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Asia Pacific

Upstream Solutions Digest

2015 Edition II

About IHS

At IHS, we are committed to providing our customers with the energy industry's most comprehensive Exploration and Production (E&P) information in a variety of delivery methods that enable rapid screening and analysis. We offer products and solutions for all aspects of your oil and gas asset management workflow. Trusted information covering 425 oil and gas basins worldwide, including more than 5 million wells, are seamlessly integrated with more than 15 engineering, economics and interpretation software suites.

About Upstream Solutions Digest

As an opportunity arises, its exploration, production, commercial, legal, and political risks must be understood. Information about current right holders and the latest E&P activities need to be fully and quickly evaluated. The task is becoming more and more challenging due to the political and economic changes and the intensifying competition in the industry. Thus a reliable source of information with flexible and efficient tools is critical to acquiring a competitive advantage.

IHS Energy is uniquely positioned to provide customers with the critical information and tools for understanding various types of risks and E&P potential in order to build a successful strategy. This digest is created to help users effectively navigate the breadth and depth of IHS data, information and tools.

The specific objectives of this digest are:

1. To take customers' skills of IHS Energy products to the next level by introducing tips and case studies;
2. To enable customers to do independent analysis by presenting work flows and methodologies using IHS Energy data and applications; and
3. To inform customers of the latest improvements to our energy products and to gather feedback.

The typical products involved are shown below:

- EDIN
- EDIN Desktop
- Global Exploration & Production Services (GEPS)
- Petroleum Economics and Policy Solutions (PEPS)
- QUE$TOR
- The IHS Connect platform

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I. FEATURED SOLUTIONS

Exploration Results of 2015 H1

By Yongliang Zhang

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Related products: EDIN

Beyond all doubt, exploration activities are a pivotal approach for oil companies to acquire new reserves. Furthermore, activities and results of a new field wildcat (NFW), which is the first well drilled on a structure, is important to both the oil company and the government. At present, with regards to the relatively low oil price, the oil companies are more careful in their investment, particularly in exploration expenditure.

In this article, we hope to show you how EDIN is being used to retrieve and analyze exploration results and discovery size for a certain period.

A. Exploration Results

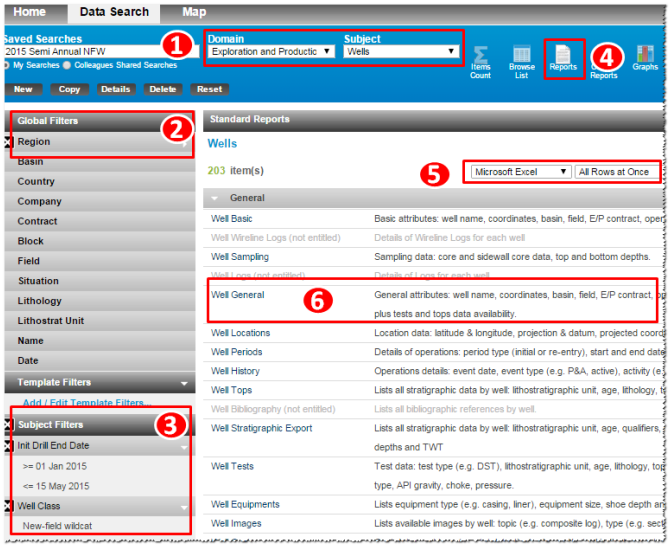

Fig 1-1: Search Wells in EDIN

(1) Run **EDIN** and **Start A New Data Search** (Fig 1-1).

- Domain=Exploration and Production
- Subject= Wells

(2) Set **Global Filters**: check on all **Regions**.

(3) Set **Subject Filters** and click **Add/Edit Subject Filters.**

- Init Drill End Date = From 01 Jan 2015 to 15 May 2015
- Well Class=New-field Wildcat

(4) Use **Reports** function by clicking on the icon.

(5) Set output format as **Microsoft Excel** and **All Rows at Once**.

(6) Choose **Well General** template by clicking on the title, which will save certain well attribute info locally into Excel for further analysis.

*Note: NFWs number internationally (exclude North America onshore) in 2013 & 2014 for the same period can be acquired by modifying **Init Drill End Date** and repeat the procedures above*.

Table 1-A: Attributes in Template of Well General

Country Name	Block Name	Tvd Meter
Basin Name	Field Name	Tvd Qual Unit
Well Name	Well Class	Deviation Type
Alternate Well Name	Resource Type	Rig Contractor Name
Alternate Well Name 2	Unconv Type 1	Rig Name
Onshore Offshore	Unconv Type 2	Rig Type
Terrain	Spud Date	Spud Date Iris
Latitude	Init Drill End Date	Init Drill End Date Iris
Longitude	Last Completion Date	Last Completion Date Iris
Latitude Dec Deg	Technical Status	Active Flag
Longitude Dec Deg	General Status	Disc Flag
Coord Qual	Content	Tests Flag
Water Depth Meter	Depth Ref Type	Tops Flag
Water Depth Feet	Depth Ref Elevation Mete	Platform Name
Ground Elevation Meter	Depth Ref Elevation Feet	Sidetrack Pred Name
Ground Elevation Feet	Td Feet	Sidetrack Orig Well Name
Operator Name	Td Meter	API Country Well Index
Contract Name	Tvd Feet	Well ID

Review the exported spreadsheet (attributes shown in Table 1-A) and graphs (Fig 1-2) generated using the data. In 2015, a total of 203 NFWs were drilled. The NFWs drilled has decreased by significantly as compared to 374 wells in 2014 and 452 wells in 2013 for the same period. This is probably due to the tumbling of oil prices. Although the number of NFWs has fallen, the success rate has remained stable over the previous two years of the same period which is at the rate of 39%.

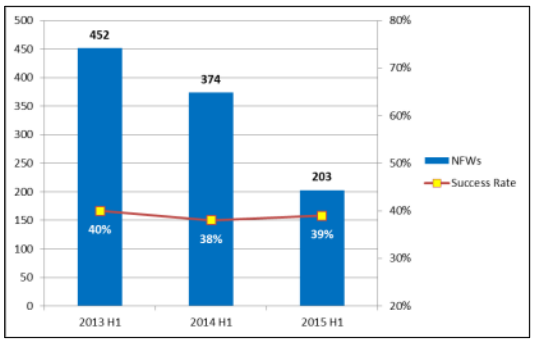

Fig 1-2: NFWs Success Rate

In addition, you can do more analysis using the values in the exported Excel. For example, NFWs by country (Fig 1-3); basin, country, rig day analysis or TD depth.

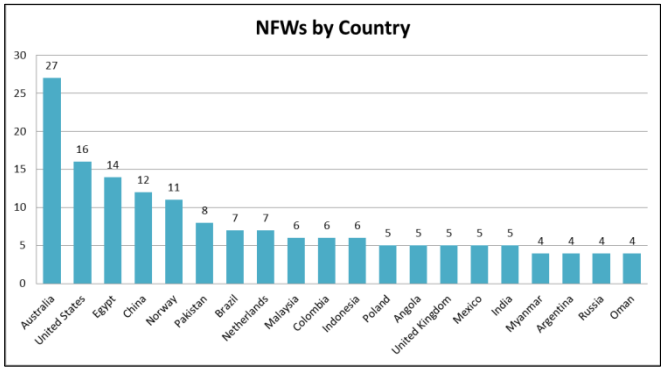

Fig 1-3: NFWs by Country

B. Reserve Addition

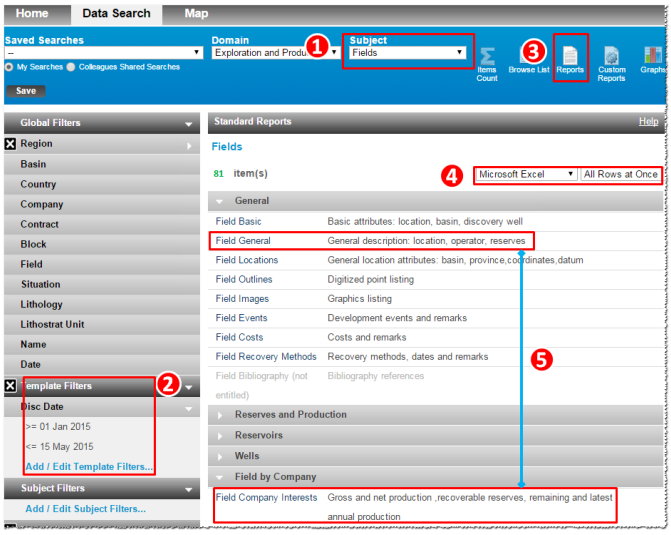

Fig 1-4: Search Fields in EDIN

(1) Switch **Subject** to Fields (Fig 1-4).

(2) Set **Template Filters** and click **Add/Edit Template Filters**.

- Disc Date= From 01 Jan 2015 to 15 May 2015

(3) Use **Reports** function by clicking on the icon.

(4) Set output format as **Microsoft Excel** and **All Rows at Once**.

(5) Choose **Field General** and **Field Company Interest** template by clicking on the title, which will save certain field attribute info locally into Excel for further analysis.

Table 1-B: Attributes in Field Template Report

Field General Report	Field Company Interest Report
Country Name	Field Name
Basin Name	Company Name
Field Name	Interests Pct
Onshore Offshore	Operator Flag
Latitude	Company Type
Longitude	Net Interests Pct
HC Type	Net Oil Recoverable PP MMbbl
Resource Type	Net Gas Recoverable PP MMscf
Numb Reservoirs	Net Cond Recoverable PP MMbbl
Prod Status	Net Cumul Oil Prod MMbbl
Offsh Development Techniques	Net Cumul Gas Prod MMscf
Disc Date Year	Net Cumul Cond Prod MMbbl
Discovery Well Name	Net Latest Annual Oil Prod Bbl
Current Operators	Net Latest Annual Gas Pro Mscf
Oil Recoverable PP MMbbl	Net Latest Annual Con Prod Bbl
Gas Recoverable PP MMscf	Latest Annual Production Year
Cond Recoverable PP MMbbl	Net Oil Remaining PP MMbbl
Total Recoverable MMboe	Net Gas Remaining PP MMscf
Company Name	Net Cond Remaining PP MMbbl

Field detailed information can be found in the excel document (attributes shown in Table 1-B), which include reserve, HC type, ownership and its interest etc. Such info can be used to generate multiple statistics or graphs via **PivotTable function** in MS Excel.

From the **Field General** report, it is easy to find that there are a total of 81 new fields with 3,346 MMboe totally discovered in 2015 period in 32 countries. The graph below (Fig 1-5) shows the top 20 countries by reserve addition, discovery number, total added volume and average size of discoveries. Mauritania ranks first place in total discovered volume with 1,341MMboe, contributed by the largest gas discovery. Although there were 12 discoveries in Australia, its average size is relatively small.

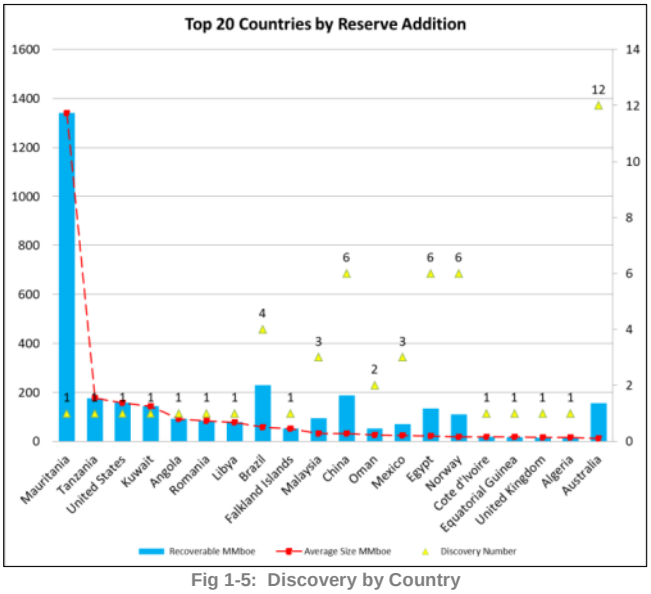

Fig 1-5: Discovery by Country

By using the **Field Company Interest** report, we can identify which companies have made discoveries and who the dominant player is. The graph below (Fig 1-6) is generated based on the data showing the top 20 companies by reserve addition. Kosmos Energy Ltd, which is a relatively small public company, is ranked in first place in reserve addition, followed by NOC, Turkmengaz and supermajor, Chevron Corp.

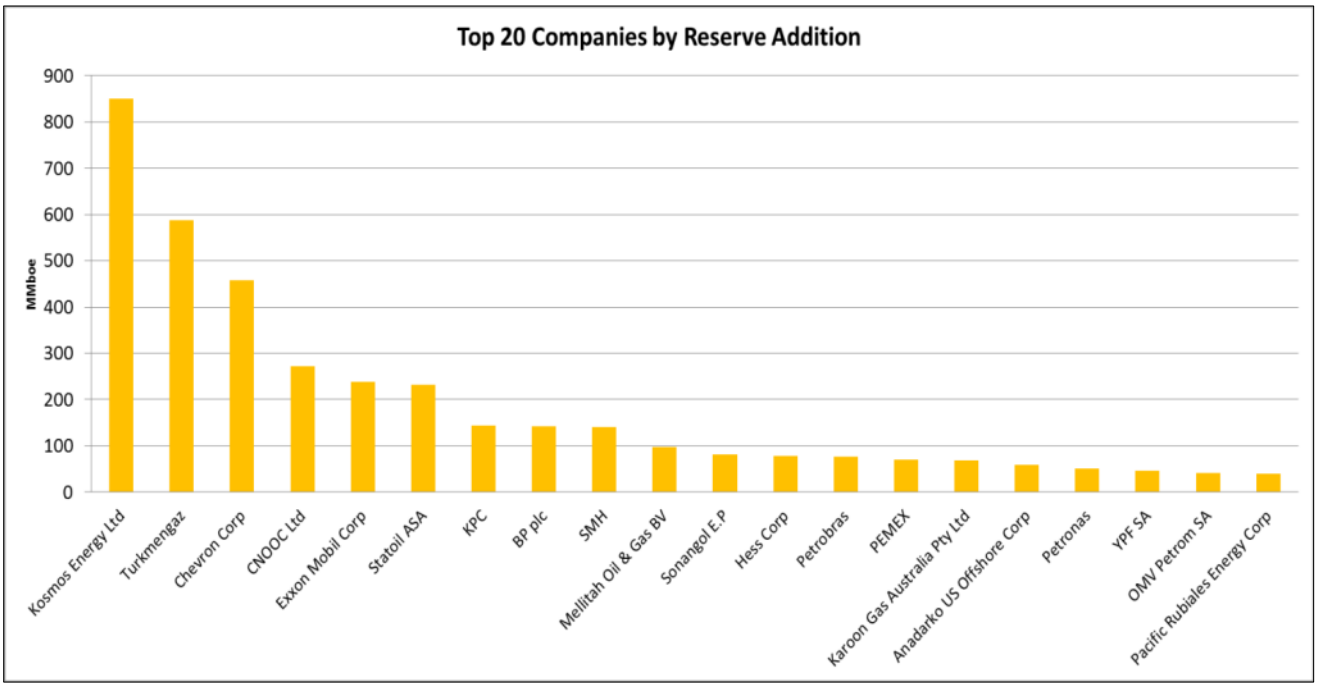

Fig 1-6: Discovery Size by Company

As this example has demonstrated, the exploration and production data in EDIN covers almost all of the key attributes which can be easily exported into Excel, where you can do further analysis to meet your various requirements.

Historical Exploration and Production Area Analysis

By Matthew Quinn
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Related products: EDIN

EDIN covers **current** and **historical** E&P data making it an ideal tool for analyzing the evolution of oil and gas activities within a region.

The date of an activity to be displayed through the "**Map"** function can be set within "**Preferences"** (Fig 2-1 & 2-2).

(1) Open **Map** and click on **Preference** in tool bar.
(2) Set **preference** criteria in popup window.
- Basin=North Camarvon Basin
- Date= < 1 January 1960

*Note: The **Date** will be modified by steps.*

(3) Click Apply & Zoom.

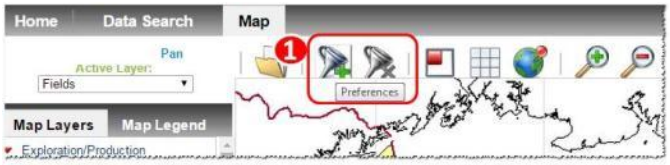

Fig 2-1: Location of "Preferences" in EDIN Map

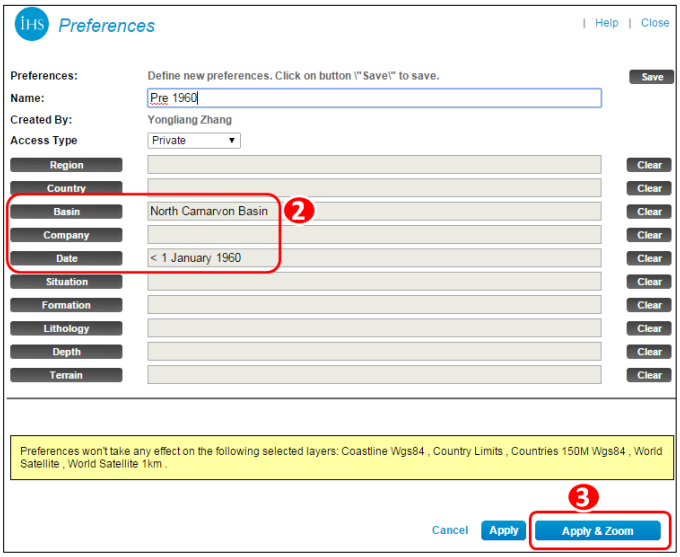

Fig 2-2: Preferences Screen

In the following, Fig 2-3 to Fig 2-10 display activities in the North Carnarvon Basin. The maps have been broken up in 10 year intervals until 2000 and then 5 year intervals to the present.

The first date used is < 1 January 1960. Fig 2-3 displays some onshore wells and the Rough Range field (discovered in 1954) on the southern edge.

Note: The name of the preference set is displayed in green at the bottom of the map.

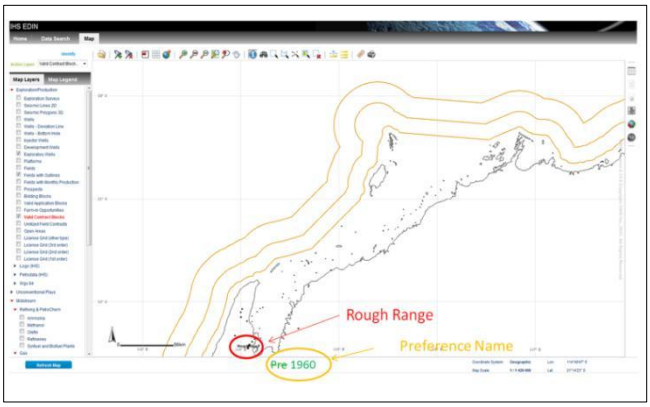

Fig 2-3: Pre 1960

In Fig 2-4, the cut-off date has been set at < 1 January 1970. As is displayed, the 1960's saw the discovery of Barrow Island (1964), Legendre (1968) and Flinders Shoal (1969).

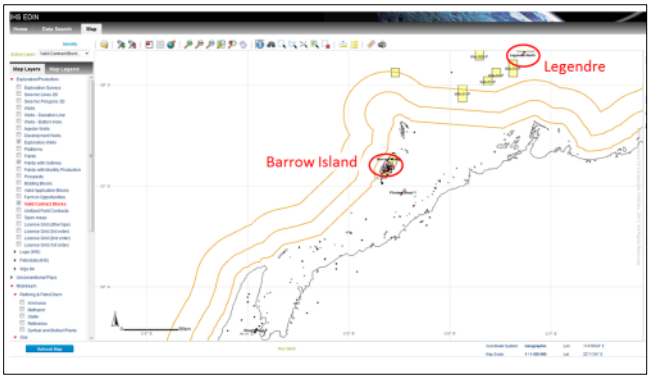

Fig 2-4: Pre 1970

Fig 2-5 is pre 1980 and includes the Goodwyn (1971) Tryal Rocks (1973), Dockrell (1973) Spar (1976) and Scarborough (1979) discoveries.

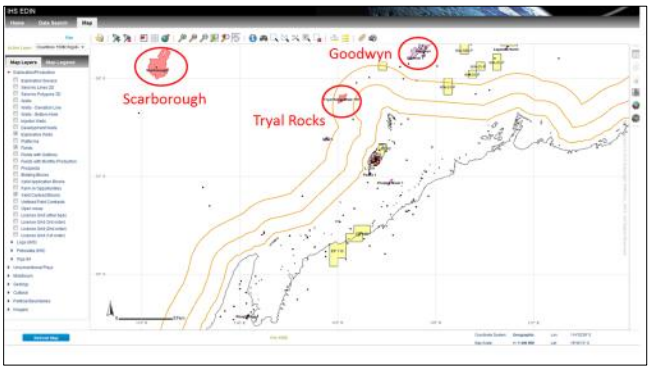

Fig 2-5: Pre 1980

The map pre 1990, Fig 2-6, includes the discovery of Gorgon (1981) while Fig 2-7, pre 2000, saw the discovery further gas fields north of Gorgon and the Exmouth Sub Basin oil fields.

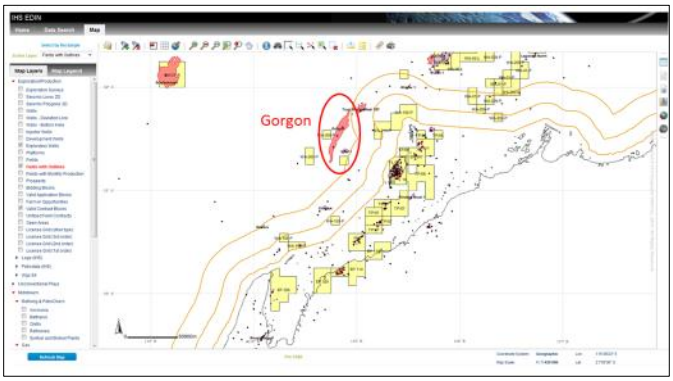

Fig 2-6: Pre 1990

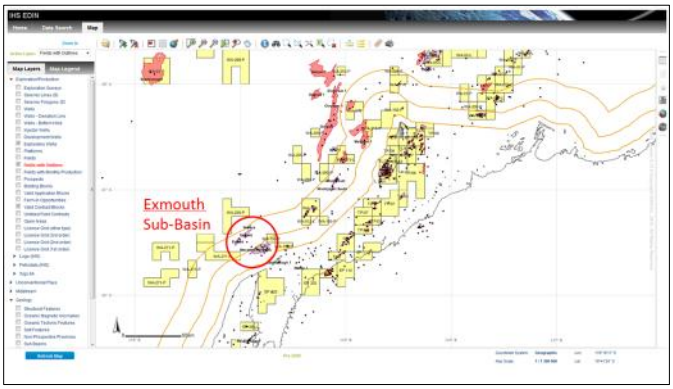

Fig 2-7: Pre 2000

Jansz (2000), Iago (2001) and Wheatstone (2004) appear in Fig 2-8 (pre 2005), while Pluto (2005) is included in Fig 2-9 (Pre 2010)

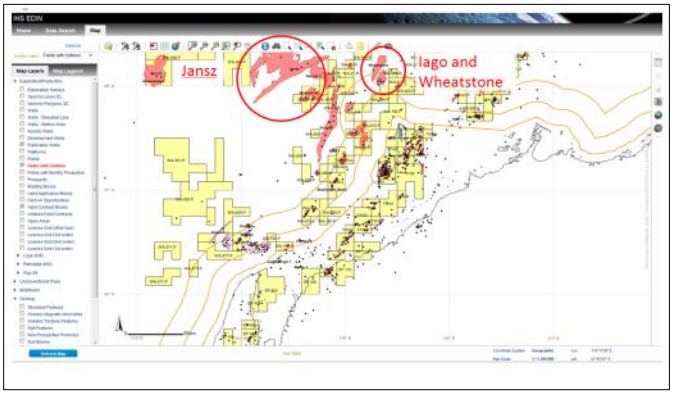

Fig 2-8: Pre 2005

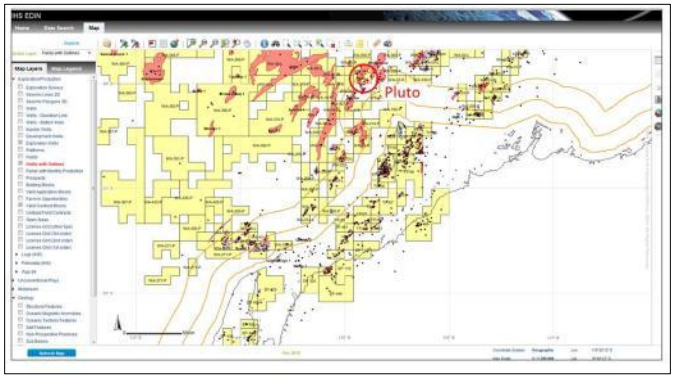

Fig 2-9: Pre 2010

The final map is of the present day, Fig 2-10 (No preferences set), and shows the recent Acme 1 (2010), Sappho 1 (2010) and Chester 1ST1 (2010) discoveries.

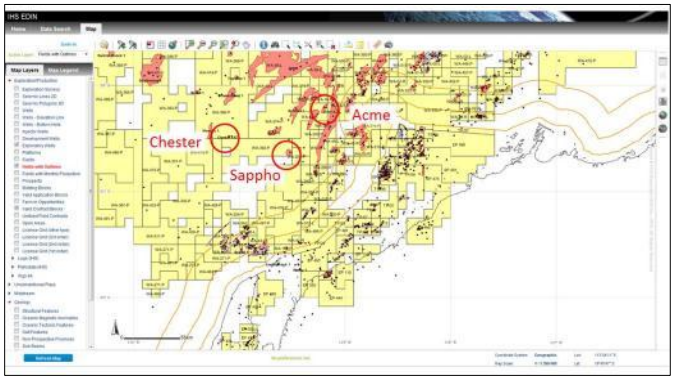

Fig 2-10: Pre 2010

As shown in the example of North Carnarvon Basin, with the Preference function in EDIN Map interface, the exploration and production history of the area can be visualized in map and very easily for us to understand the evolution of the basin.

II. TYPICAL CASE STUDIES

Field Analysis Case Study

By Mohit Gulati

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Related products: EDIN

In this section, a field study of the Yadana and Yetagun fields in Myanmar is performed to determine the basic field statistics, annual production, and wells that were drilled in the fields, including the discovery wells.

A. Search Fields

(1) Login to **EDIN** and **Start A New Data Search**. Set Domain and Subject (Fig 3-1).

- Domain= Exploration and Production
- Subject= Fields

(2) Set **Country** as Myanmar.

(3) Find and choose fields by name and click OK.

(4) Click **Browse List** icon to view field detailed info.

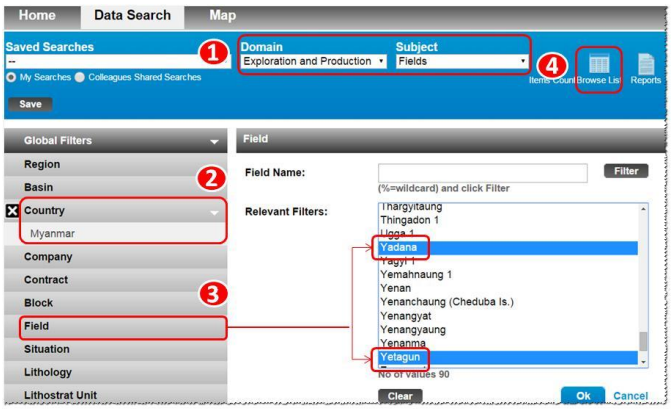


Fig 3-1: Workflow to Search Fields in Country

B. Field Report and Annual Production

(5) **Browse List** interface (Fig 3-2) display the general information for the fields and offer access to Filed General report in Word/Excel/PDF format.

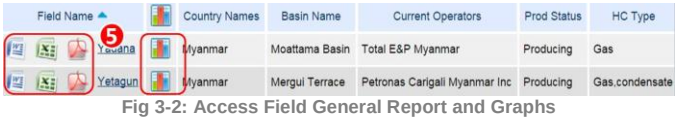


Fig 3-2: Access Field General Report and Graphs

Within the report you can get ***field location, ownership, hydrocarbon type, reservoir geology, reserve information etc. and also the annual production chart by liquid and gas***.

The report and graphs can be saved locally (Fig 3-3).

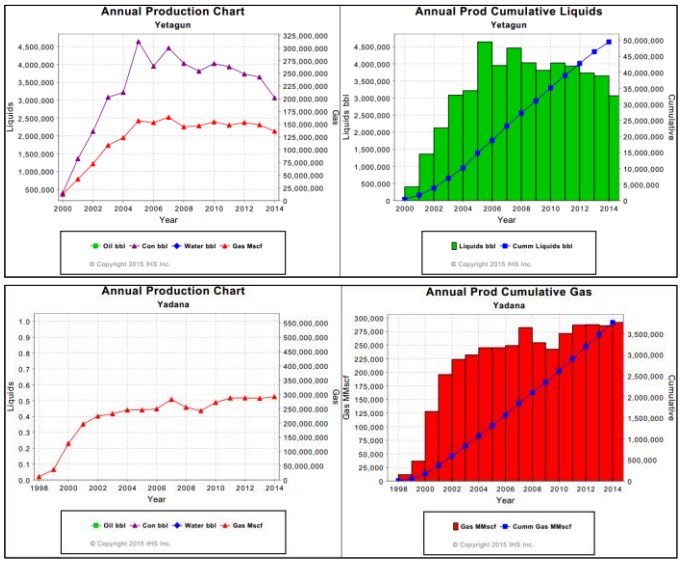


Fig 3-3: Annual Production Charts of Individual Fields

C. Access Associated Wells

(6) Switch **Subject** to Wells. Keep the same filters selected from left side. This will now populate number of wells drilled in these two fields (Fig 3-4).

(7) Click **Browse List** icon to access and download individual well general report in Word/Excel/PDF format in which you can obtain detailed information like ***well spud date, well class, content, operator, test results and scanned images etc.***

(8) **Display On Map function** (Fig 3-4) will plot the fields and wells on map interface (Fig 3-5) which will reveal the distribution of wells. And you can add label for each of the entity.

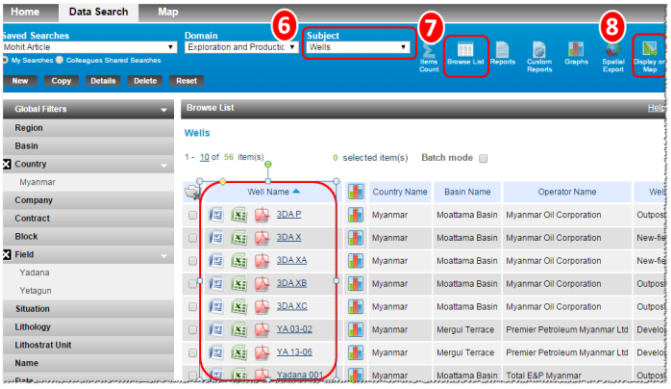


Fig 3-4: Workflow to Search Wells in Fields

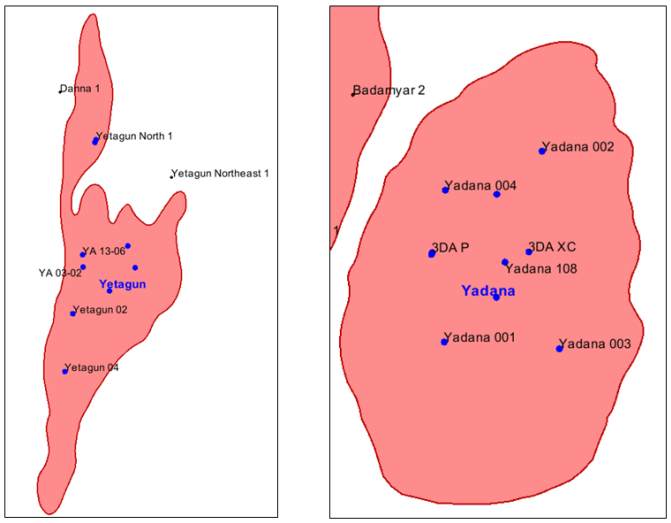


Fig 3-5: Wells Distribution in Map

This study shows Cumulative Gas production of Yadana and Yetagun fields are found to be 3,771,258 and 1,865,694.68 MMscf at water depths of 45.11 meter and 104 meter respectively.

Some of the world's largest companies with vested interests are actively involved in these two projects. Myanmar's oil and gas sector is progressing at an exponential rate companies are analyzing proven fields and reserves. Most of the gas production comes from offshore fields. The largest is Yadana with significant contribution from Yetagun.

High Pressure Wells Data Extraction

By Sachihiro Sakomoto

Sachihiro.Sakomoto@ihs.com

Related products: EDIN, GEPS

Wells that are classified as High Pressure (HP) must have a borehole pressure that exceeds 10,000 psi. EDIN does not have a specific data filter for HP wells, although it is possible to extract this information. Additionally, GEPS can support your daily workflow to track articles regarding HP wells by setting up an alert email.

A. Display HP Wells on EDIN Map

You can undertake a search for wells that have test pressures as follows:

(1) Login to **EDIN** and click **Start a New Data Search**. Set Domain and Subject (Fig 4-1).
- Domain= Exploration and Production
- Subject= Wells

(2) Click **Subject Filters** and **Add/Edit Subject Filters**.

(3) Choose Well Test from **Select** dropdown list and then choose Pressure psi in **Column List**.

(4) Choose Greater than or equal to in **Equates to**, and input 10,000 in **Minimum Value**. Then click **OK**.

(5) Click **Browse List**, the layout will change.

(6) Select wells to display on **EDIN Map** (Fig 4-2). It's best that you choose wells within the same area.

(7) Click **Display on Map**, and choose **Display only Selected item(s) on Map.** Then click **Apply** button.

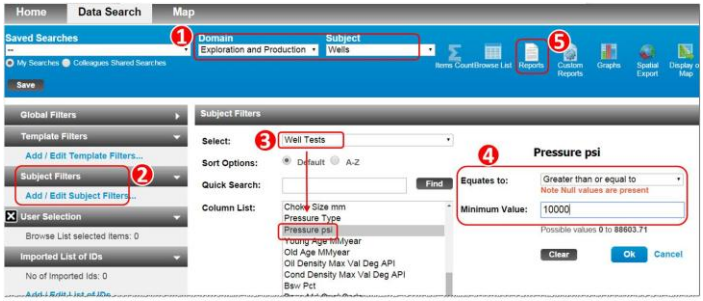


Fig 4-1: Workflow to Search HP Wells

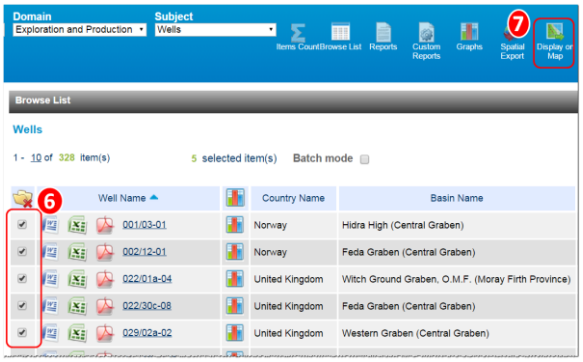


Fig 4-2: Select and Display on Map

The **Map** Interface will open and highlight the selected wells as shown in below the picture (Fig 4-3).

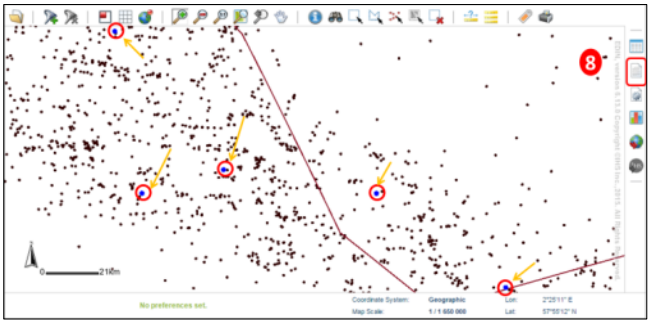


Fig 4-3: Select and Display on Map

B. Export Well Information as Excel File

The Map interface will show you the distribution of the wells. You can also view the detailed information for each of the wells using **Reports** function.

(8) Click the **Reports** icon on the right panel (Fig 4-3), which will pop-up a new window. And you can select template of spreadsheet, e.g.

- **Well Tops**: Lists all stratigraphic data by well: lithology, top and bottom depths, lithostratigraphic unit, age.
- **Well Sampling**: Sampling data: core and sidewall core data, top and bottom depths.
- **Well Test**: Test data: test type (e.g. DST), lithostratigraphic unit, age, lithology, top & bottom depths, flows by HC/fluid type, API gravity, choke, pressure.
- **Well Costs**: Cost data: cost type (e.g. total, testing), planned/actual indicator, cost expressed in original currency and US dollars.

(9) Find the suitable report template. And click on the title to export related information into Excel and save locally (Fig 4-4 & 4-5).

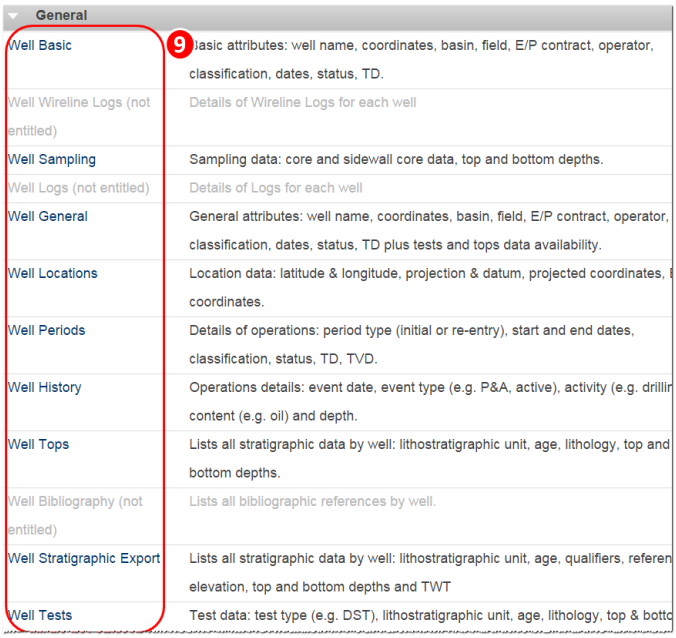


Fig 4-4: Export HP Well Info to Excel Spreadsheet

Basin Name	Well Name	Alternate Well Name	Content	Test Numb	Test Type	Status	Environment Type
Neuquen Embayment (Neuque	La Yesera (CSJ) 1	RN SJ LY x-1	gas & cond	01	Production test	flowing	Cased hole
Neuquen Embayment (Neuque	La Yesera (CSJ) 1	RN SJ LY x-1	gas & cond	01	Production test	flowing	Cased hole
Neuquen Embayment (Neuque	La Yesera (CSJ) 1	RN SJ LY x-1	gas & cond	02	Production test	flowing	Cased hole
Neuquen Embayment (Neuque	La Yesera (CSJ) 1	RN SJ LY x-1	gas & cond	03	Production test	flowing	Cased hole
Neuquen Embayment (Neuque	La Yesera (CSJ) 1	RN SJ LY x-1	gas & cond	04	Production test	flowing	Cased hole
Alpine Flysch Zone	Gruenau 1		oil & gas	01		flowing	Cased hole
Chaco Foothill Belt (Chaco Ba	Madrejones X-1001A	MJB-X1001A	gas	01	Production test	flowing	Cased hole
Chaco Foothill Belt (Chaco Ba	Madrejones X-1001A	MJB-X1001A	gas	01		pumping	Cased hole

Fig 4-5: Spreadsheet Example

C. Daily Tracking by GEPS Search Alert

GEPS allows you to search news and articles easily, which can be tagged as High Pressure and HP/HT. Moreover, you can receive alerts on HP/HT well activity via e-mail by setting up the GEPS alert which will make your daily workflow easier and faster. Steps are as follow:

(1) Login **GEPS Reports** homepage and click **Advanced Search** button (Fig 4-6).

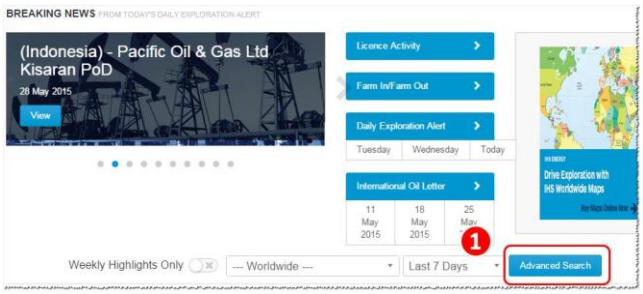


Fig 4-6: Access Advanced Search

(2) Clear any time period filter showing at the top of the search results page. Then Expand **Special Interests** filter on the left hand side panel and check on High Pressure and HP/HT. Then click **Apply Search Filters** button at the top (See Fig 4-7).

(3) Articles matched will be displayed in the center panel. You can read each of them. Next, click **Create Alert** icon above to setup an alert.

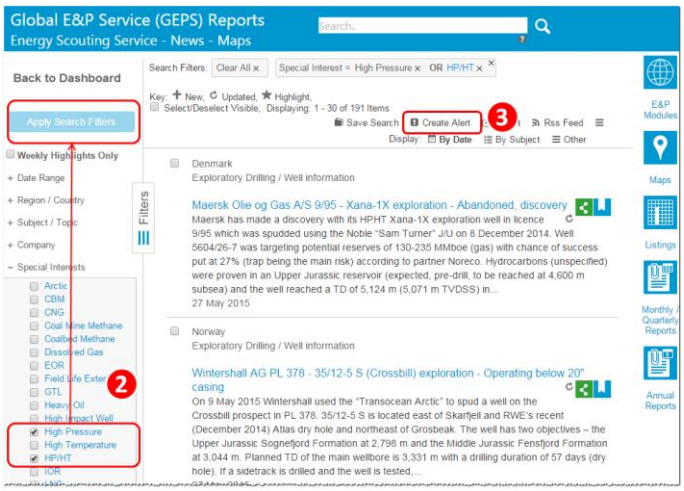


Fig 4-7: Set Filters and Create Alert

(4) Give the alert a name and description which can be associated with the contents. Then choose the **Email Frequency**- Daily, Weekly, Fortnightly (Biweekly) etc. (See Fig 4-8).The system will send you an email alert whenever there are updates that meet the filters you have set up.

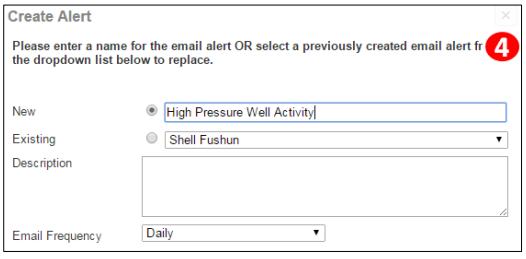


Fig 4-8: Name Alert and Set Email Frequency

You can edit/update/remove the alert settings through the following steps: click **My GEPS,** select **My Searches/ Alerts** (Fig 4-9), find the alert by name and edit the search and alert settings.

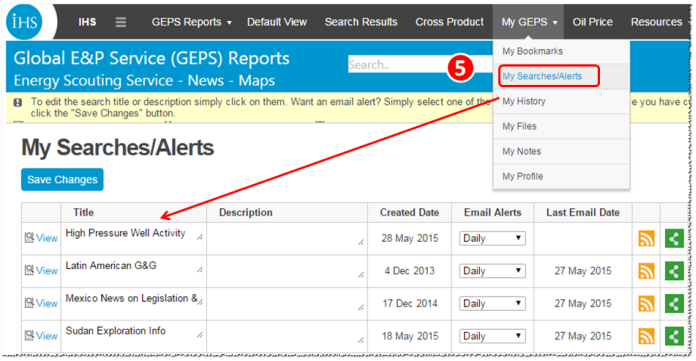


Fig 4-9: Edit Existing Alerts

In summary, through the above instructions, you can not only view the historical HP wells, but also monitor the latest HP wells activity.

Besides this, if you would like more detailed data about HP wells, IHS has specific geo-pressure databases, the Gulf of Mexico Formation Pressure database and the International Geo-pressure Database - which cover-several countries and can identify wells that meet the HP criteria.

Cost Estimation for a Phased Development Project

By Yaxing Wang

Yaxing.Wang@ihs.com

Related products: QUE$TOR

Estimating costs for oil and gas projects done in several phases in QUE$TOR requires modifying the project as the default method will estimate it as a single phase development. This article describes a method to model a project with two development phases using QUE$TOR.

A. Case Description

The example case is to develop 2 blocks. Block A was developed in phase 1 to recover its 500 MMbbl reserves during 23 years, and Block B in phase 2 to recover its reserve of 250 MMbbl during 21 years(Figure 5-1). The 1st oil start date of Block B is set to be 2 years later than Block A. The production profiles of the 2 phases are shown in Fig 5-2.

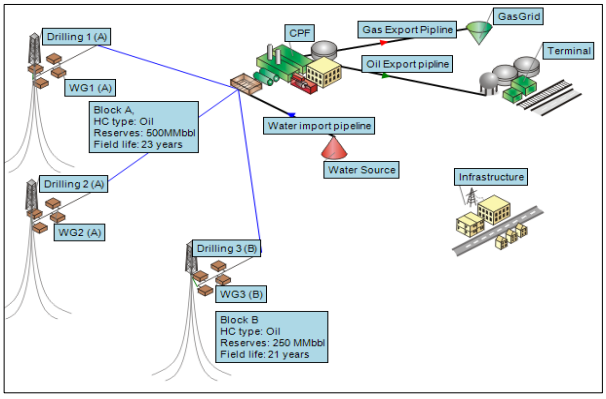
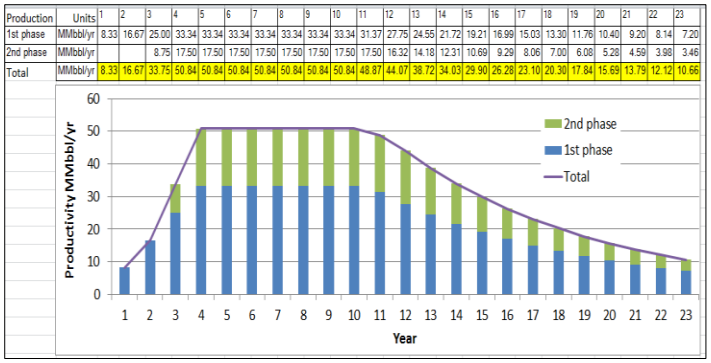


Fig 5-1: Schematic of Case Project



Production	Units	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1st phase	MMbbl/yr	8.33	16.67	25.00	33.34	33.34	33.34	33.34	33.34	33.34	33.34	31.37	27.75	24.55	21.72	19.21	16.99	15.03	13.30	11.76	10.40	9.20	8.14	7.20
2nd phase	MMbbl/yr			8.75	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50	16.32	14.18	12.31	10.69	9.29	8.06	7.00	6.08	5.28	4.59	3.98	3.46
Total	MMbbl/yr	8.33	16.67	33.75	50.84	50.84	50.84	50.84	50.84	50.84	50.84	48.87	44.07	38.72	34.03	29.90	26.28	23.10	20.30	17.84	15.69	13.79	12.12	10.66

Fig 5-2: Production Profile of Development phase

The components or sub components constructed with total capacity of the two blocks in Phase 1 are:

- **CPF:** All the sub-components except oil and gas processing. The Sulphur removal and Gas metering capacity will be the total.
- **Terminal:** The entire terminal.
- **Pipelines:** All the water, Oil, and Gas pipelines.
- **Infrastructure:** All the sub-components.

Components constructed for Block A in Phase 1 are:

- **Drillings 1(A), Drilling 2(A) and Wellpad Group of WG1 (A) and WG2 (A)**: 62 oil production wells and 25 water injection wells.
- **Oil Processing in CPF**: 2 oil processing trains with capacity of 50Mbbl/d for each.
- **Gas Processing in CPF**: 2 gas processing trains with capacity of 63 MMscf /d for each.

Components constructed for Block B in Phase 2 are:

- **Drilling 3(B) and Wellpad Group WG3 (B)**: 32 oil production wells and 13 water injection wells.
- **Oil Processing in CPF**: 1 oil processing trains with capacity of 50Mbbl/d.
- **Gas Processing in CPF**: 1 gas processing trains with capacity of 65 MMscf /d.

Several issues need to be addressed when creating an estimate for this project: how to modify the overall production being handled by the CPF, how to account for capex additions to the CPF module as phase 2 is brought on-stream and how to phase the expenditure and operating costs.

B. The Base Project

The starting point for the estimation was to create a base project with all of the development done in one phase. A project was created with the total reserve amount and 23 production years set at the field level.

- The components were setup and named as shown on the main schematic in Fig 5-3.
- The number of wells and flowrate in drilling 1,2 and 3 for Block A and B was set.

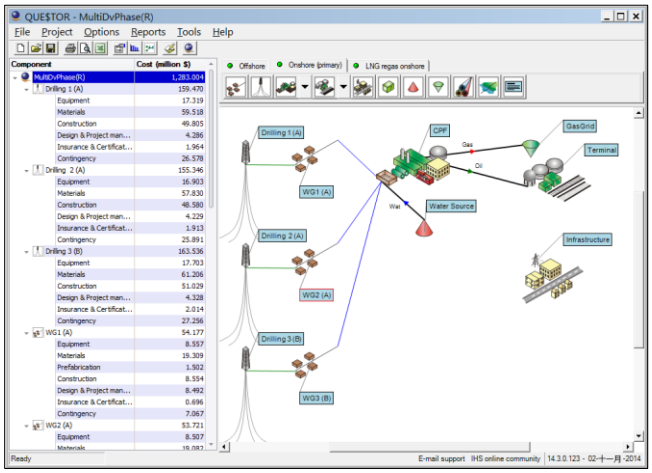


Fig 5-3: Field Development Schematic of the Reference Project

- All the primary and subcomponents inputs in CPF were locked, and the number of trains of oil and gas processing set to 3 with 33.3% design capacity per train.
- Inputs of other components were locked.
- Project was saved twice as MultiDvPhase and MultiDvPhase(R).

The MultiDVPhase project was used to continue the phased development study while the MultiDvPhase(R) was used as a reference project to preserve the overall weights and costs of shared facilities between the projects.

C. Separate the Two Phases

The two phases of development could be split out while still preserving the size of the original phase of development.

- On the MultiDvPhase project, a new production facility was created called CPF2.
- The links from the wellpad WG3 were moved to the CPF2 facility.

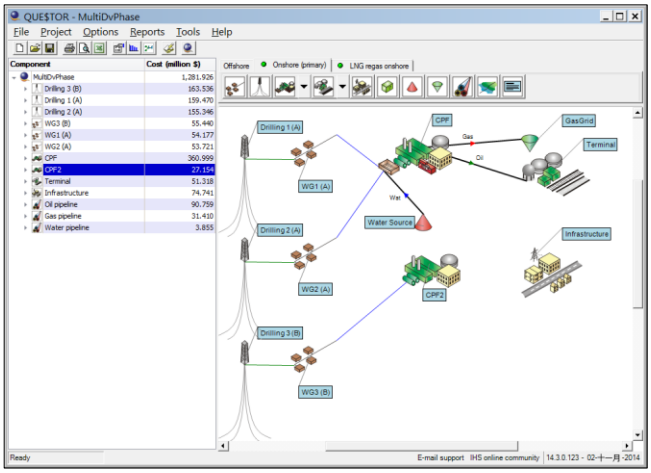


Fig 5-4: Separating the 2 phases on Field Development Schematic

The CPF was modified as follows:

- The oil and gas fluids capacities were changed to the designed daily oil and gas capacities for Block A. The water processing capacity remained as block A was assumed to handling all water processing.
- The number of trains of oil and Gas processing was modified to 2 and the duty per trains set to 50%. The dimension and weight of per train were checked to ensure that they were similar with the MultiDvPhase (R) project.
- The equipment cost of Control and Communication, Sulphur removal, and Gas metering were set to match those calculated in the MultiDvPhase (R) project.

Modify the CPF2 as follows:

The CP2 module represents the changes that are going to be required to be made to the original CPF module but were to be scheduled for construction at a later date.

- The Manifolding and Compression functions were deselected in CPF2.
- The fluid capacity for the oil and gas was set to be the plateau rate of production coming from Block B, the other capacities inputs were set to be zero.
- The number of trains of oil processing and Gas processing was set to 1 and the duty per train set to 100%. The dimension and weight of the train was modified to match the MultiDvPhase(R) project equipment.
- The sub-components of produced water, product storage, product export, water injection, process utilities and power civils were removed by setting their capacity to zero.
- The equipment costs of control and communication, Sulphur removal, and Gas metering was zeroed out on the cost sheet of the CPF2 module.

D. **Modify the OPEX**

The OPEX costs in QUE$TOR were considered from the first oil production date and were calculated before scheduling was considered. Therefore if an item of equipment needs to be phased in the OPEX costs prior to its incorporation, it needs to be removed from the project. This was done as follows.

The operating personnel were adjusted.

- The first 2 years' costs of WG3 (B) were removed.
- All of the personnel costs were removed from CPF2.
- The 2 years of operating personnel costs were left in the CPF module and the reminder was set to be the same as MultiDvPhase (R) project.

Other costs that were modified were:

- The first 2 years of Inspection and maintenance costs were removed from WG3 (B).
- The yearly number of on stream production and water injection wells was modified according the drilling plan counting the number of wells of Block A and Block B by year.
- The insurance of the second phase items was removed by zeroing out the capex in insurance for Drilling 3 (B), WG3 (B) and CPF2.

E. **Schedule the CAPEX**

The scheduling of the capex items was done by moving the facilities and drillings construction start year of Phase 2 items to two years later. See Fig 5-5.

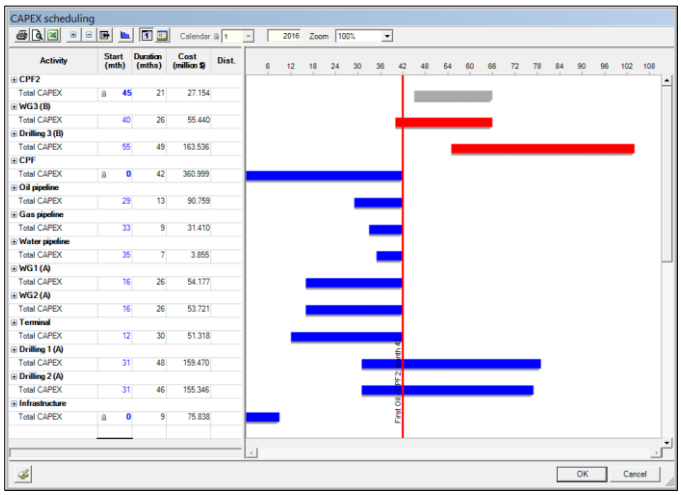


Fig 5-5: Schedule the CAPEX in Scheduling Window

F. Conclusion

Generating a multiphase project in QUE$TOR can be done but it requires a good understanding of what components can be split out and scheduled for a later date.

Enabling the user to explore these engineering options by locking inputs to either keep auto-generated data or enter data from a known saved state allows the user to configure a phased development. By using multiple scenarios the full advantage of QUE$TOR can be realized in the cost estimation of a multiple phased development investment.

In this case, the total CAPEX and OPEX was separated according the 2 phases developing plan. This will let investor understand when and how much to invest in which items, furtherly, what equipment, materials, and labor etc. should be purchased.

III. TIPS AND TRICKS

Images in EDIN – "A Picture is Worth a Thousand Words"

By Matthew Quinn

matthew.quinn@ihs.com

Related products: EDIN

Wells, Fields and Basin Images are available within the EDIN E&P database. These are excellent resource and can be used to better visualize and understand many upstream E&P concepts - from as broad as Regional Geological Sections to as detailed as Composite Logs.

Wells images include "Location Maps", "Field Sections" and "Log Correlation Sections".

"Stratigraphic Columns", "Structural Contour Depth Maps" and "Hydrocarbon Generation and Migration Sections" are some of the image types encompassed within **Fields**.

Basins cover "Tectonic Features Maps", "Regional Geological Sections" and "Burial History Graphs".

Let's use a field as an example. Once you have found the entity by search, use **Browse List** and then view the full field general report in web format by clicking on the name of the field (Fig 6-1).

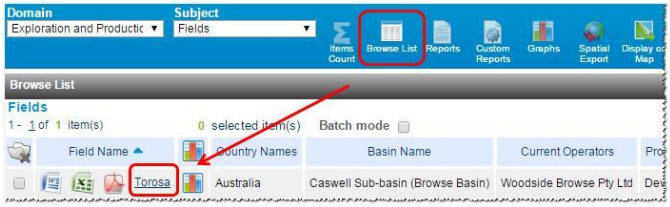


Fig 6-1: Access Field "Drill-Down" Report

In this web format or the so-called "drill-down report", Images within individual entity can be easily accessed through the Images section (Fig 6-2).

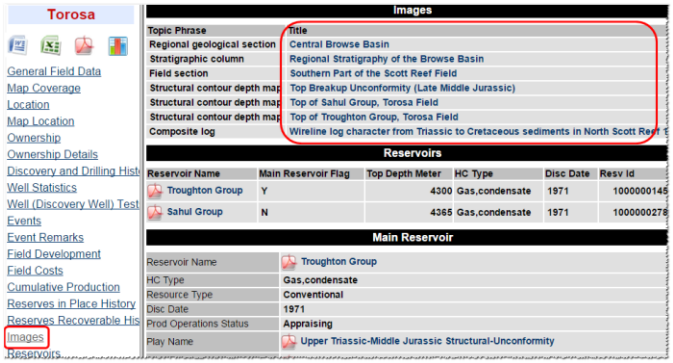


Fig 6-2: Torosa Field Record Showing Available Images

Below is an example of an image of Composite log (See Fig 6-3).

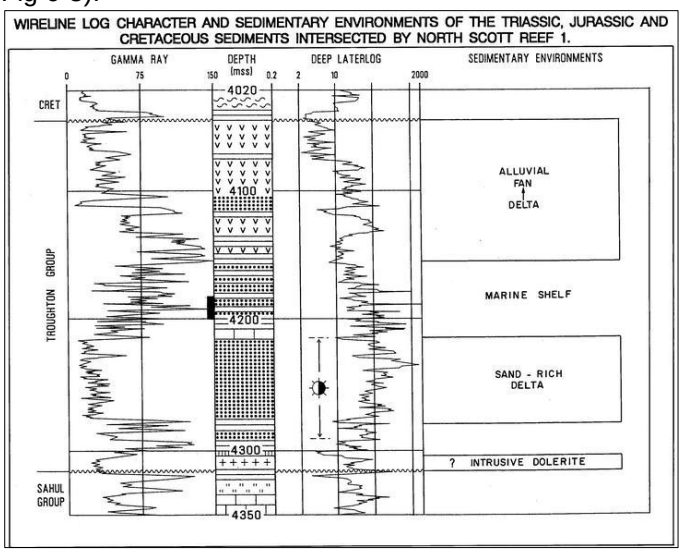


Fig 6-3: Composite Log

A summary of the images available for the searched entities can be obtained through **Reports** - (Well, Field or Basin) Images (Figure 3).

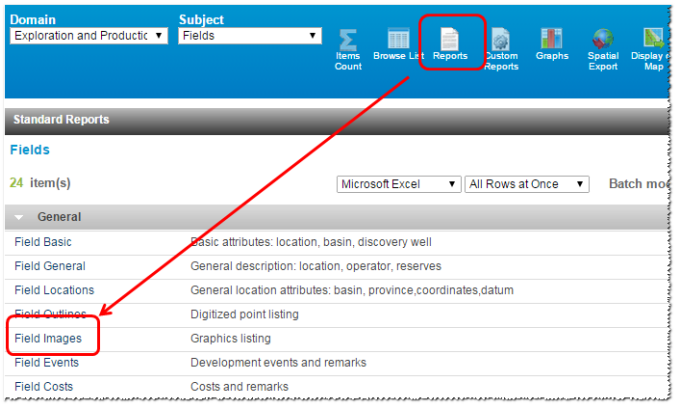


Fig 6-4: "Field Images" Report

*Note: If the hyperlinks are not active got to **My Settings**, **General Settings** and select Yes at **Include Images** (Fig 6-5).*

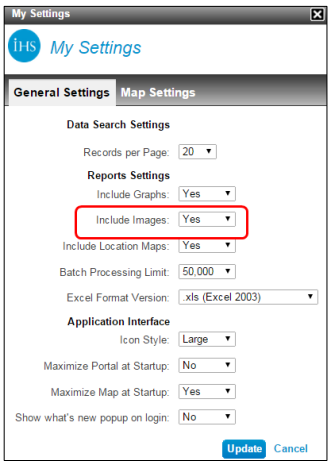


Fig 6-5: My Settings Page Highlighting "Include Images" Option

Feeding You the Industry News You Need

By Yongliang Zhang

Yongliang.Zhang@ihs.com

Related products: EDIN

RSS (Rich Site Summary or Really Simple Syndication) is a format for delivering regularly changing web content, which saves time by not needing to visit the website and avoiding spam mail. This technology has been applied in many areas within GEPS, which enables customers to obtain timely industry news they are concerned about.

Let's take an example of a Regional Exploration Manager for Africa, whose responsibilities include monitoring the latest exploration activities, tracking exploratory well spud, progress and well results. GEPS RSS function can help fulfill this and save time.

Detailed steps are as follow.

(1) Login to **GEPS** and choose **Advanced Search** in home interface.

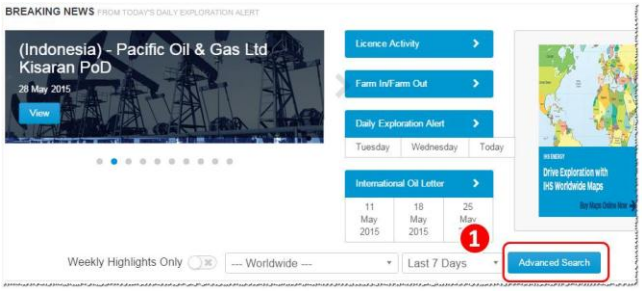


Fig 7-1: Access Advanced Search

(2) Clear any time period filter showing at the top the search results page. Then Set **Region/Country** filter as Saharan Africa and Sub-Saharan Africa.

(3) Set **Subject/Topic filter** as Exploratory Drilling including Overview Maps\Plans\Trends\ Well Information.

(4) Click the blue **Apply Filter**s button.

(5) Click **RSS Feed** icon on the top-right side.

(6) Name the RSS as Africa Exploratory Drilling and set Email Frequency in the popup window. Click OK.

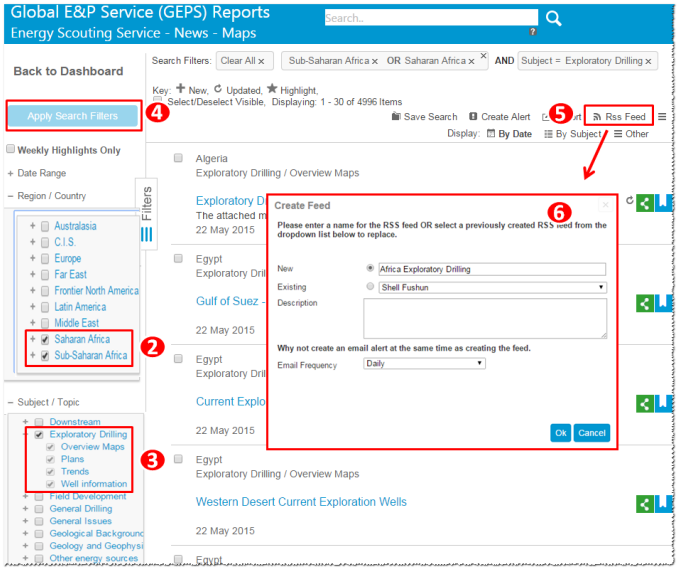


Fig 7-2: Workflow to Setup RSS Feed

(7) Copy the RSS link (See Fig 7-3).

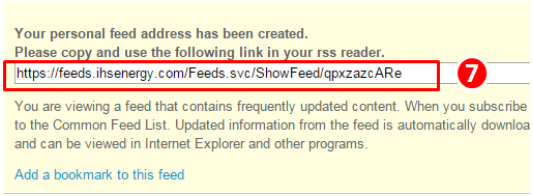


Fig 7-3: RSS Link

(8) Open Outlook or other third party RSS Reader. Paste the RSS Feeds link where applicable (Fig 7-4).

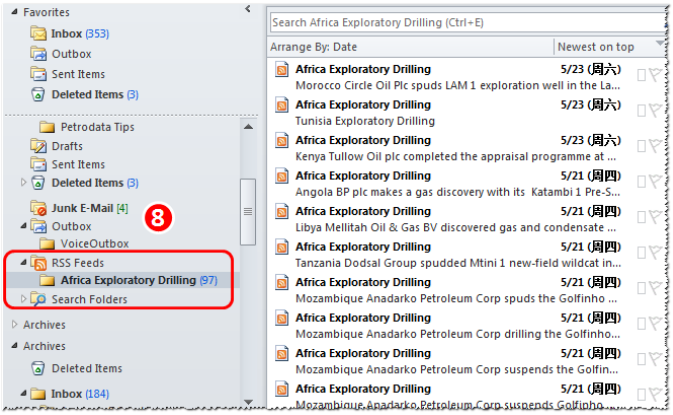
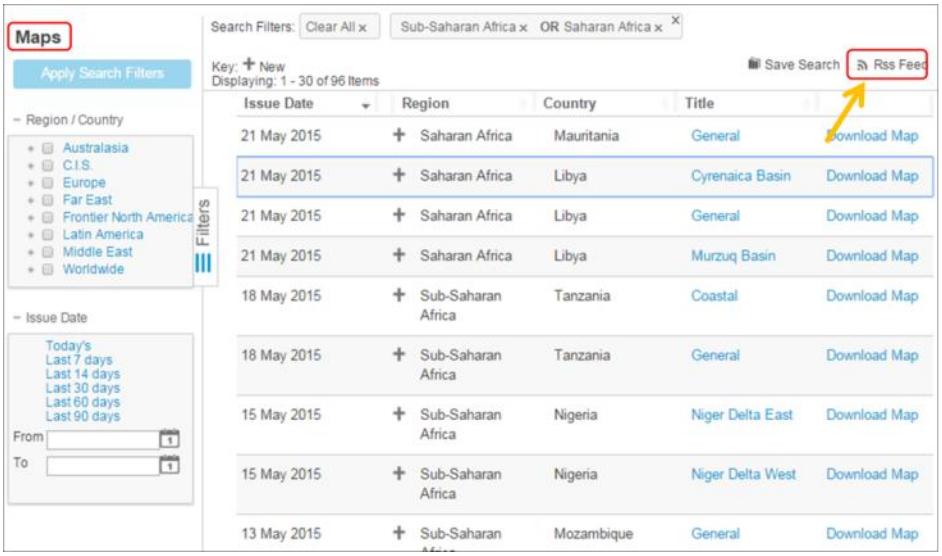


Fig 7-4: Create New RSS Feed

As you can see in the Fig 7-4, the content as per the filtered criteria has been uploaded into Outlook (RSS Reader) separately from emails without the need to visit the website and run searches, which significantly saves time and prevents spam email.

This function can also provide the latest updates of **Regional E&P Strategy Maps** and **Country Annual/Monthly Reports.** The procedure is the same.

See the figure below. Go to **Maps** or **Reports for RSS** module to set filters up properly and then click the **RSS Feed** icon. Fig 7-5 shows the **RSS Feed** in Maps Module and an example of Libya regional map.



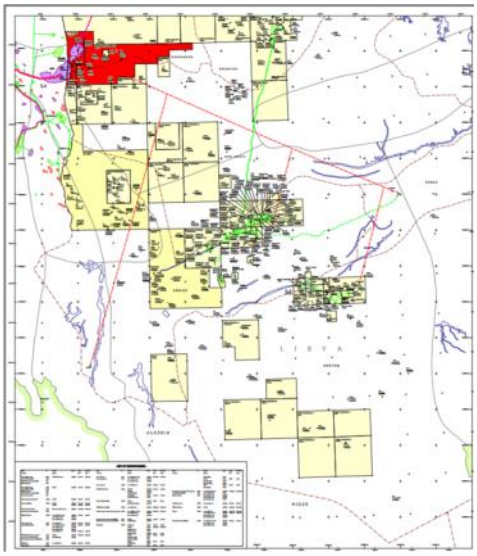
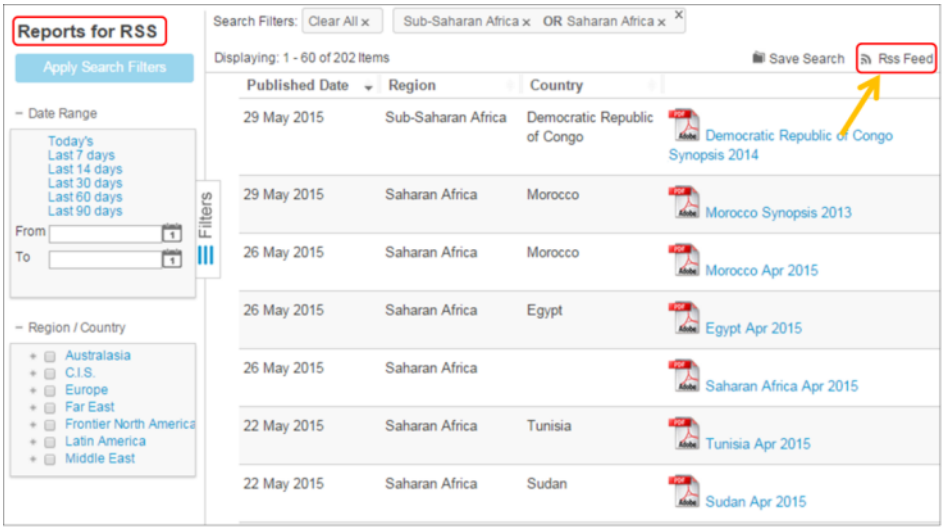


Fig 7-5: Maps RSS Feed Function

Fig 7-6 shows the RSS Feed in Reports Module and an example of Angola Annual E&P reports.



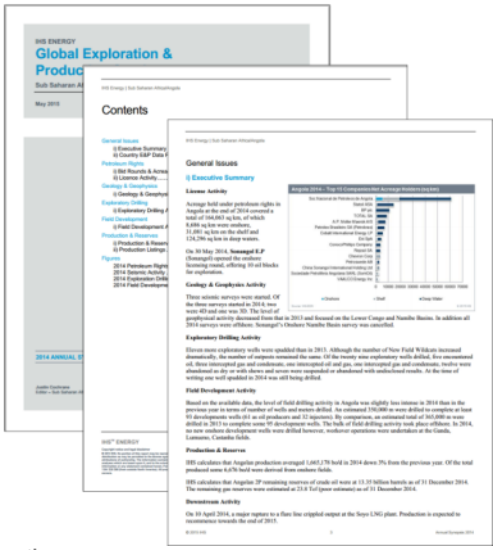


Fig 7-6: Country Monthly & Annually Reports RSS Feed Function

Then GEPS will push the news of latest maps or report to your Outlook (RSS Reader) when there are any updates.

IV. PRODUCT UPDATES

PEPS Recent Enhancements in May 2015

By Sachihiro Sakomoto

Sachihiro.Sakomoto@ihs.com

Related products: PEPS

IHS PEPS supports new upstream business development and new country entry efforts by providing critical resource and energy business environment information for approximately 130 countries. The service provides data and insight to enable a comparative view of different investment opportunities and to identify those that are more attractive based on E&P, fiscal and political risk elements.

A. Summary of Main Enhancements

- **Country Ratings and Rankings Scale**

PEPS used to use a scale of 5 to 0 (with 'zero' representing the most attractive score) in its Ratings and Rankings Module. PEPS has revised the scale to a wider 1 to 10 scale (with 'ten' representing the most attractive score).

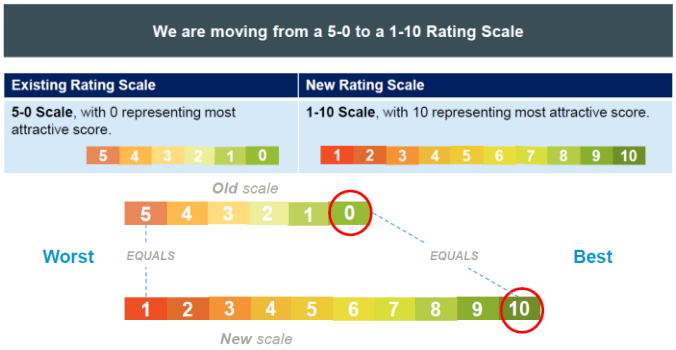


Fig 8-1: Ranking Scale Update on PEPS

- **Country Petroleum Sector Risk Module**

The newly renamed Petroleum Sector Risk module (previously known as Country Petroleum Risk Environment) has been significantly enhanced to include a revised risk methodology, more clearly delineated sector-specific analysis, and an expanded team consisting of regional specialists.

Table 8-A: Petroleum Sector Risk Module Enhancements on PEPS

Existing Module	New Module
3 Categories of Risk Factors	5 Categories of Risk Factors: Better delineation of petroleum sector risks
11 Individual Risk Factors	21 Individual Risk Factors
Global Calibration of Ratings	Regional and Global Calibration of Ratings
129 Countries/Territories	131 Countries/Territories; Addition of Iraq-Kurdistan, French Guiana, and Sao Tome & Principe (removal of Belarus)

B. New Petroleum Sector Risk Analysis

- **Process**

The PEPS Team combines economics and broader country risk insight from IHS Economics, IHS Country Risk and additional sources, with analysis of petroleum-sector-specific factors to provide a definitive, tailored assessment of above-ground risks to E&P investment.

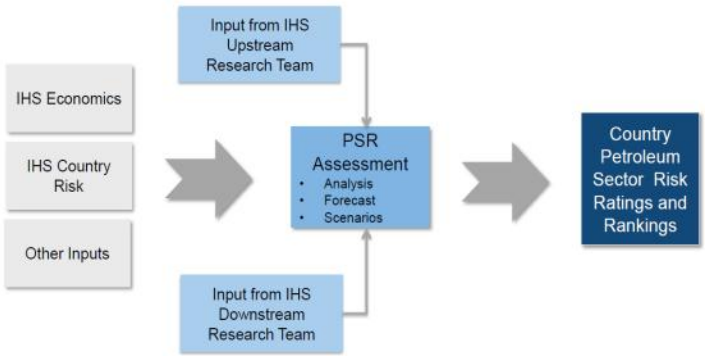


Fig 8-2: Process Flow of Petroleum Sector Risk Analysis on PEPS

- **Reports**

The new reports offer clearer analysis, covering more risk categories and more individual risk factors. The new categories are:

- Country Politics;
- Country Economics;
- Petroleum Sector Entry;
- Petroleum Sector Operations;
- Petroleum Sector Shocks.

- **Risk Ratings**

The PEPS Team has increased the focus on the fundamental drivers of above-ground E&P investment risk, and placed added emphasis on risk factors specific to the petroleum sector.

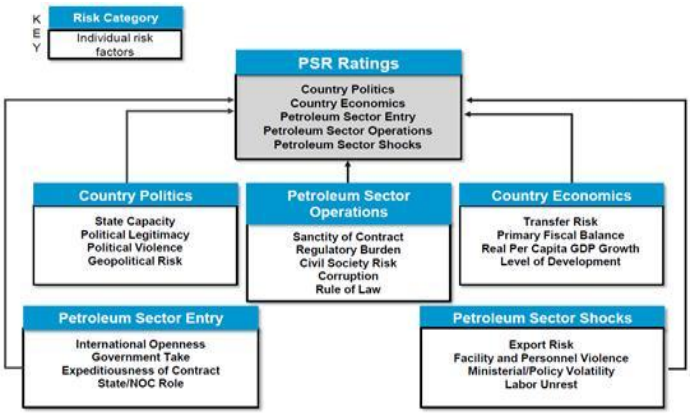


Fig 8-3: Process Flow of Risk Ratings on PEPS

C. **Fundamental Elements Remain Unchanged**

Fundamental elements remain unchanged in this update. These categories are:

- The E&P and Fiscal components;
- Ability to modify default weightings in the Ratings and Rankings tool;
- Five-year outlook for the Petroleum Sector Risk module;
- Country Legal;
- Country Fiscal;
- Country Awards;
- Country E&P data;
- Company data.

International Energy Quarterly Review Q2

By Mohit Gulati

Mohit.Gulati@ihs.com

Related products: E&P, Basin and Midstream Database.

At IHS we understand the value of our information quality and our commitment to our quality initiatives remains our principal focus. We are pleased to present our report on summary of our key data quality projects completed during the last quarter.

Basins

14 Basin Monitors have been completed in the last quarter, 4 of which are new and 10 of which are total reviews of existing Basin Monitors. Most of these have been completed due to newly available information, recent discoveries or recent industry activity. We have also partially reviewed 6 Basin Monitors, mainly in Latin America.

52 Basin, 95 Sub-Basin and 24 Non-prospective Province limits have been improved.

Basin Images – 137 new Basin Images have been created and entered including images in Pearl River Mouth Basin, Ionian Zone, Vindhyan Basin, Saglek Basin, Yilang-Yitong Basin, Congo Fan, Liard Basin, Baffin Basin, Bonaparte Basin, Celtic Sea Graben and Great South Basin

Basin Ages – we have continued to work on our Basin Ages Quality Goal where we set out to ensure more than 90% of our Geological Provinces had an oldest and youngest age. We reached our target last year and can now report 100% of Geological Provinces have an oldest and youngest age as can be seen in the image below:

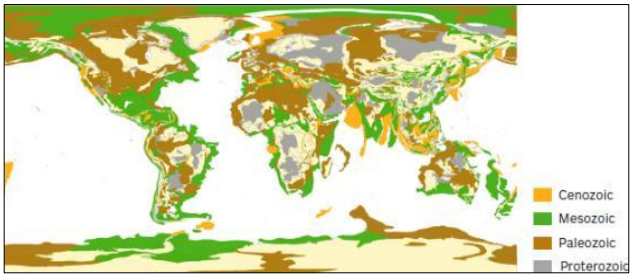


Fig 9-1: Basin Ages

Contract and Blocks

Middle East: Following the update of the Western Arabian Province basin, over 210 contracts/applications/open blocks covered by the basin area in Turkey, Syria, Jordan, Iraq and Saudi Arabia had their basin and sub-basin updated.

Iraq: 49 valid contracts and 14 valid open areas had "Kurdistan" entered as FSS Zone to allow for easy selection. In addition a full province and basin check was completed for 76 valid contracts, 14 valid blocks and 54 non valid offered/bidding/open blocks.

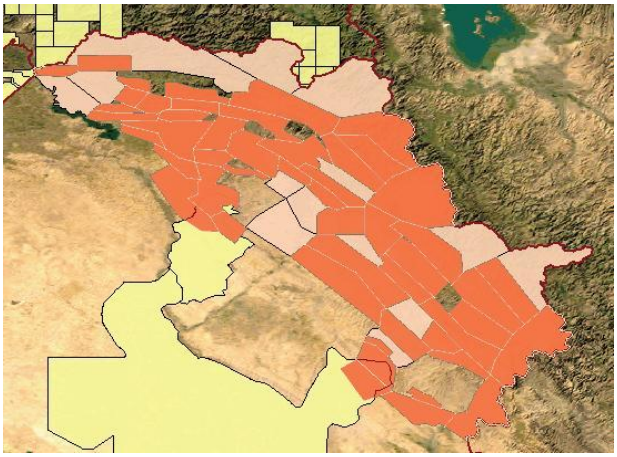


Fig 9-2: Kurdistan Contract Blocks and Open Areas

South Africa: Comprehensive review of 90 contracts in South Africa

Fields

New fields – 162 new fields/discoveries entered bringing the total number of fields/discoveries in the database to 29,199. A total of 718 reservoirs were also added worldwide

Production – 14,921 field production volumes entered with primary updates in China (7,373 volumes), Australia (1,043 volumes), Russia (1,033 volumes) and Colombia (986 volumes)

Reserves – 19,694 Fields and reservoirs reserves entered including 6,877 in-place volumes and 12,817 recoverable volumes with primary updates in Russia (9,732 volumes), Mexico (2,378 volumes), China (1,492 volumes) and Argentina (742 volumes)

Field Complete Review – 70 fields fully revised including all geological information, development E&P, production volumes, reserves/resources checked and updated when necessary as well as the update of the associated field images, bibliography references and field outlines

Wells

Worldwide – 3,381 wells were entered during Q1 including 1,951 historical wells while a total of 68588 wells were updated

UK – entered 2,616 tops in 103 onshore wells

Bulgaria – updated 2,060 co-ordinates in Bulgaria with X/Y, datum and projection details

Iraq – New Kurdistan FSS zone entered for 269 wells

Cuba – entered 262 wells and updated 70 existing wells with surface and BH coordinates

Midstream

Pipelines – Approximately 24,000 km of Pipelines were added and 116,000 km were updated worldwide during Q1 2015

Electric Plants – entered Fuel Consumption Historical Data for more than 5,300 Electric Plants in Europe and in the United States

Milestones - entered more than 2,600 Milestones Worldwide on Pipelines, Refineries, Electric Plants, LNG, Storage and Gas Plants

Pipelines – updated more than 60 Entry-Exit points with monthly gas flow data

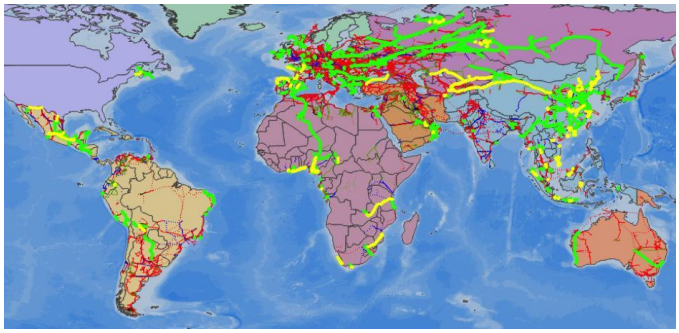


Fig 9-3: Pipelines Added (in yellow) and Updated (in green)

About APAC Energy Technical Support Team

Our team consists of members with diversified professional background including geophysics, geology and engineering. Our mission is to facilitate you in making critical decision efficiently and confidently, powered by comprehensive industry data and software tools that is easy to use. To achieve this, we will do our best to help you find the best solution, optimizing your workflow while saving time & cost.

Below are our brief profiles; please contact us whenever you have any questions or suggestions.

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