REPORT

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SUBJECT:	**PL717 License Full Relinquishment Report**
ABSTRACT:	The prospectivity identified in PL717 deemed not economically viable.
DESCRIPTION:	

Rev.	21/03/2017	Final Version			

[redacted]

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1. KEY LICENSE HISTORY

The PL717 license is located offshore Norway in the Western Barents Sea area adjacent to the Bjørnøya Basin and covers the entire blocks 7321/10 and 7321/11 (Fig. 1). The license is 250 km from the coast and approximately 70km northeast of the Johan Castberg discoveries in PL532 in about 430 mssl water depth.

The license was awarded on 21st June 2013 as part of the 22nd Bid Round and the first exploration period will expire on 21st June 2018. The work commitment for the license was the acquisition of 3D in all of the assigned area already covered with 3D survey. This was fulfilled with the purchase of the WG1101 3D survey covering the license acreage.

The original Drill or Drop deadline for the license was 21st June 2015, with an extension of 1 year applied for and granted, pushing the DoD to 21st June 2016. This was to allow the results of the upcoming 7222/1-1 (Aurelia) well to be taken into consideration when evaluating, in case of success, a possible development synergy of the potential of the licence.

Delays to the spudding of the 7222/1-1 well resulted in the application for, and granting of, a further 6 months delay of the DoD decision, to 21st December 2016.

The result of the 7222/1-1 (Aurelia), together with the negative economic evaluation prediction for the exploration potential of the PL717 license, led the operator to recommend relinquishment to the PL717 JV. The partners in the JV unanimously approved the operator's recommendation, and the decision to relinquish was conveyed to the authorities on the 21st December 2016.

The J.V. present configuration consists of:

- Eni Norge AS 40% (operator)
- Statoil ASA 20%
- Edison Norge AS 20%
- Point Resources AS 20%

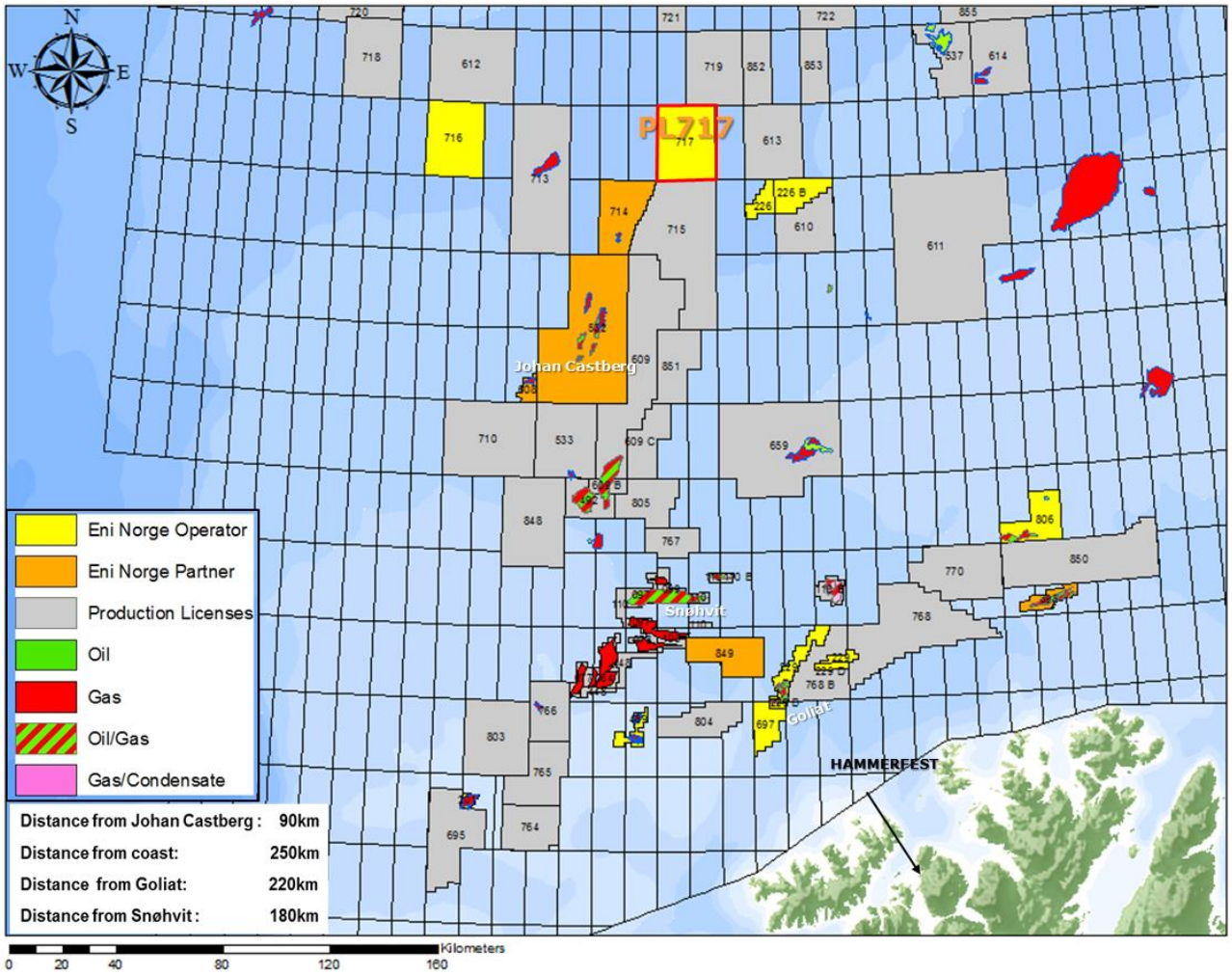

Figure 1: PL717 Location Map

2. DATABASE

2.1 Seismic

The seismic database (see Fig 2) consists of that part of the WG1101 3D survey covering the license acreage, and the two 2D seismic lines shot at the same time to tie the 3D survey to the nearby Fingerdjupet wells.

2.2 Well data

The wells database (see Fig 2) consists of the Fingerdjupet wells (7321/7-1, 7321/8-1 & 7321/9-1), and also the Skrugard discovery well (7220/8-1).

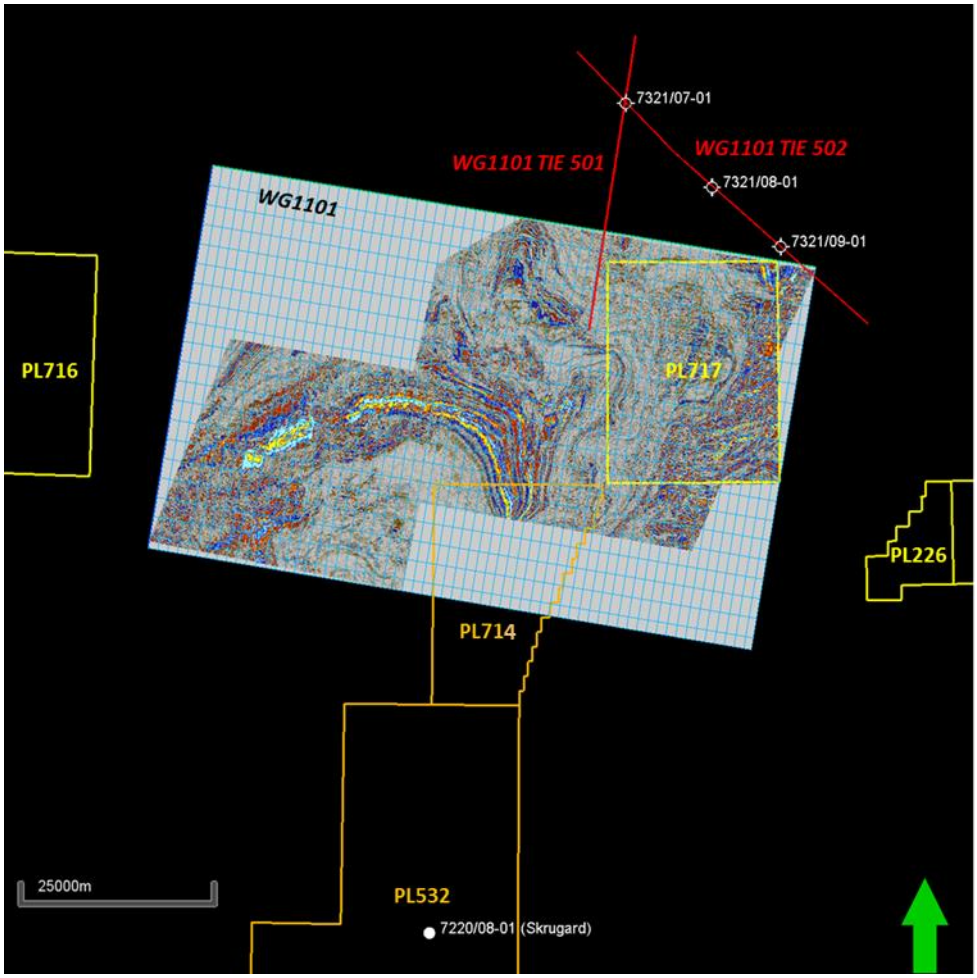

Figure 2: PL717 Seismic & Wells Database

2.3 Special Studies

The following studies/projects have been carried out involving the PL717 license.

Seismic Data Re-Processing : PSDM version of area of the WG1101 volume covering the prospective area.

2D Structural Modelling/Reconstruction : as part of a more regional study, two 2D lines were chosen for reconstruction.

Basin Modelling : As part of a more regional study, and then more recently on a more license focussed area.

Fault Seal : Fault analysis was carried out on key faults in the license with regard to trap success and HC migration pathways.

AVO : Carried out for reservoir at Realgrunnen, Knurr, and Kolje levels.

3. REVIEW OF GEOLOGICAL FRAMEWORK

The PL717 license is located at the north easternmost part of the Loppa High adjacent to the northeastern extent of the Bjørnøya Basin. The deep Cretaceous Bjørnøya Basin is one of the major basins in the western Barents Sea region, and together with the other major structural elements (Veslemøy High, Bjørnøyrenna Fault Complex and Loppa High) has experienced a prolonged geologic evolution. The recent commercial discoveries of Skrugard (wells 7220/8-1 and 7220/5-1), Havis (well 7220/7-1) Drivis (well 7220/7-3S), Skavl (well 7220/7-2) and the gas discoveries of Kramsnø (7220/4-1) and Nunatak (7220/5-2) in PL532 and Iskrystall (7219/8-2) in PL608 (Eni as partner) have proven an efficient oil and gas petroleum system in the Bjørnøya Basin.

The Giannutri Prospect is a multi-target prospect with reservoir targets identified at Kolje, Knurr, Realgrunnen, Fruholmen and Snadd formation levels. Some of the targets (Realgrunnen, Fruholmen and Snadd) have multiple segments.

The Kolje Fm. target is anomaly driven, comprising a stratigraphically trapped reservoir mass, derived from erosion and deposited in a slump fashion at the foot of a large scale fault. An erosionally derived sandstone reservoir is prognosed in the Kolje target, though it is expected to be poorly sorted, with a lot of silt, and moderate to poor porosity. Seal is provided by the overlying thick Kolmule Fm Cretaceous shales.

The Knurr Fm. target is a 3-way fault bounded closure controlled by a major N-S running fault to the east. It is also composed of erosion derived sediments deposited during the fault activity. Two kinds of sandstones are expected in terms of reservoir quality: massive reworked sandstones (bioturbated) poorly sorted with moderate porosity or thin bedded, very well sorted sandstones with very high porosity and permeability. Top seal is provided by the overlying Upper Knurr Fm shales.

The Realgrunnen Subgroup, Fruholmen and Snadd targets are all multi-segment targets, each with 3 segments. In all cases, Seg1 is a fault-bounded structure, bounded on all sides by faults, Seg2 a fault-bounded closure, with the E-W orientated fault required to seal at its westernmost part, and Seg3, located on the upthrown side of the fault which bounds Seg1, is a fault-bounded closure, with the two bounding faults meeting at the apex of the prospect structure. Seal is provided by the Upper Jurassic Hekkingen and Fuglen formation shales.

The Realgrunnen reservoir within the structural closure is expected to consist of sequences of the Upper Realgrunnen subgroup, primarily the coastal marine sandstones of the Stø Formation and partly the heterolithic to deltaic sandstones of the Nordmela Formation.

The Fruholmen reservoir is expected to be the fluvial-estuarine sandstones of the Fruholmen 2 lowstand deposits (Mid-Fruholmen Formation). According to the sedimentological model, sand bodies are laterally extensive and represent amalgamated fluvial channel fills and tidal channels. Top seal is predicted to be the shale prone section of the transgressive and highstand deposits of Fruholmen 2 (Upper Fruholmen Formation).

The Snadd Formation has been proven as reservoir in the West of Loppa High area (PL532). The Snadd has a comparable thickness in both the Fingerdjupet wells and in the PL532 wells. The upper parts of the Snadd are interpreted as a fluvial/nearshore sandy facies that can act a reservoir. Top seal is predicted to be the shale prone section of the Lower Fruholmen.

4. PROSPECT UPDATE

After the awarding of the license the two blocks were screened for additional prospectivity. After this, focus returned to the Giannutri prospect area, where a re-evaluation of the 22nd Round prospectivity led to an increase of the volumes in place from 126 MBOE to 350 MBOE, as validated internally in Eni in 2015.

A re-interpretation, based on the PSDM sub-volume, resulted in defining a single Giannutri prospect, including the Cretaceous Kolje Fm target, the Snadd formation target and expanding the Realgrunnen and Fruholmen targets. The result is a multi-target prospect, with multiple segments at Realgrunnen, Fruholmen and Snadd levels. Fig 3 shows the 2015 prospectivity alongside the updated version, with Fig 4 displaying a seismic section through Giannutri segments 1&2.

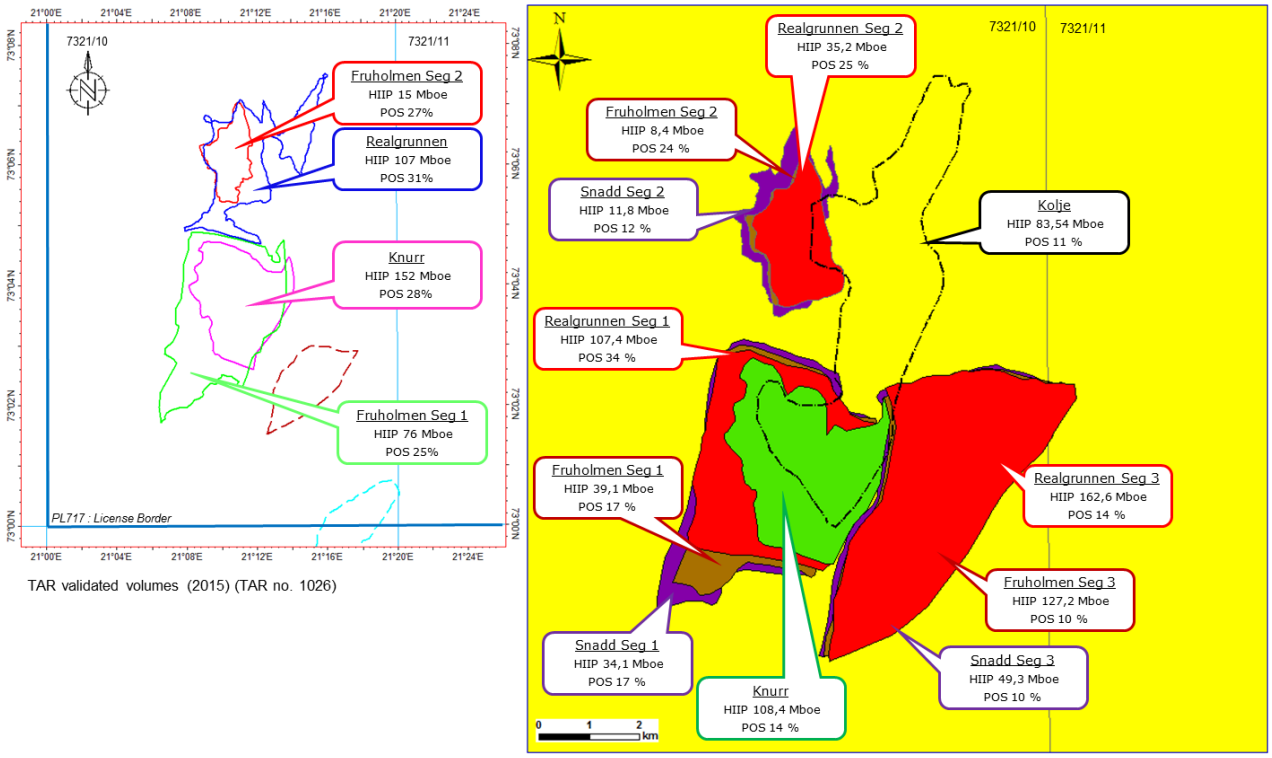

Fig 3 : Updated Prospectivity vs 2015 version.

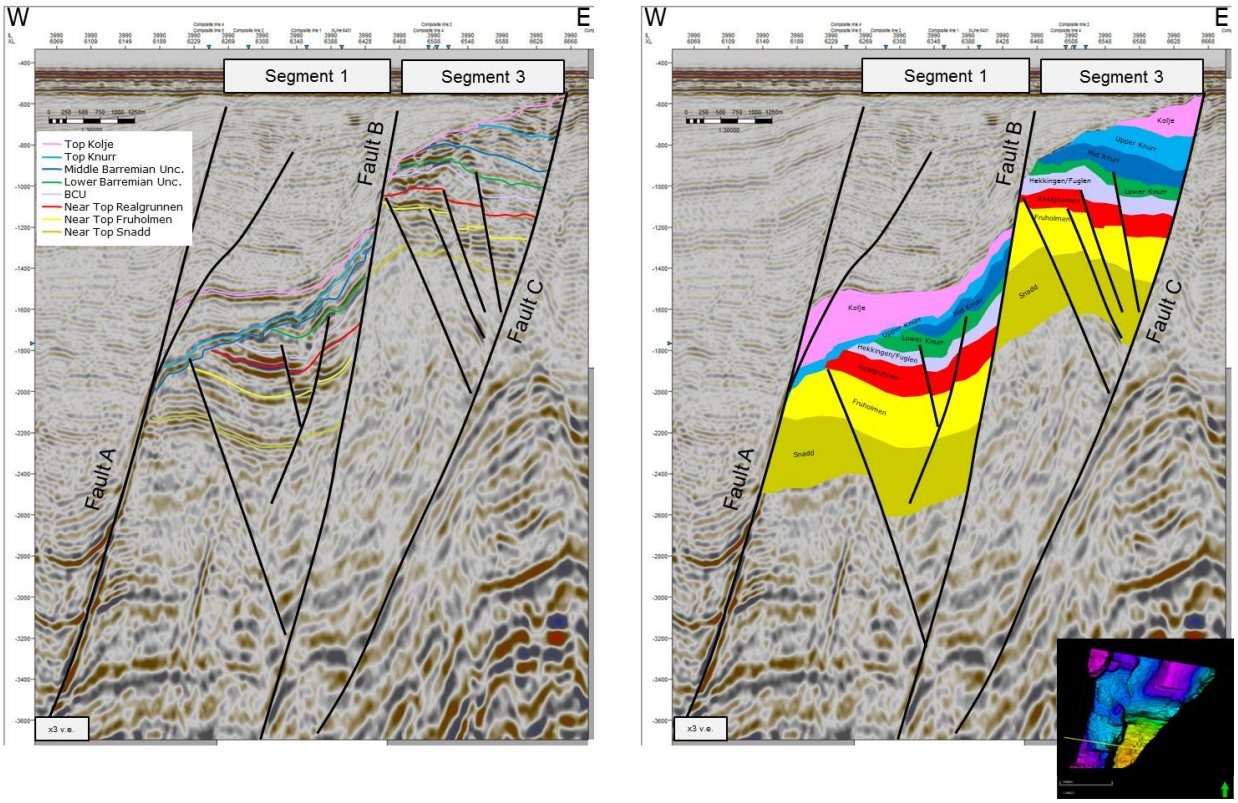

Fig 4 : WG1101 PSDM Seismic IL3840 through Giannutri Seg 1&2.

Key to the prospectivity in the PL717 license is an understanding of the fault system in the area. The license area is heavily faulted, with a number of faults identified to play an important role in trap formation and hydrocarbon retention. A fault analysis study has been performed by Eni Norge (G&G) in order to have an understanding on the timing of fault movements, to de-risk trap configurations and to obtain first-order Allan diagrams indicating across-fault juxtapositions. The fault analysis study allowed for a more robust fault and horizon interpretation and, moreover, an internally consistent framework model. The faults in this framework model were subsequently analysed in terms of fault-seal potential (see also GEBA report 2016082, 2016). Fault-seal attributes were calculated based on a pseudo-well, which averages Vshale curves from 7220/8-1 Skrugard, 7220/2-1 Isfjell and 7220/5-2 Nunatak at about 50km-70km distance, as there are no other wells available close to the prospect (see Fig. 3). The results of the fault-seal analysis were used for the spill points and HC columns in the calculation of the volumes for each relevant segment and target.

AVO analysis was carried out for Kolje, Knurr and Realgrunnen target levels. A summary of the results for each level is given below.

- Kolje - anomalies against the bounding fault, with gas most likely
- Knurr - conforms to the observed amplitude anomaly and the final AVO map could be indicative of areas of gas.
- Realgrunnen - anomalous features, indicating the presence of hydrocarbons, best in Seg1, but not conforming to structure. Discriminating between oil and gas is not possible.

Source maturity modelling, based on the Upper Jurassic Fm source, illustrated that maturity is relatively low in the vicinity of the Giannutri prospect area, with expelled oil volumes expected

to be limited. Expulsion and migration modelling, with sensitivities, were run, leading to the following conclusions:

- A high or impossible expulsion and migration efficiency is required, even the unlikely high case still needs a significant efficiency
- HC migration into segment 3 is limited allowing most likely only for minor column heights
- The filling of the Realgrunnen reservoir in Segment 3 depends on many elements including across fault migration, vertical leakage and or spilling from filled structures
- Segment 2 has a better chance of being charged but modelled volumes indicate also the possible limitation of column heights
- Maximum columns of individual prospects and segments are justified as a possible scenario with a very little chance of success; this does not consider top seal issues.

5. TECHNICAL EVALUATIONS

The volumes of hydrocarbon in place of the Giannutri prospect have been estimated with PRES 7.2 software following the most recent interpretation and study update. Volumetric estimate of the HC potential is based on interpreted maps generated using the 3D PSDM seismic. Input parameters are derived from reference wells, regional geological knowledge and understanding, and fault-seal analysis results.

The play and local (prospect) risk associated to all target levels and segments has been estimated with PAPA++.

A summary of the in place volumes and the risk associated with each target is shown in the table below.

Giannutri Target	Segment	OOIP Mbbl				Solution Gas GSm3				Gas Cap GSm3				POS (%)		MBOE
		P90	P50	P10	Pmean	P90	P50	P10	Pmean	P90	P50	P10	Pmean	POSg	POSdhi	
Kolje		18,1	62,2	143,6	72,4	0,2	0,6	1,3	0,6	0,1	0,5	3,0	1,1	7,0 %	11,0 %	83,5
Knurr		46,4	92,7	164,6	101,1	0,5	1,0	1,8	1,1	0,0	0,0	0,1	0,1	10,0 %	14,0 %	108,4
Realgrunnen	1	29,2	70,2	185,0	95,7	0,3	0,6	1,7	0,9	0,2	0,6	1,9	1,0	26,0 %	34,0 %	107,4
	2	11,4	29,2	52,1	30,8	0,1	0,3	0,5	0,3	0,1	0,4	0,8	0,4	33,0 %	25,0 %	35,2
	3	7,3	131,0	311,0	144,7	0,1	1,2	2,7	1,3	0,0	0,4	4,8	1,5	13,0 %	14,0 %	162,6
Fruholmen	1	3,5	15,6	87,6	34,6	0,0	0,1	0,8	0,3	0,0	0,2	0,9	0,4	20,0 %	17,0 %	39,1
	2	1,4	5,9	16,2	7,6	0,0	0,1	0,1	0,1	0,0	0,0	0,2	0,1	25,0 %	24,0 %	8,4
	3	12,0	87,7	256,0	113,8	0,1	0,8	2,3	1,0	0,0	0,5	3,0	1,1	12,0 %	10,0 %	127,2
Snadd	1	1,7	10,4	84,3	28,9	0,0	0,2	1,7	0,6	0,0	0,1	0,6	0,2	15,0 %	17,0 %	34,1
	2	4,0	8,6	17,7	9,9	0,1	0,2	0,3	0,2	0,0	0,1	0,3	0,1	15,0 %	12,0 %	11,8
	3	1,0	28,8	96,6	39,7	0,0	0,5	1,8	0,7	0,0	0,3	2,2	0,8	12,0 %	10,0 %	49,3
	Total				**679,1**				**7,0**				**6,6**	**15,0 %**	**16,4 %**	**767,1**

Table 1: Giannutri Prospect : In Place HC & Risk.

The multi-segment Giannutri prospect will require multiple wells to test the potential. The economic evaluation focussed on the Giannutri segment 1 targets, which could be tested with a single well. Mean unrisked OOIP for the overall prospect is 679 Mbbl, out of which Segment 1 could host 333 Mbbl with average POS of 20% (all targets).

The Giannutri Oil project only has been modelled developing the Knurr target, Realgrunnen and Snadd targets on the Resources decision tree, using three PRES scenarios for the Realgrunnen. Knurr and Fruholmen volumes are based on the Pmean OIIP. The volumes for Realgrunnen and Fruholmen targets were limited to 4-way closure scenarios.

The Kolje and Snadd targets are not considered in the economic evaluation, the Kolje target is considered too high risk, and the Snadd volumes are too small.

The project decision tree is based on the well associated targets volumes/risk and accounting also the Bayesian results for common chances. The project tree has a drill or drop decision node. The drill decision is based on the results of a 16 branch tree of which 7 success cases are fully developed with own production profiles and associated CAPEX OPEX and ABEX. The Dry case associates the dry well cost and G&G; the remaining undeveloped branches NPVs derived by interpolation method. The do nothing branch (Drop branch after the node) associates G&G investment only.

Oil production profiles have been assumed on decline curves basis and relevant number of wells, producers, water and gas injectors, are compliant with the development schemes and development drilling rig timing.

Economics, based on the abovementioned assumptions, are fully developed for 7 cases, the NPV/Resources regression curve has been used to retrieve the other cases; negative NPVs are replaced by Dry well case.

Economic sensitivity based shows that the Giannutri project has a negative EMV.

6. CONCLUSIONS

Eni Norge has revised the technical evaluation of PL717. The prospectivity of the license is represented by one single prospect, Giannutri, with multiple targets and multiple segments.

The overall in place volumes calculated are substantial, but given the segmented nature of the prospect, would require multiple exploration wells to prove the potential. Lack of well control increases risk of reservoir presence, particularly in the case of the Realgrunnen, which is key to the success of the license. The source modelling studies suggest a lack of viable hydrocarbons being generated in the drainage area, while the fault analysis shows migration routes into the various segments to be complex. AVO analysis is based on well analogues which are very far distant, and is at best inconclusive.

The Giannutri HC project assessment is negative economically and, in compliance with the Eni Norge strategy in Barents Sea, the decision to relinquish the license has been taken.

The work commitment has been fulfilled.

Eni Norge recommends on behalf of PL717 to relinquish the license due lack of economic potential.