Robb , Datamation, April 10, 2003,
<http://itmanagement.earthweb.com/datbus/article.php/2184111>
- **Knowledge and skills**, Statoil,
<http://www.statoil.com/statoilcom/HMS/SVG03272.NSF/0/29462B9EC0A1F3EBC1256E61003A4451?OpenDocument>
- **Information Management - Recent Advances and Their Influence on the Exploration and Production Industry**, Dr Alan H. Smith, Paras Consulting,
<http://www.paras-consulting.com/>
- **The High Cost of Not Finding Information**, Susan Feldman and Chris Sherman, International Data Corporation,
http://www.kmworld.com/publications/magazine/index.cfm?action=readarticle&Article_ID=1725&Publication_ID=108

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