

## Workshop on CCOP metadata system development Davao City, Philippines 7 – 9 September 2009

Mr. Kjell Reidar Knudsen, Norwegian Petroleum Directorate

## **Terminology**



## Project title

"Metadata on Natural Gas Resources"

\_

Metadata for Information related to Petroleum Resources

# Last workshop: Metadata (generally speaking....)



Metadata: Data about the data/information

Data/Information (Data resource)

#### People can

- read metadata to see if the box is worth opening/using
- search for information inside a lot of boxes by reading the metadata

#### Computers can

- store the metadata to make it possible to search for specific information
- use the metadata to be able to connect to the server where data is stored
- use the metadata to read the data (and use it)

# Last workshop: Purpose decide what is "the black box"



Metadata may be made on all levels of details:

A map/report/URL/database:

Description, Keywords, ownership, contact person

The item structure (ex document format, database structure):

Drawing, picture, map, size, weight, data model

The medium:

Magnetic medium, optical medium

The digital file:

Protocol, file format, Header type

Which level of metadata is useful for the EPPM

## Last workshop:



- Subject Based classification
- Controlled vocabulary
- Taxonomies
- Thesaurus
  - ISO 2788 Monolingual BT, SN, USE, TT, RT
  - ISO 5964 Multilingual

# This workshop: Topics given in program:



- Metadata system development Norway
  - How it started? Who needs the system?
  - What is the value of a metadata system for oil & gas resource development?
  - What International standards were considered?
  - Lessons learned that could of value to the CCOP Member Countries

## This workshop: Title given in program:



- Metadata system development Norway
  - How it started? Who needs the system?
  - What is the value of a metadata system for oil & gas resource development?
  - What International standards were considered?
  - Lessons learned that could of value to the CCOP Member Countries

Focus on the fact that metadata have to match the scope and needs of the users

#### How it started



8

- Correspondance (letters, telexes and faxes)
  - In and out of NPD. Journal and its attributes
  - Managed by our document center
- NPD Library
  - Books and reports
  - Research project index
- The need for a Thesaurus

## NPD letter index 1973



lournalı	register, 19_73_	В			
Jnr. Avsender		Innhold		Arkivbetegnelse	
OD 1 Utg.	Ingrid Bjordal	Innkalling til konferanse kontorass. 10.1. kl 12.40	2.1.		
OD 26	Bakke, Wilhelm Transp.	Tilbud transport ved flytting	15.12.	72	
OD 32	Brandsberg-Dahl, S	Kopi av brev til Bygningssjefer i Stvgr Innredning, Lagård- veien 80.	9.1.		
OD 33	Brandsberg-Dahl, S	Kopi av brev til Statens Arbeid tilsyn - Kontorer, laboratorier og lager, Lagårdsveien 80			
OD 37	Brandsberg-Dahl, S	Kopi av brev til Murmester Wiig ang. Mur- og pussarbeidene, Oljedir., Lagårdsvn. 80	15.1		
OD 38	Brandsberg-Dahl, S	Kopi av brev til SBED ang Oljedirek., Lagårdsvn. 80, Mur- og pussarbeidene	15.1		
OD 94	Brandsberg-Dahl, S	Kopi av brev til Norema A/S ang anbud skillevegger, OD, Lagårdsveien	20.1.		

4 metadata elements

		_	_	_	77.00
Journal	lecco	inter	4	Q.	13
Journa:	пед	ibici,		100	

В

Jnr.	Avsender	Innhold	Dato	Arkivbetegnelse
OD 1 Utg.	Ingrid Bjordal	Innkalling til konferanse kontorass. 10.1. kl 12.40	2.1.	
OD 26	Bakke, Wilhelm Transp.	Tilbud transport ved flytting	15.12.72	
OD 32	Brandsberg-Dahl, S	Kopi av brev til Bygningssjefer i Stvgr Innredning, Lagård-	9.1.	

OD 125	Brandsberg-Dahl, S	Kopi av brev til Ing. Lars	3.2.
		Vambheim, ang. Hvelvdør, OD	
		vambheim, ang. hvelvapr, ob	
00 106			
OD 126	Brandsberg-Dahl, S	Kopi av brev til A/S Joh Olsen	2.2.
		Pengeskapsfabrik ang Hvelvdør,	
	,		
		OD, Lagårdsveien 80, Stavanger	

### NPD letter index 1981

## filing system key introduced



Jnr.	l, den 2 JAN. 1981 Avsender	linnhold	Det.	Avkivbetegnelse		Kontor	Beh.	Ekspedisjon	Date	. Anm.				
l <sub>tlx</sub> .	Neste OY	Suggest meeting in Stygr	29.12 E	B 008/3	The state of the s		u	to, aus.	N 51' -81					
tlx.	Global Marine	Godkjenning av ansatte	185	AP 701.21.65										
3	PTI	Kurs for borere-deleksa- men I.	23.12 5	AP 701121/65							Carre	nala aradizza Na		
4	Univers. i Oslo	Statuerapporter og regn- skapsoversikter 1981.	23.12 R	G 721.1/	0							rehensive Noi		
5	BJ-Hughes Inc.	NPD requirements for Pipe Handling Systems.	19.12 SM	1 755.1	7		U	lg. ows.	/ 1S.1.81		code la	ist for public a	administr	ation
6 tlx.	Rauma-Repola OY	Ref: I"spection, change of one T-connection.	31.12 SE		3							1		
7	Ukjent	The 25-28 schedule for a expatriots working in No	1122.12 J.	701.21.65			-							
8	Oregon State University	Not received copy of re- port Prepared by Verita						itg. aus.	9.1.81					
9	Tennoco Oil Norsk	Recon. Lic. 066.		SE V	z .									
	Sjøfartsdir.	Sub-committee on Standa of Training and Watch- keeping, 14. session.	ds22.12 J	700.2 INCO				. Martin						
	»PCO	Tor Unit Technical comm tee meeting no.45-revis	on. P					· · · · · · · · · · · · · · · · · · ·						
	vanger Drillin	Bekreftelse av gjennom- gåtte kure.	3	AP 701.21.65										
			lee eel 1	\ \ /										
	,	Seismiske undersøkelser blokk 35/3 Northern Ho- rizon.	30.12 J	s 7h										
al, de	en 2 JAN.	blokk 35/3 Northern Ho- rizon.	B0.12 G	s M										
al, de	en <b>2 JAN.</b> Avsende	blokk 35/3 Northern Ho- rizon.		nnhold		Dat	ı.	Avkivbetegnelse		Ko	ontor Beh.	Ekspedisjon	Date	An
. ]		blokk 35/3 Northern Ho- rizon.		s   V	Stvgr	_	-		4	. Ko	ontor Beh.	Ekspedisjon Utg. aus.	Date   7.4 - 81	An
	Avsende	block 35/3 Northern Ho- rizon.	t mee	nnhold		_	12 F£	008/3 P 701.21.65		. Ko	ontor Beh.			And

## NPD Filing System key 1973 - 1990



730.4	Progressrapporter - Ekofisk
730.5	NGL - saker
730.6	Bruk en kenned en
730.9	Bruk av konsulenter
731	Diverse
	Forskning teknologi
731.0	Forskning teknologi
731.1	Universiteter
731.2	Vitenskapelige instituciones
731.3	Olieselskan
731.4	Universiteter Vitenskapelige institusjoner Oljeselskap Konsulenter
731.5	WOUND IT GIT COT
731.9	Egne utredninger
,01.5	Forskning teknologi - div
733	PRODUKSJONSBORING
733.0	0
	Generelt
733.01	Oversendelsesbrev DHSV testrep
733.1	BOTEDrogram/borehulleda+a
733.2	Uinterpreterte borehulledate
733.21	Geologiske materiale
733.3	Interpreterte borehullsdata
733.4	Kjernebeskrivelse
733.5	Produksjonstester væskeanalyse
733.6	Daglig melding telex
733.7	Hastishetanii telex
733.9	Hastighetsmåling Diverse
	Diverse
734	RESERVOAR - ANALYSER
734.0	Pecarronne
734.1	Reservoaranalyser - gen
734.2	Interpreterte reservoardata
734.3	Reserveberegninger
734.4	Produksjonsprognoser
	Selskapenes reservoaranalyser/multi rate tester
734.5	THE LESEL VORIANAL VERY
734.6	Konsulentreservoaranalyser
734.9	Diverse
736	PRODUKSJONSDATA
736.0	Generelt
736.1	Produkadananan
736.2	Produksjonsoppgaver Prod lift invatory
736.21	
736.3	Motakerland av råolie
736.7	Datainnsamlingsystemer
	Analyserapporter
736.9	Diverse
737	Unitisering
737.0	Unitisering - gen Standardavtaler og andre lands avtaler
737.1	Standardaytaler og andre lands autol
737.2	Internasjonale avtaler om unitisering
737.3	Unitiseringsavtalene
737.4	Behandling av unitiseringsavtaler
737.9	Diverse Diverse
-	

The Norwegian standard code list for public administration had to be extended for petroleum administration





12

```
Progressrapporter - Ekofisk
 730.5
                   NGL - saker
                  Bruk av konsulenter
 730.9
                  Diverse
 731
                  Forskning teknologi
 731.0
                   Forskning teknologi - gen
 731.1
                  Universiteter
 731.2
                  Vitenskapelige institusjoner
 731.3
                  Oljeselskap
 731.4
                  Konsulenter
 731.5
                  Egne utredninger
                  Forskning teknologi - div
 733
                  PRODUKSJONSBORING
                                                                                                        Eksempel:
 733.0
                  Generelt
 733.01
                  Oversendelsesbrev DHSV testrep
 733.1
                  Boreprogram/borehullsdata
 733.2
                  Uinterpreterte borehullsdata
 733.21
                  Geologiske materiale
 733.3
                  Interpreterte borehullsdata
 733.4
                  Kjernebeskrivelse
 733.5
                  Produksjonstester væskeanalyse
733.6
                  Daglig melding telex
                  Hastighetsmåling
733.9
                  Diverse
734
                 RESERVOAR - ANALYSER
734.0
                 Reservoaranalyser - gen
734.1
                 Interpreterte reservoardata
734.2
                 Reserveberegninger
                                                                                                        Eksempel:
                 Produksjonsprognoser
734.4
734.5
                 Selskapenes reservoaranalyser/multi rate tester
                 Interne reservoaranalyser
                 Konsulentreservoaranalyser
                 Diverse
736
                 PRODUKSJONSDATA
                 General+
736.1
                 Produksjonsoppgaver Prod lift invatory
736.2
                 Bill of lading / Shipment Sailing advice
736.21
                 Motakerland av råolje
                Datainnsamlingsystemer
                 Analyserapporter
736.9
                Diverse
                                                                                                       Eksempel:
737
                 Unitisering
                Unitisering - gen
                Standardavtaler og andre lands avtaler
737.2
                Internasjonale avtaler om unitisering
737.3
                Unitiseringsavtalene
                Behandling av unitiseringsavtaler
                Diverse
```

```
Eksempler på bruk av nekkelen:
Skal man ha saksnummer til en sak som angår royalty
Ekofisk, må EK føyes til saksnummeret.
     703.1 EK.
Gjelder saken boreprogrammet for plattform C hull nr.
13 på Ekofisk, blir arkivbetegnelsen:
     733.1 EK-C-13.
Når saken gjelder undersøkelsesboring (Wild-Cats) blir
dette arkivert geografisk på hull.
    Geologisk materiale på hull 30/10-1
 år betegnelsen:
     725.21 - 30/10-1.
Faste installasjoner blir arkivert på felt. Mobile platt-
former blir arkivert alfabotisk (eller på byggenummer).
Saken gjelder utstyr boredekk Norskald.
Arkivbetegnelsen blir da:
     772.3 - Norskald.
Dersom saken gjelder oljesel generelt blir betengelsen
```

Gjelder saken oljesel Ekofisk blir betegnelsen

## More information was squeezed into the same metadata element

07/10/2009

707.4 EK.

#### How it started



- Correspondance (letters)
  - In and out. Journal ant its attributes
- Library
  - Books and reports
  - Oil Index
- Thesaurus

## **NPD** Library



- Until 2004
- 16 000 Books & reports
  - Standard library index system
- Partnership with other Libraries
  - (online access to common index)
- Oil Index and INFOIL/SESAME

## NPD Library - Subjects/Topics



- Petroleum Geology
- Geophysics
- Exploration
- Exploitation and production of oil and gas
- Offshore structures
- Pipelines
- Transportation
- Petrochemistry
- Supply services
- Petroleum economy
- Petroleum law and policy
- Safety and control
- Environmental and social impact of petroleum activities

#### **Database OIL**



#### Content

- 38 000 references (1992) to Norwegian articles, reports and papers regarding petroleum
- Updated 6 times a year
- Covers information from 1974

#### Access

- Online-search via telephone modem
- Printed "Oil index" 4 updates/year
- "Floppy disc" version of the database for PC
- Search engine "BRS Search"

## An NPD Norwegian Petroleum Thesaurus was made



18

- "Petrus"
- Controlled vocabulary and analytical relations between terms within one or several diciplines
- Used for the library system ODIN and the database
   OIL
- From 1985 the maintenance was done together with Statoil
- Used until 1994 when it was replaced by a commercial thesaurus for Ptroleum

## Database INFOIL/SESAME



- Index of Petroleum Research Projects for Norway and UK
  - metadata incl descriptions
  - Thesaurus for terminology for the offshore industry

For each project, the following information is given:

Title

Name, address and telephone number of contractor and project manager Sponsoring organisation(s) Start and finish dates

Costs (optional)

Brief abstracts usually including objectives

All information is in English. However, searches can be made by keywords in English or Norwegian. The number of recorded projects continues to rise and about 1900 at the end of 1987. New projects are entered periodically as they become available.

#### INFOIL/SESAME Thesaurus



OTI 88 505.

#### NOTES ON THE THESAURUS

#### INFOIL 2 THESAURUS TERMINOLOGY FOR THE OFFSHORE INDUSTRY



Department of Energy

#### Purpose and scope of the thesaurus

The purpose of this thesaurus is to provide a list of preferred terms, with related terms given to help in choosing the most appropriate terms, for indexing documents and descriptions of research projects in offshore engineering.

While meeting the specific requirements of the INFOIL 2 database, the thesaurus is suitable for indexing collections of documents or providing keywords for other indexing applications in the field of offshore engineering.

The emphasis is on offshore oil and gas, and land-based support for the offshore industry, particularly considering the activities on the North West European Continental Shelf. A thorough coverage of petroleum geology has not been attempted, nor is coverage provided of refining and the downstream petroleum industry.

#### How to use the thesaurus

All entry terms are in alphabetical order, and are arranged to establish a uniform order for the related terms, indicated in each term with appropriate abbreviations used, which are as follows:

SN Scope note
USE Preferred term
UF Use for
BT Broader term
NT Narrower term
RT Related term.

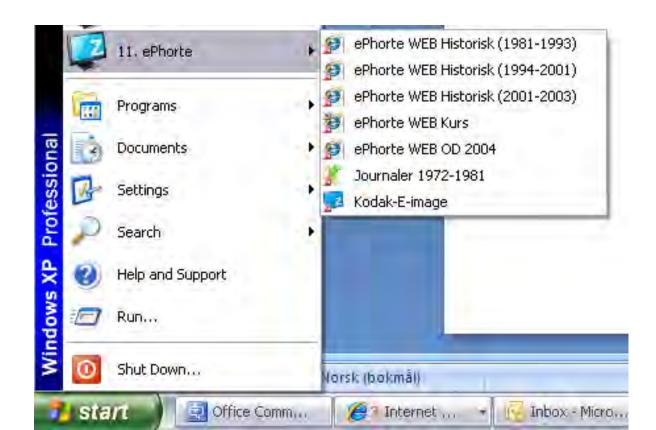
The scope notes are not intended to be definitions. Many terms (e.g. 'rig') are used loosely in the offshore industry, and the scope notes here restrict the use of terms to a single or narrow meaning for the purposes of indexing and retrieving information.

Where there is more than one narrower or related term, they are placed in alphabetical order, and where there is an indication of a qualifying term, the qualifier is bracketed. For example:

#### **NPD Document center**



- ◆ 1973 1981 Manual system, later scanned and OCR
- 1981 2001 Electronic metadata system
- 2001 Electronic full text DMS (Ephorte)



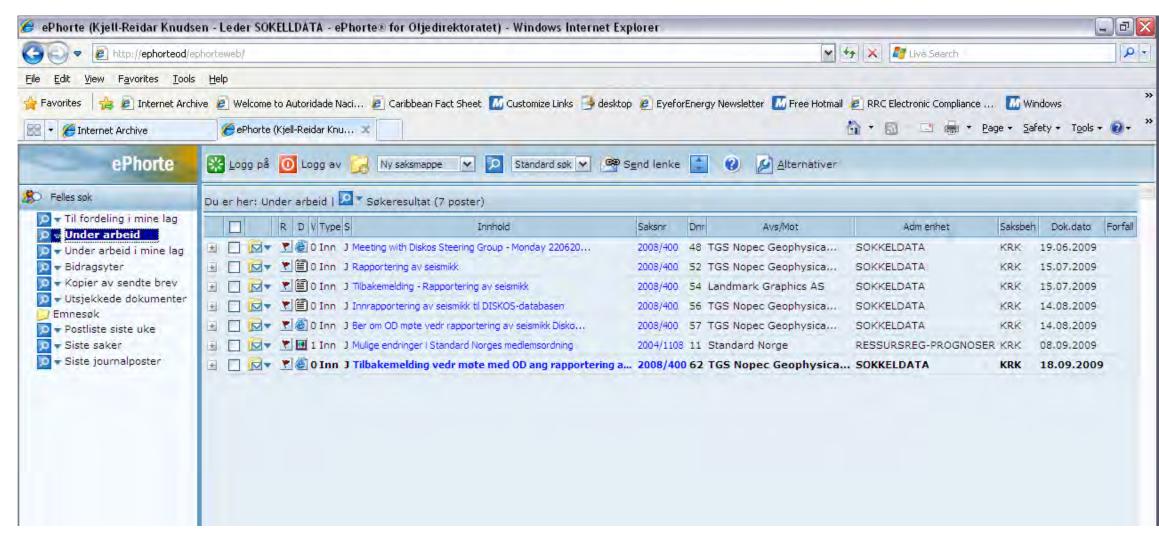
#### **NPD Document center**



- ◆ 1973 1981 Manual system, later scanned and OCR
- 1981 2001 Electronic metadatasystem
- 2001 Electronic full text DMS (Ephorte)

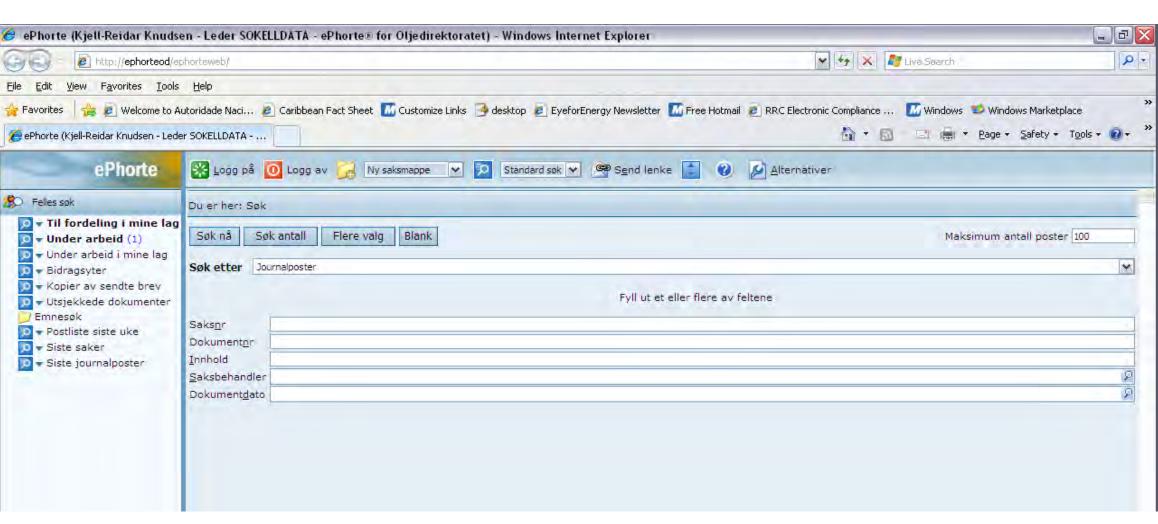
## NPD DMS: Ephorte





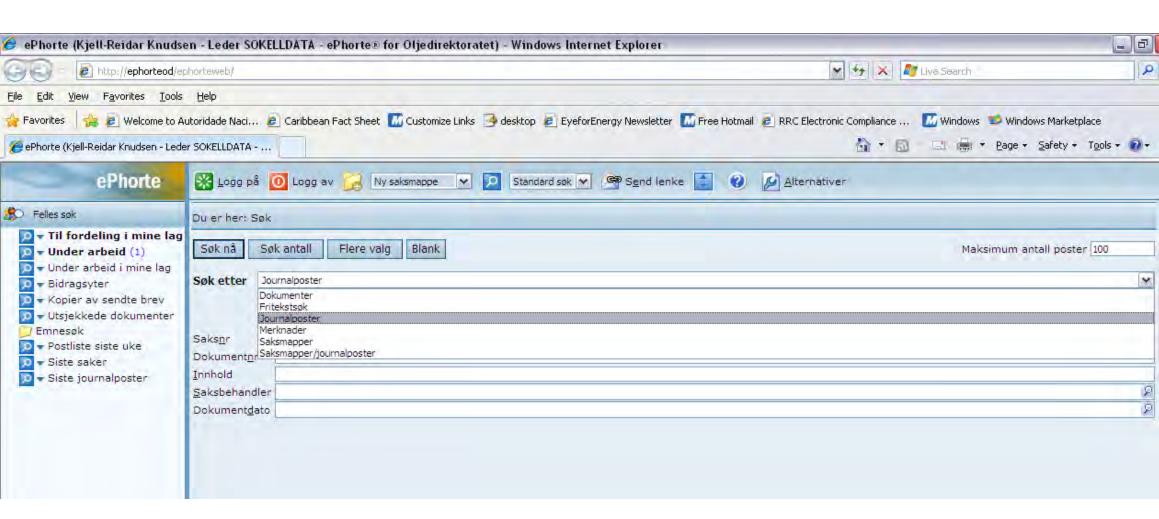
## **Ephorte: Standard search**





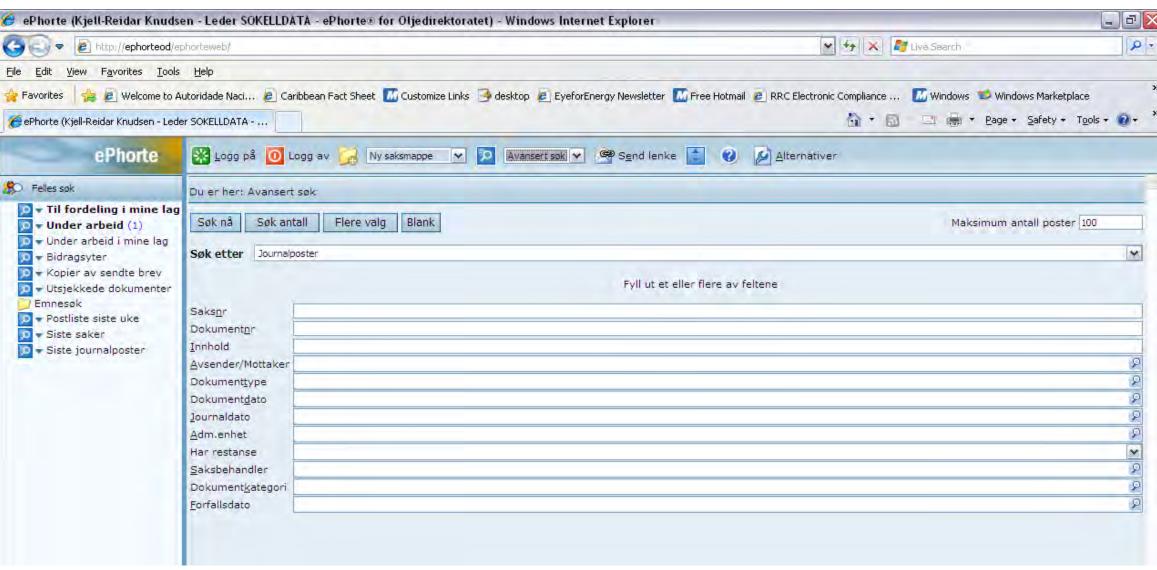






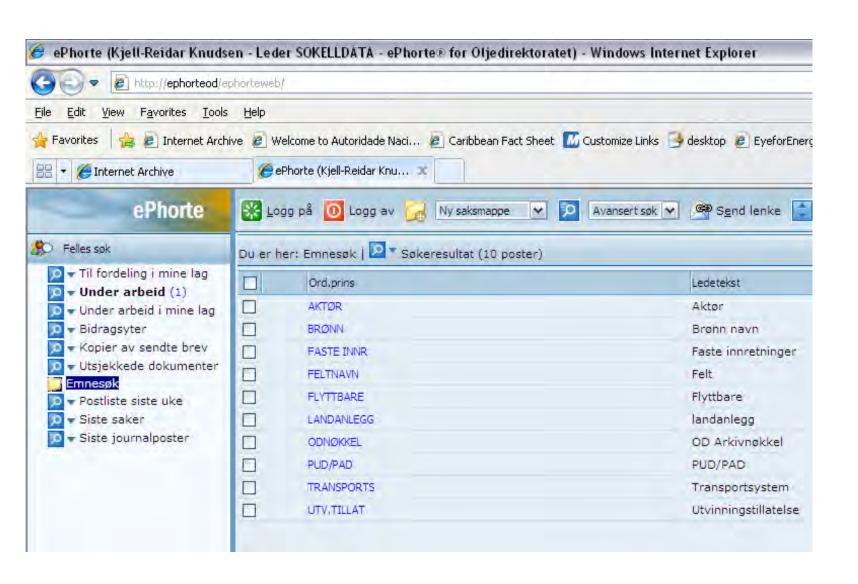
## **Ephorte: Advanced search**





# Thematic/Topic search in NPD Document Management System



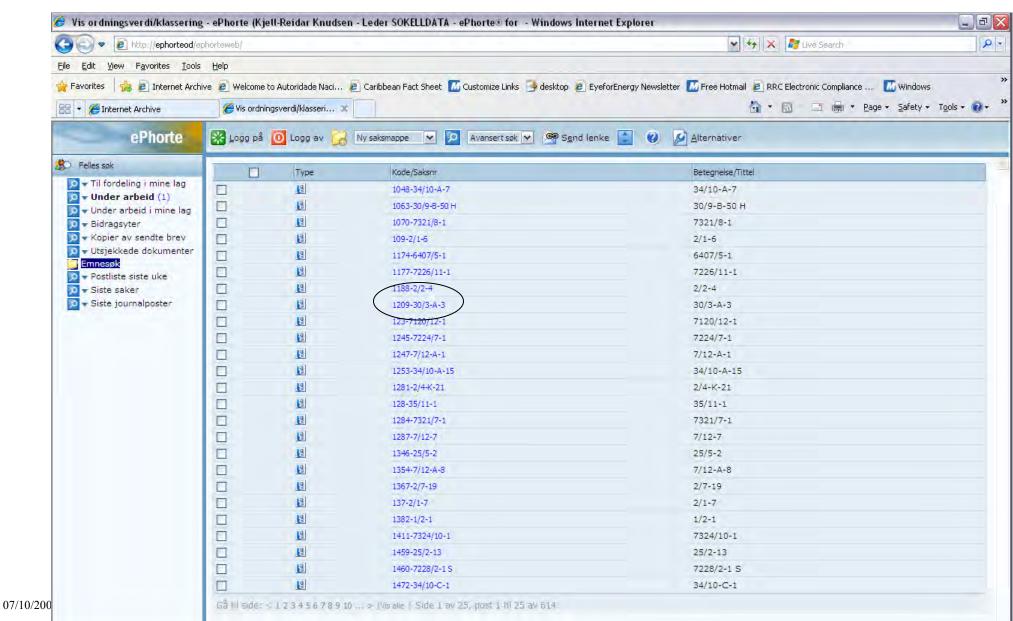


#### **Topics**

- Actor
- •Well
- •Fixed facilities
- •Field name
- Moveable facilities
- •Land terminals
- •NPD key
- •PDO-name
- •Transport
- •Prod.Licence

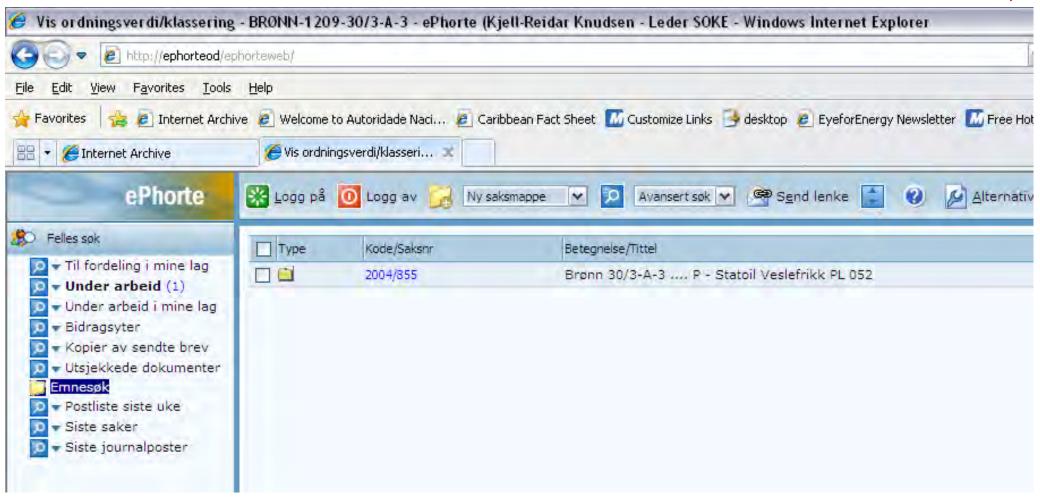






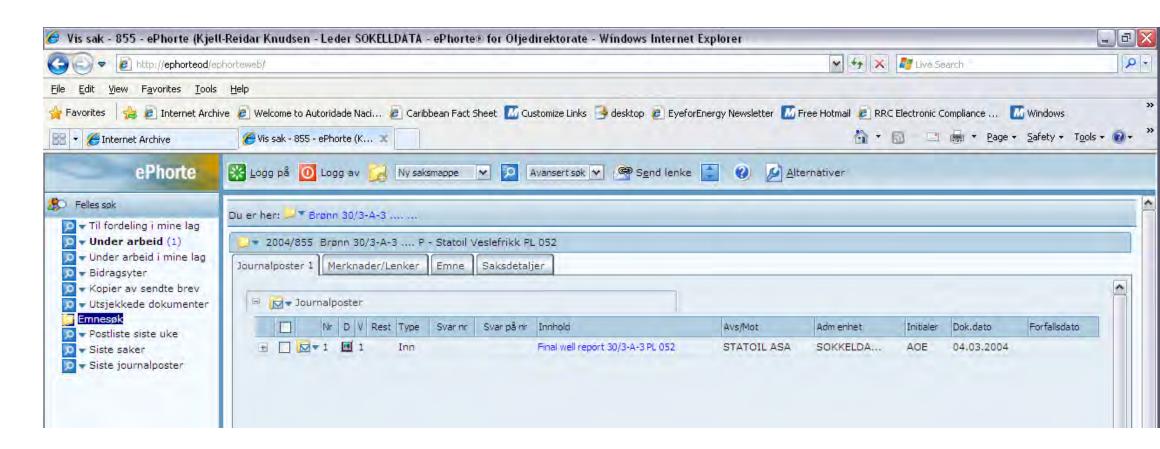






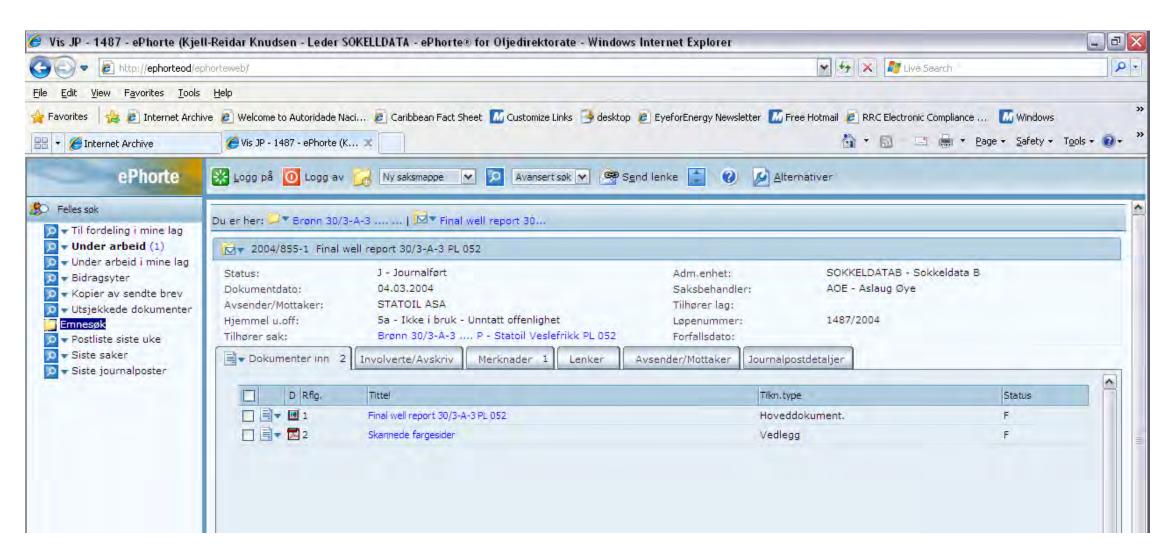
## Thematic / Topic search











## Transmittel letter

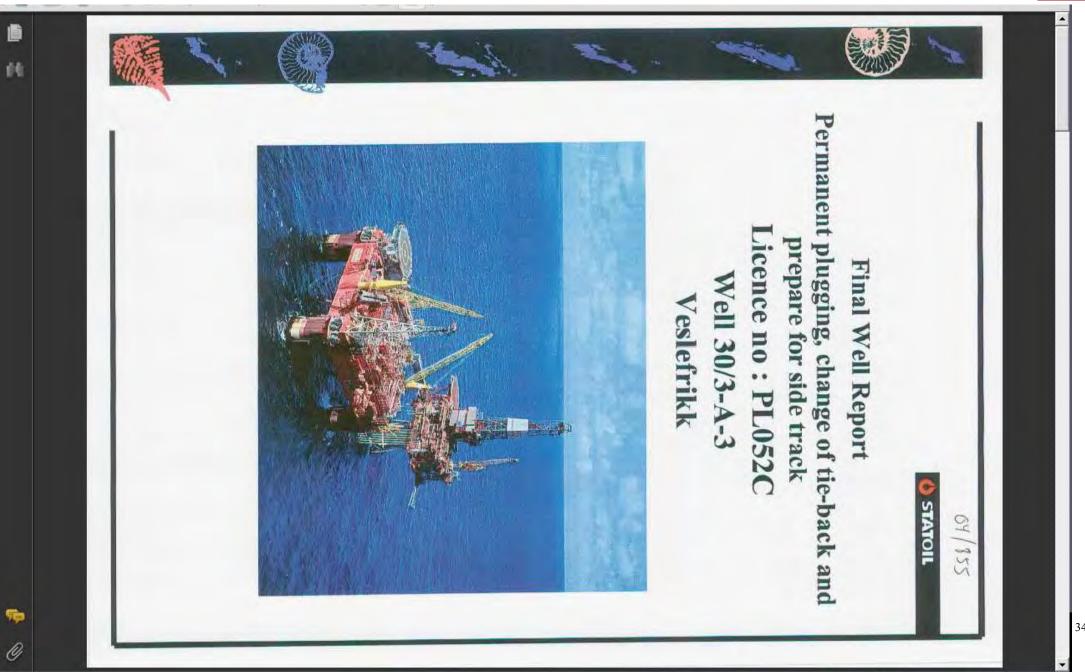


<ul><li>3041[1] - Windows Picture and Fax View</li></ul>	ret	ū
	04/855	
	Transmittal for Veslefrikk og Huldra P&ID	
	Fra: Renè Bø T-S DVT TID BE-SA F-1	
	TIL: OLDEDIREKTORATET	
	Dato: 04.03.2004	
	Følgende dokumentasjon er oppdatert og oversendt	
	Final Well report	
	Permanent plugging, change of tie-back and prepare tor side track	
	Licence no.: PLOSZC Well 30/3-A-3	
	Vesletnikk	
	2 stt.	
	Vennligst signèr følgebrevet ved mottak og returner det snarest.	
	Med vennlig hilsen fra:	
	All dokumentasjon er herved mottatt:	
	Signatur Dato	





Unknown Zone









## **Document Type**





#### Standards used



- Old journal (document center )
  - NOARK-standard
- New Document Management System (DMS)
  - NOARK, partly based on ISO

#### Retrieval methods used from outside



#### Web site

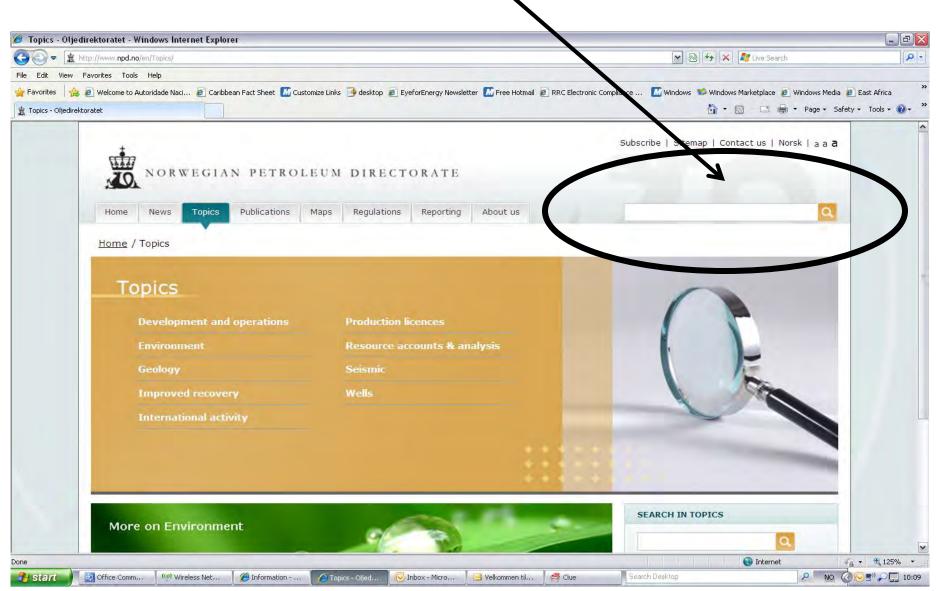
- Text search (content in articles, pdf reports etc)
- Index attribute search (letters in & out(public journal))
- Structured databases (NPD Fact Pages)

#### Portals

- Map interface (Georeferenced data)
- Text based
- Mix

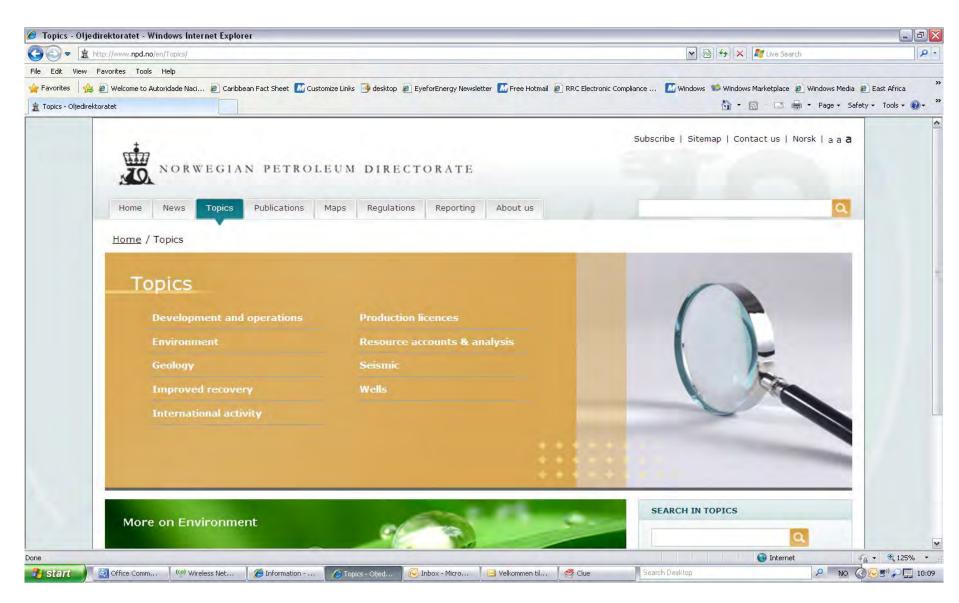
#### NPD Website Free text search





### NPD Website subjects/topics





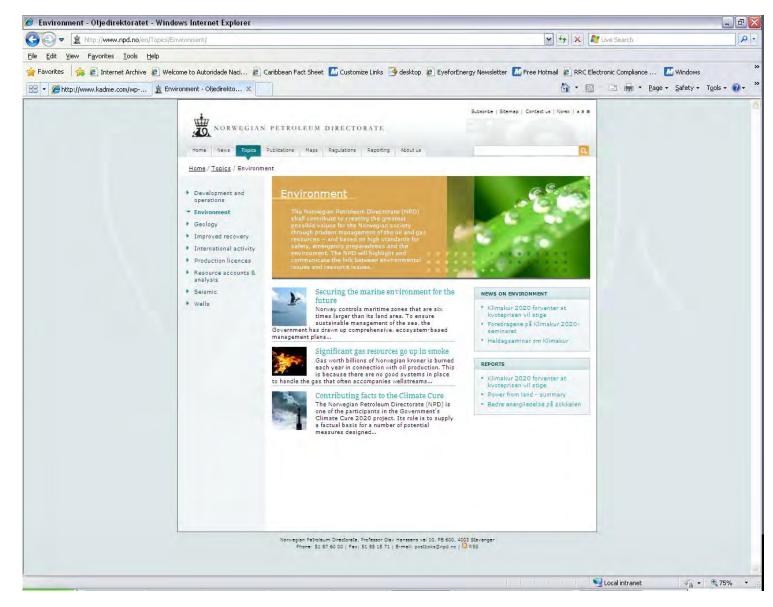
# NPD Website subject/topic: Development & operations





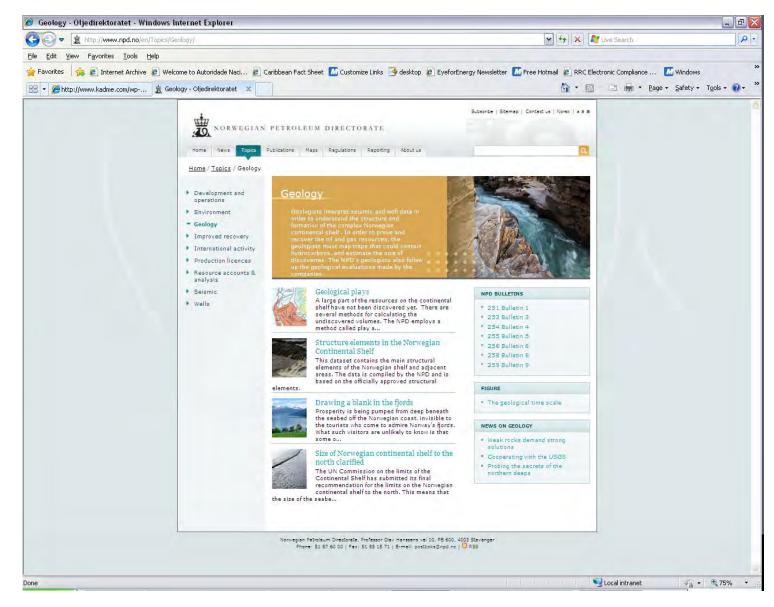
# NPD Website subject/topic: Environment





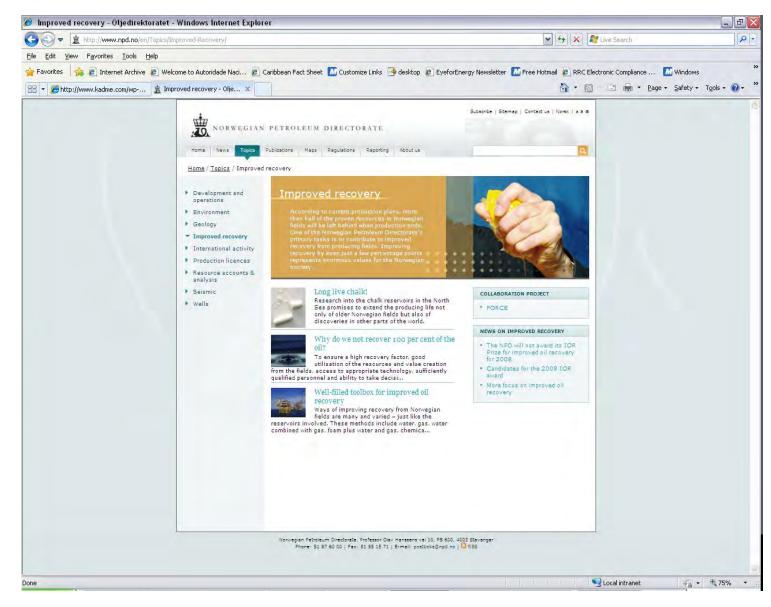
### NPD Website subject/topic: Geology





# NPD Website subject/topic: Improved Recovery





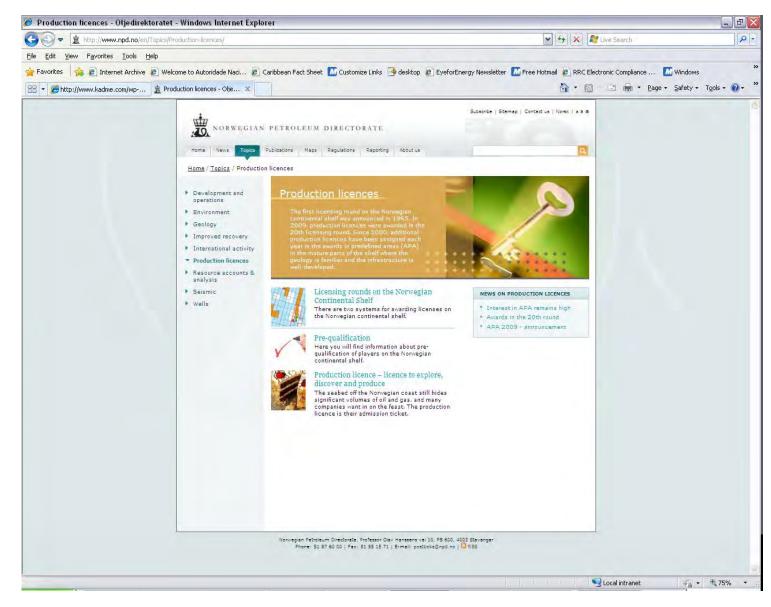
## NPD Website subject/topic: International Activities





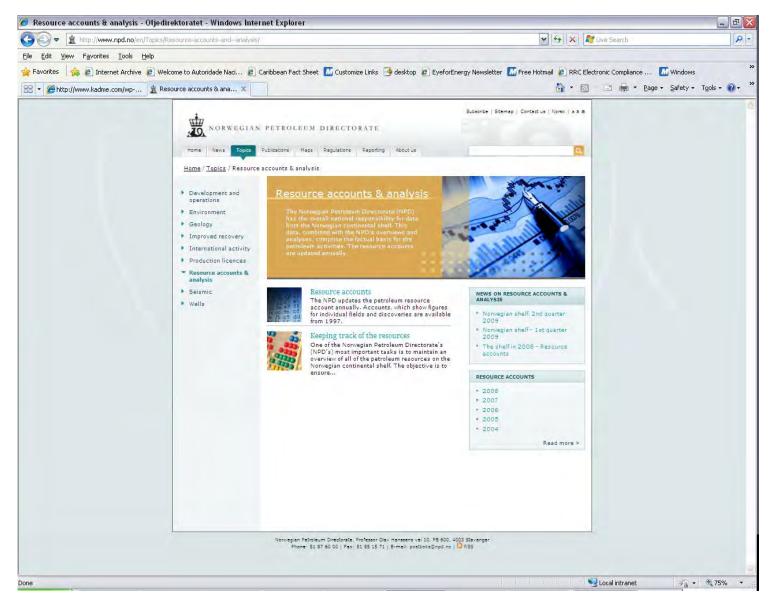
# NPD Website subject/topic: Production Licenses





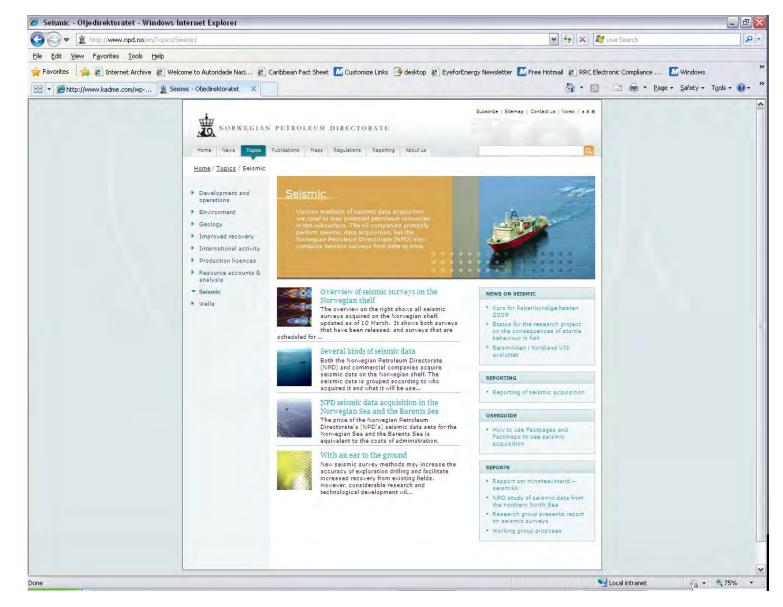
# NPD Website subject/topic: Resource accounts & analysis





### NPD Website subject/topic: Seismic





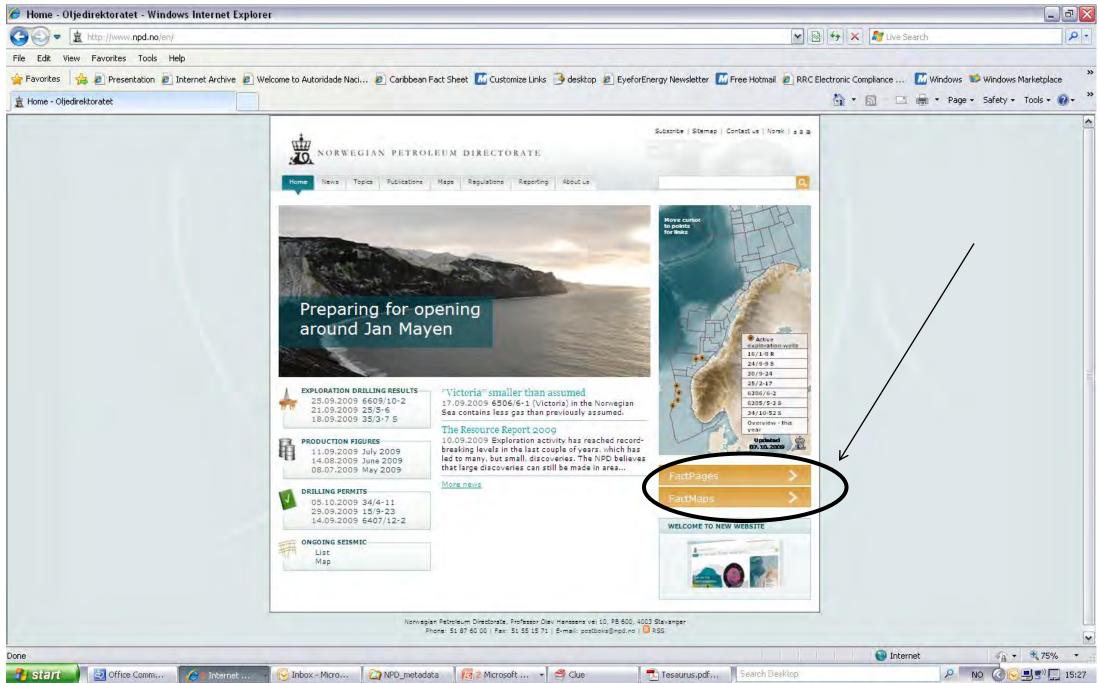
### NPD Website subject/topic: Seismic





# NPD Fact Pages (retrieval from structured E&P database)





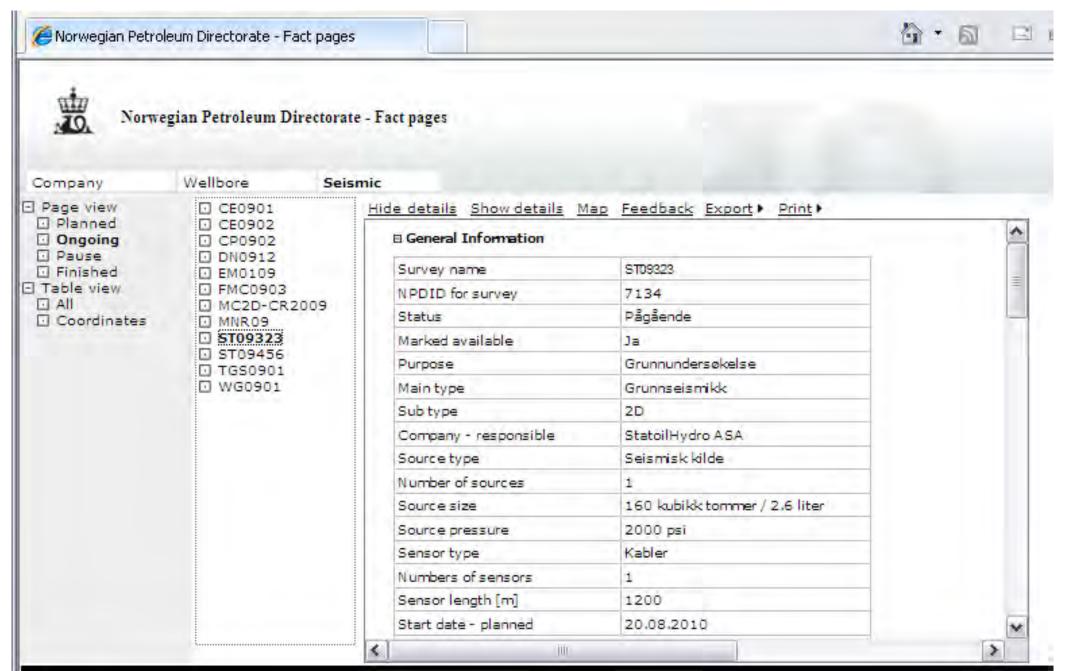
## **New NPD Fact Pages**





### **New NPD Fact Pages**





#### Information about..... "Information carriers" in the NPD structured database



Production figures

Production licences

Stratigraphic units

Exploration wellbores Development wellbores

Business areas Discoveries Fields

Companies

Facilities **Downloads** 



The NPD's Fact-pages

Generated 29.09.2009

#### The NPD's Fact-pages

Feedback

This website contains information about production figures, production licences, business areas, exploration wellbores, development wellbores, discoveries, fields and companies on the Norwegian continental shelf organized in fact-pages. It also contains datafiles (csy-format) which can be downloaded and used in databases, spreadsheet applications or other applications.

#### Go to the Factpages version 2

If you have any comments, suggestions or questions about this website, please send a mail to fact-pages@npd.no.

#### News

Home

#### 24.7.2006

 Parts of NPDs FactMaps are now available on Google Earth. If you are using or are familiar with Google Earth, you can now get some of the information available at NPDs FactMaps on Google Earth. Click here for more information...

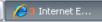
#### 30.6.2006

 The NPDs FactMaps are now available as Web Map Services (WMS). You can now use NPDs FactMaps in your own GIS systems! Click here for more information...

#### 20 2 2005













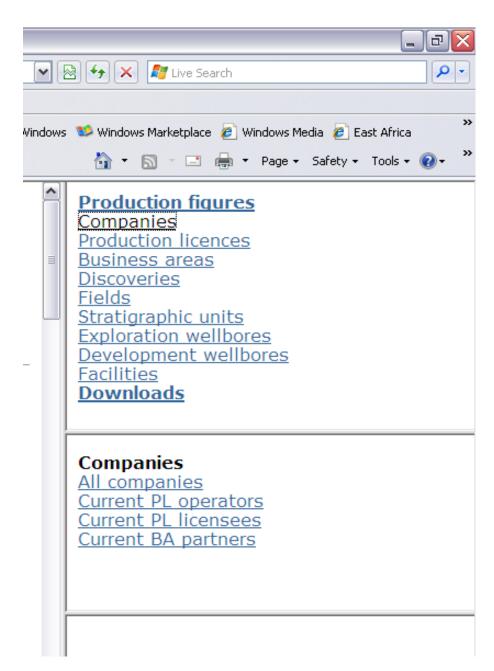






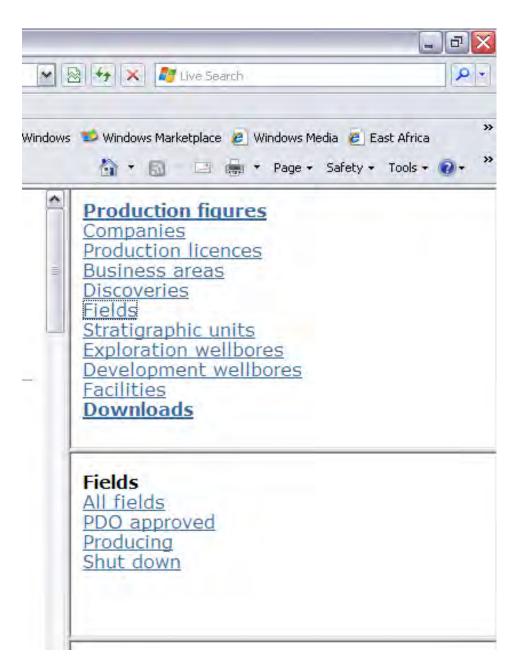
## Categories .....companies





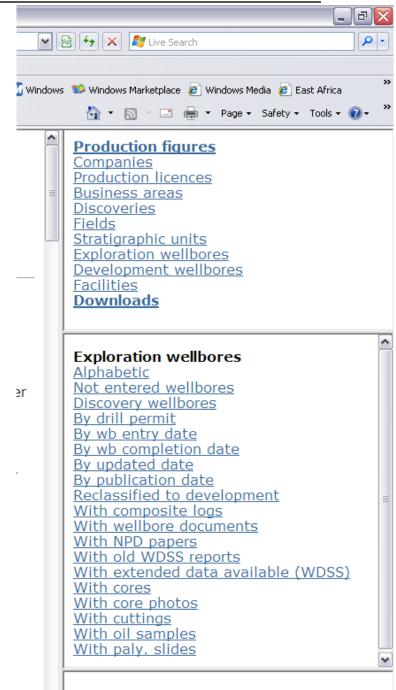
# Categories .....fields





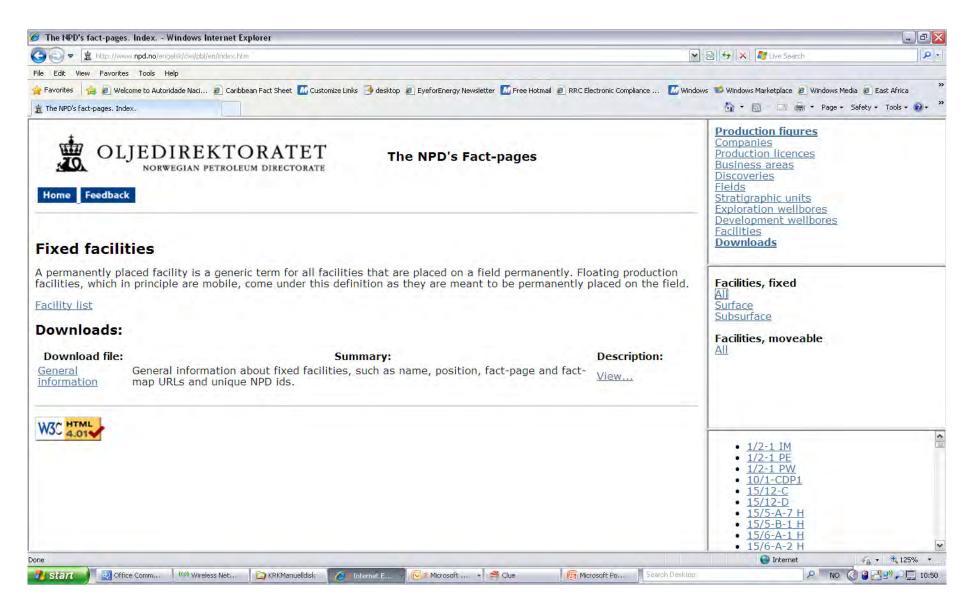
## Categories .....wells





### Categories.... facilities





#### Access to well attributes & downloads





The NPD's Fact-pages

Home Feedback Description of attributes Map

Generated 30.09,2009

Exploration wellbore: 1/2-1

#### General information

NPDID wellbore: 1382 Well name: 1/2-1

Drilling operator name: PHILLIPS PETROLEUM COMPANY NORWAY

Geodetic datum:

Coordinates: 56° 53` 15.07`` N 2º 28' 35.70'' E UTM coordinates: 6305128.26 N 468106.29 E

UTM zone: 31 Drilled in production licence:

Area: NORTH SEA Discovery: 1/2-1 BLANE Field: BLANE Drill permit: 604-L Drilling facility: ROSS ISLE

Drilling days:

Wellbore entry date: 20.03.1989 Wellbore completion date: 04.06.1989 Original wellbore purpose: WILDCAT Wellbore purpose: WILDCAT Wellbore status: P&A Wellbore contents: Discovery wellbore: YES

Formation/age with hydrocarbons 1: FORTIES FM / PALEOCENE Seismic location: PW 8303A - 10 SP, 290

Kelly bushing elevation (KB) [m]: 22 Water depth [m]: 72 Total Depth (MD) [m]: 3574

Final vertical depth (TVD) [m]:

Max inclination [°]: 2.00 Bottom hole temperature [°C]: 147

07/10/2009 Oldest penetrated age: LATE CAMBRIAN

Oldest penetrated formation:

Note: All depths, except the water depth, are relative to kelly bushing (RKB)

**Exploration wellbores** 

Production figures

Production licences Business areas Discoveries Fields

Stratigraphic units Exploration wellbores Development wellbores

Companies

Facilities Downloads

Alphabetic

Not entered wellbores Discovery wellbores By drill permit By wb entry date

By wb completion date By updated date By publication date

Reclassified to development

With composite logs With wellbore documents With NPD papers With old WDSS reports

With extended data available (WDSS)

With cores

1/2-2

1/3-10

1/3-10 A

1/3-11

1/5-1

1/5-3 9

1/5-4 S

61

#### **Alternative Topic lists**



- Old correspondance index
- NPD Library
- Ephorte
- Licence Web
- NPD Fact Pages
- GeoNorge Portal
- Licence Web

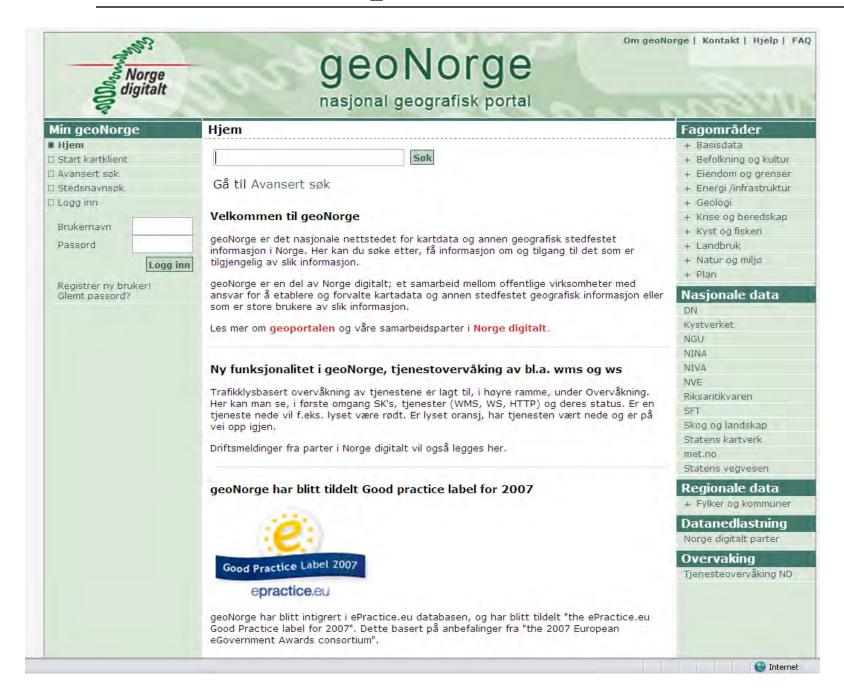




Norge digitalt	geoNorg nasjonal geografisk po		kt   Hjelp   FAQ
Min geoNorge	Hjem	Fagomi	råder
# Hjem		+ Basisd	lata
Start kartklient	npd	+ Befolk	ning og kultur
Avansert søk	Gå til Avansert søk	+ Eiendo	om og grenser
Stedsnavnsøk	Ga til Avansert sok	+ Energi	/infrastruktur
Lagg inn	Carrier Description	+ Geolo	gí
	Velkommen til geoNorge	+ Krise o	og beredskap
Brukernavn	geoNorge er det nasjonale nettstedet for kartdata og ar	nen geografisk stedfestet + Kyst o	g fiskeri
Passord	informasjon i Norge. Her kan du søke etter, få informas	jon om og tilgang til det som 🕒 🗕 + 🗀 ndb	ruk
Logg	er tilgjengelig av slik informasjon.	+ Natur	og miljø
Registrer ny bruker! Glemt passord?	geoNorge er en del av Norge digitalt; et samarbeid mel	om offentlige virksomheter + Plan	
	med ansvar for å etablere og forvalte kartadata og annen stedfestet geografisk informasjon eller som er store brukere av slik informasjon.  Les mer om geoportalen og våre samarbeidsparter i Norge digitalt.  Ny funksjonalitet i geoNorge, tjenestovervåking av bl.a. wms og ws  Trafikklysbasert overvåkning av tjenestene er lagt til, i høyre ramme, under Overvåkning. Her kan man se, i første omgang SK's, tjenester (WMS, WS, HTTP) og deres status. Er en tjeneste nede vil f.eks. lyset være rødt. Er lyset oransj, har tjenesten vært nede og er på vei opp igjen.		ale data
			et .
			cvaren
			landskap
	Driftsmeldinger fra parter i Norge digitalt vil også legge	s ner. Statens l	kartverk
		met.no	
	geoNorge har blitt tildelt Good practice label for	2007 Statens v	regvesen
		Regiona	ale data
	(e)		og kommuner
			dlastning
	Good Practice Label 2007	Norge dig	gitalt parter
	epractice.eu	Overva	king
	epractice.eu	Tieneste	overvåking ND

### Themes (diciplines)



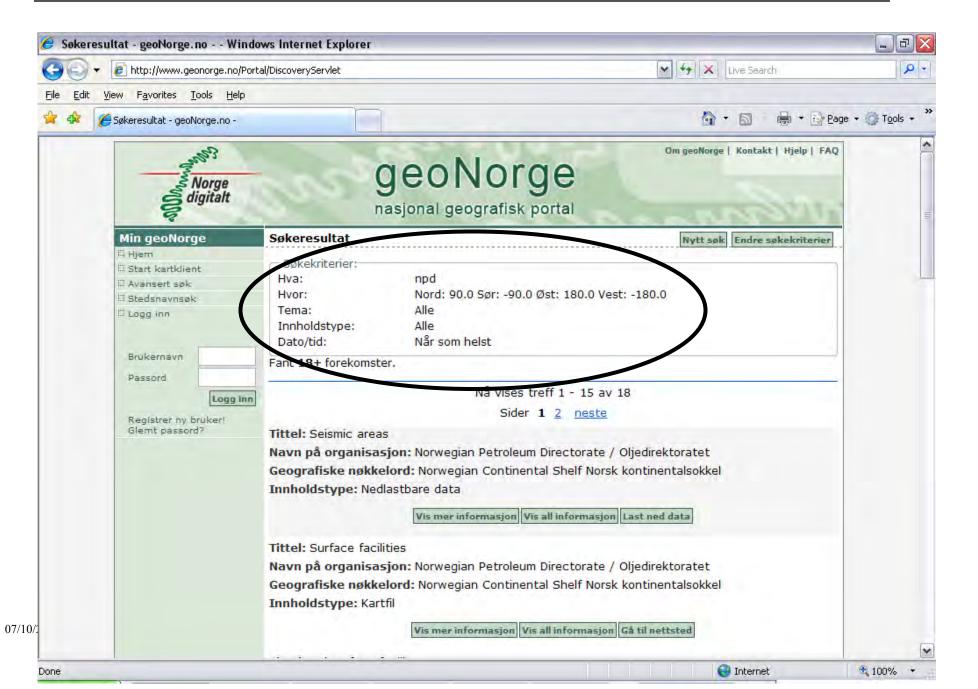


#### Disciplines

- •Well data
- People and culture
- Properties and borders
- •Energy/infrastructure
- Geology
- •Emergency/em.response
- Coast & fisheries
- Agriculture
- •Nature & environment
- Area planning



### GeoNorge Portal: Search Criteria



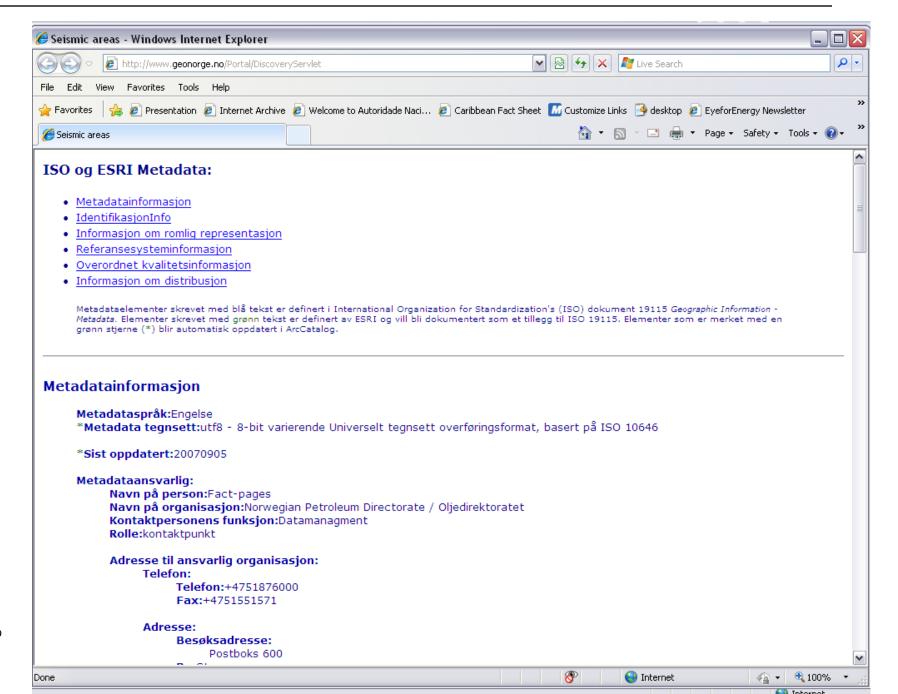




Norge digitalt	geoNorge nasjonal geografisk portal		
Min geoNorge	Viser metadata Tilbake		
□ Hjem □ Start kartklient	Identifikasjonsinformasjon		
III Avansert søk III Stedsnavnsøk III Logg inn Brukernavn	Tittel: Seismic areas Innholdstype: Nedlastbare data		
Passord	Beskrivelse		
Registrer ny bruker! Glemt passord?	Sammendrag: English: Seismic area, some sort of business areaNorsk: Seismikk område, en form for forretnings område  Hovedtema: Administrative grenser, Økonomi  Tidsperiode etablering av innhold		
	Første etablering, dato: 2007-09-05		
	Statusinformasjon		
	Vedlikeholdsfrekvens: Ved behov		
	Geografisk område		
	Vestligste koordinat: 1		
	Østligste koordinat: 35		
	Nordligste koordinat: 80		
	Sørligste koordinat: 55		
	Beskrivelse av geografisk utstrekning: Norwegian Continental Shelf  Norsk kontinentalsokkel		



#### Show all metadata of that data resource



07/10/2009

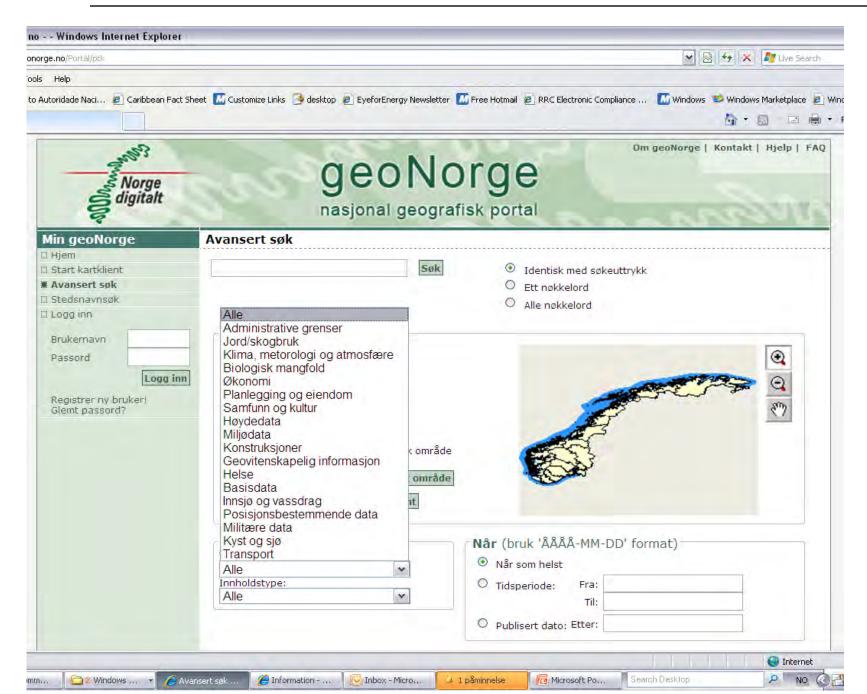




Norge	geoNo	Om geoNorge   Kontakt   Hjelp   FA
Min geoNorge	nasjonal geogra Avansert søk	
Start kartklient  * Avansert søk  Stedsnavnsøk  Logg inn	petroleum	Identisk med søkeuttrykk  Ett nøkkelord  Alle nøkkelord
Passord  Logg i  Registrer ny bruker! Glemt passord?	Hvor  Hvor som helst  Data skal ligge innenfor geografisk omr	ēde
	Start kartklient for å angi geografisk område Bruk geografisk område fra kartklient	
	Hva Tema: Alle Innholdstype: Alle	Når (bruk 'ÅÅÅÅ-MM-DD' format)  Når som helst  Tidsperiode: Fra:  Til:  Publisert dato: Etter:

### Advanced search: Theme/topic/subject





#### Where

• use Map

#### What

- Topic
- •Adm. Borders
- Agricult.Forestry
- •Climate
- •Bio diversity
- Economy
- •Planning/Property
- Society & culture
- Topography
- •Environment
- Constructions
- •Geoscience
- •Health care
- •Basic data
- •Lakes & sea
- Transport

#### When



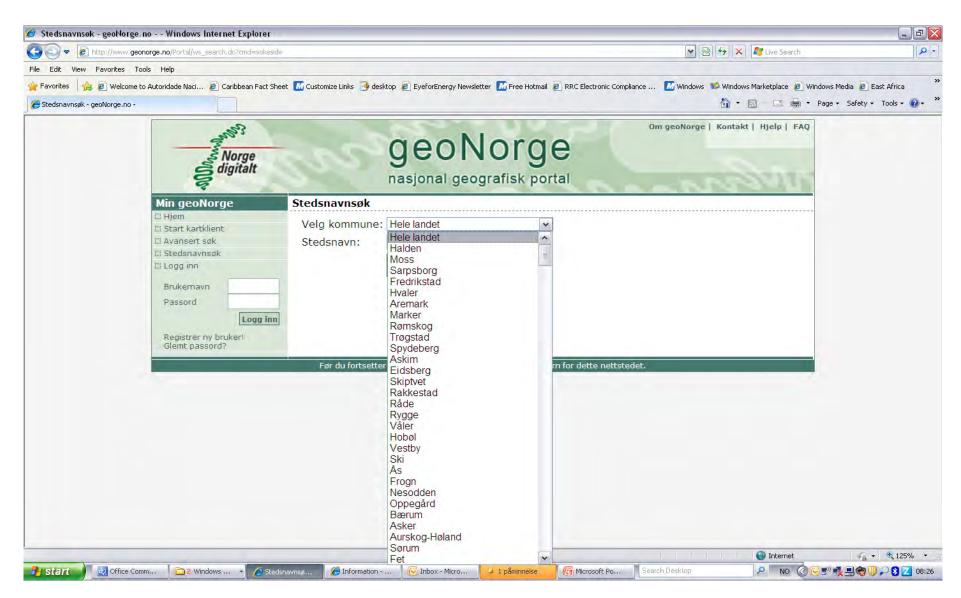


Norge digitalt		geoNorg		Om geoNorge   Kontakt   Hjelp   FAQ
Min geoNorge	Stedsnavnsøk			
☐ Hjem ☐ Start kartklient ☐ Avansert søk ☐ Stedsnavnsøk ☐ Logg inn  Brukernavn Passord  Logg inn	Velg kommune: He Stedsnavn:		~	
Registrer ny bruker! Glemt passord?	Før du fortsetter les	om ansvar, opphavsrett og persor	overn for dette nettsted	of.

Search in a structured database

### Search on location names (ex city)





Search in a structured database

# Search on location names (ex city): Results



FI High	snavnsøk - Resultat kart Navn Beskrivelse	
III Start kartklient VIS I	kart Nava Backrivalca	
Stedsnavnsøk  Stedsnavnsøk  Logg inn  Brukernavn  Passord  Logg inn  Registrer ny bruker! Glemt passord?	Tananger Tettsted Tananger Lykt (Fyrlykt)	Sola Sola Sola

Links to all the attibutes in the structured database

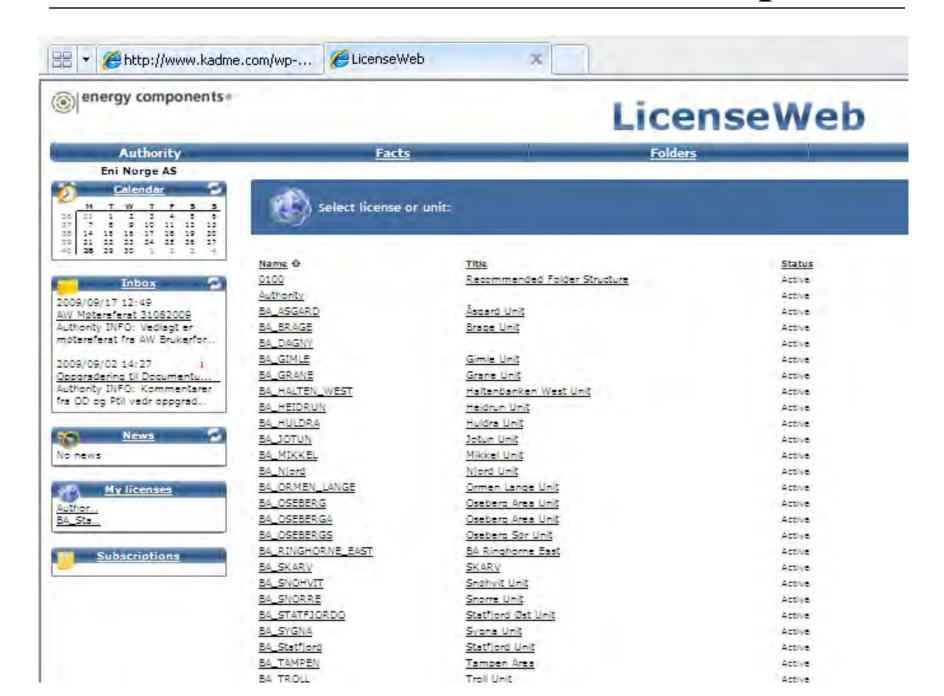
### **Alternative Topic lists**



- Old correspondance index
- NPD Library
- Ephorte
- Licence Web
- NPD Fact Pages
- GeoNorge Portal
- Licence Web

# License web – Portal for all licenses and all companies





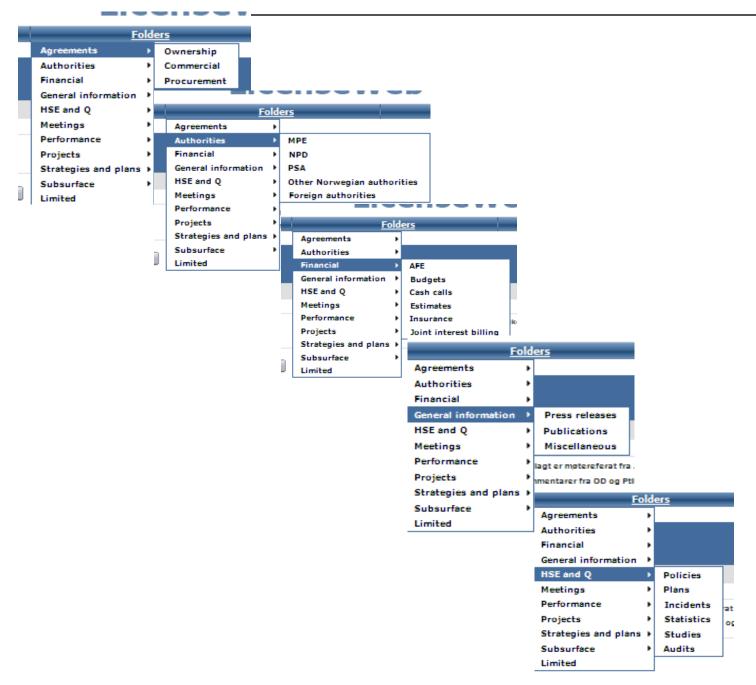




<u>Facts</u>	<u>Folders</u>	
	Agreements	•
	Authorities	•
Inbox for Authority	Financial	•
	General information	•
Total number of items for Authority: 2	HSE and Q	•
Mark <u>Title</u>	Meetings	•
AW Motereferat 31082009	Performance	lagter
Oppgradering til Documentum 6.5	Projects	menta
konsekvenser for Authority Web	Strategies and plans	<b>-</b>
	Subsurface	•
Mark (!) Unmark Remove from inbox	Limited	

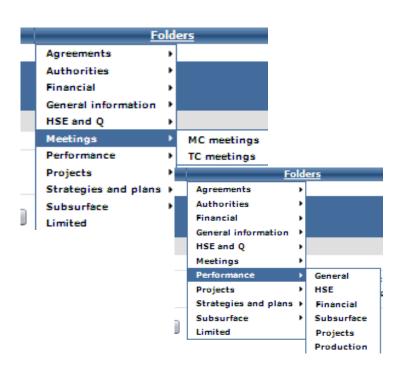
#### License web: SubFolders

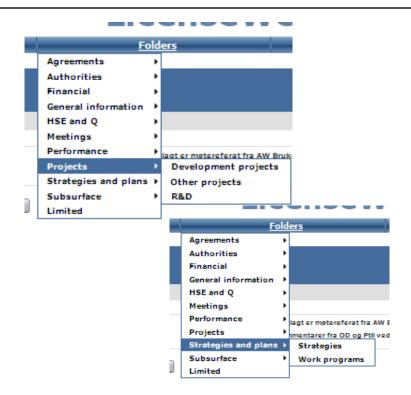




#### License web: Folders cont.



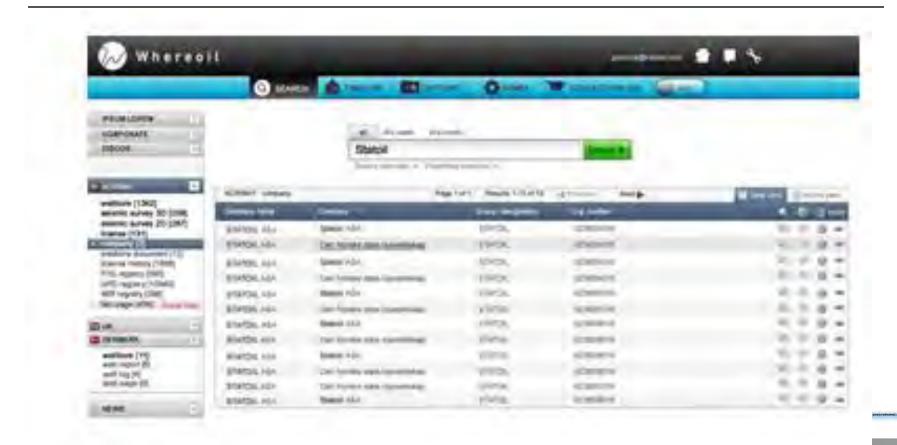






#### New Software: ex WhereOil





Portal with a combines search in both

- Text documents
- •Structured database/spreadsheets

 $^{07/10/2009} \quad \bullet Maps$ 



## Statistics Norway: Subject 10 Business sector





# Mining and extracting/exploitation incl oil &gas Exploitation of crude oil and gas

Services connected to oil & gas production





#### 15) MD\_TematiskHovedKategori (TopicCatCd)

Kodeverdi	Kodenavn	Kodedefinisjon
001	landbruk	Avling eller oppdrett av dyr og/eller dyrking av planter. Eksempel: Jordbruk, landbruk, skogbruk, vanningsanlegg, oppdrettsanlegg, plantasjer, buskap samt sykdomsangrep på avling eller buskap.
002	biologiskMangfold	Flora og fauna I naturmiljøet Eksempler: viltområder, vegetasjon, biologisk forskning, økologi, urskog, våtmarker, habitater og biologisk mangfold i sjø.
003	administrativeGrense	Offentlig bestemte avgrensinger av et landområde. Eksempel : fylkesgrense, kommunegrense, grunnkretser.
004	klimaMeteorologiAtm osfære	Prosesser og fenomener I atmosfæren. Eksempler: skydekke, vær, klima, atmosfæriske forhold, klimaforandring, nedbør.
005	økonomi	Økonomisk aktivitet, betingelser og sysselsetting. Eksempler: produksjon, arbeid, omsetning, handel, industri, turisme, økoturisme, ulike næringer fra skogbruk, fiskeri, kommersiell fangst og jakt, samt undersøkelse og utvinning av ressurser som mineraler, olje og gass.
006	høydeData	Høydedata og dybdedata. Eksempel: Høydeanvisning, bathometri, digitale høydemodeller, hellingsdata, og andre avledede produkter knyttet til terrengformer.
007	miljøData	Miljøressurser, vern og bevaring. Eksempler: forurensning, avfallsområder, risikoområder, miljøkonsekvensutredninger, verneområder, kulturmiljø og kulturlandskap.
008	geovitenskapligInfo	Informasjon som gjelder geovitenskap. Eksempler: geofysiske stedfestede objekt og prosesser, geologi, mineraler, vitenskaper som omhandler sammensetning struktur og opphav av jordens bergarter og dens kjemiske og geofysiske egenskaper, jordskjelv, vulkanisk aktivitet, skred, jordarter, permafrost, hydrogeologi, erosjon
009	helse	Helse, helsetjeneste, sykdom og sikkerhet. Eksempler: Faktorer som påvirker helsen, hygiene, rusmisbruk, mental og fysisk helse.
010	basisData	Primærdata, kartdata (vektor og raster), grunnkart, arealdekkende bilder. Eksempler: topografiske kart, satellittbilder, flybilder, ortofoto, skråfoto, uklassifiserte bilder, presentasjonsdata.

#### Lessons learned



- The metadata elements must be tailored to the user group that will search for data
- Controlled vocabulary are useful for keywords
- Metadata element according to a specific data model (ontology) useful
- Don't make complicated IT-systems without simple pilot

07/10/2009

#### **Arguments**



#### The EPPM project is not an IT-project

- Templates exist already (ex BGS, CCOP-metadata portal)
- Challenge is to put in the right data
   What is relevant (not too much, start in the right end, which search criteria)
   Compatible with emerging technology (free text search, metacarta(spacial data retreival), semantic web)

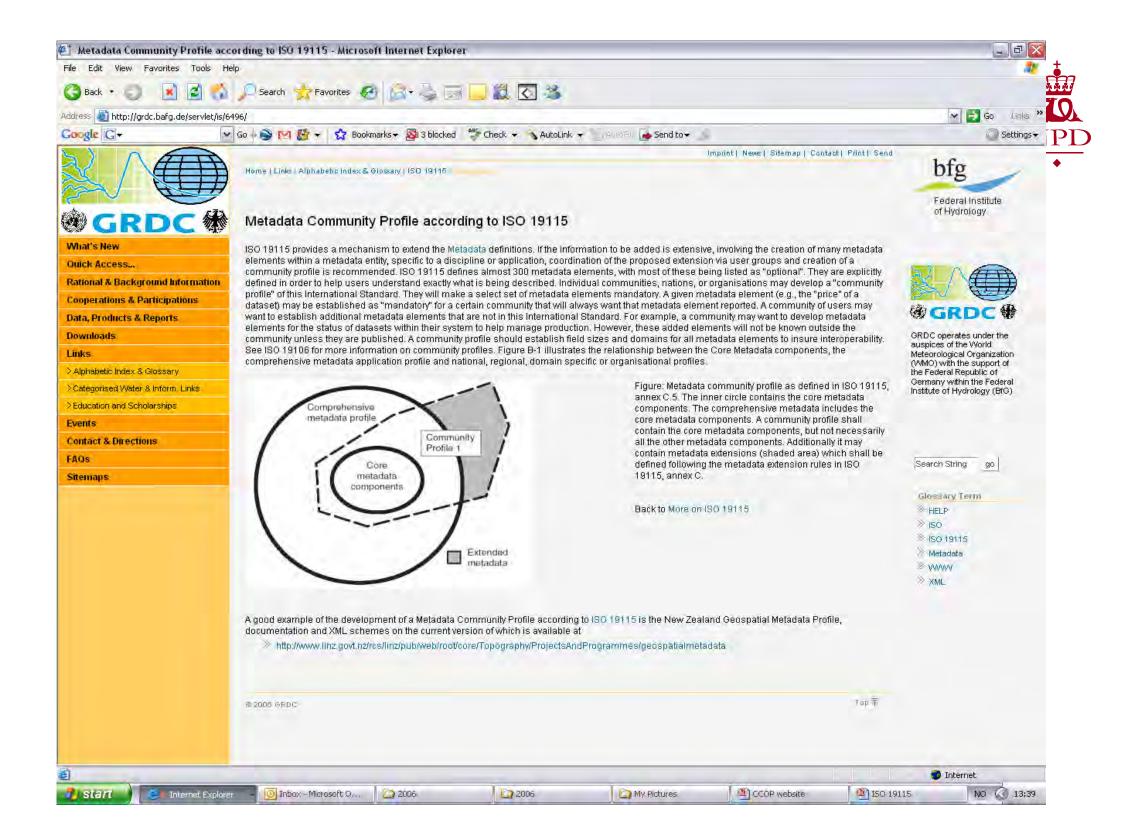
#### • The focus must be on

- Define a short keyword hierarchy that is relevant (classification)
- Use "best practice ontology"
- Harmonize regional reference databases to allow for future dataflow between databases

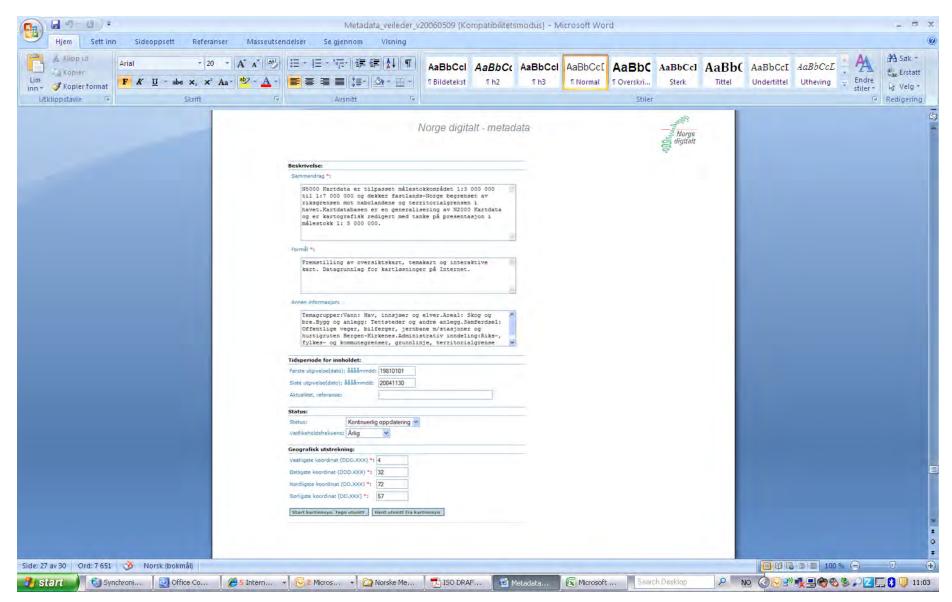
# End og presentation....



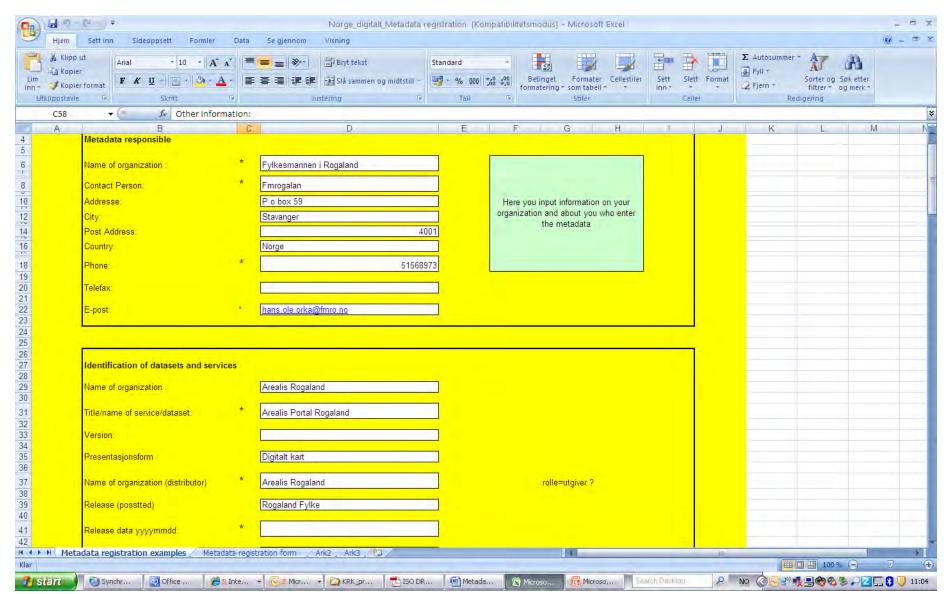
07/10/2009











07/10/2009



