The Opening of the Kurdistan Oil and Gas Province: The Making of a Nation*

Tony Hayward¹

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¹Genel Energy plc, London, England (tony.hayward@genelenergy.com)

Overview

Hydrocarbon System

- Fold and thrust belt
- Fractured carbonate reservoirs: Triassic, Jurassic, Cretaceous and Oligocene
- Source rocks: Triassic and Jurassic
- Seals: Upper Triassic/Lower Jurassic evaporites, Upper Jurassic evaporites, Upper Cretaceous mudstones
- Hydrocarbon distribution
  - North: oil (15-28 API)
  - South: gas, condensate and light oil (40-50 API)

Resource Base and Production Potential

- USGS estimate: 45 bn bbls and 100 tcf gas
- 5 billion bbls oil and 20 tcf gas discovered to date
- Production capacity today: ~400,000 bopd
- 1 million bbls/day oil within 2-3 years
- 10 billion cubic meters/annum gas by 2020
The opening of the Kurdistan oil & gas province
The making of a nation
History of Modern Kurdistan

Exploration History of the Kurdistan Region

Genel's History in Kurdistan

The Hydrocarbon System

The Future
HISTORY OF MODERN KURDISTAN

- 1991 – No fly zone established
- 2003 – Green Line
- 2006 – First elections
- 2007 – Hydrocarbon Law / Oil & Gas Regulation
- 2009 – First Oil exports (via Baghdad controlled infrastructure)
- 2013 – Bilateral Energy agreement with Turkey
- 2014 – First oil exports via independent infrastructure
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EXPLORATION HISTORY OF KURDISTAN

- 1902-1905 – D’Arcy Exploration Chia Surkh
- 1950s – IPC (BP)
- 1970s – Saipem
- 2002-2004 – Genel Energy at Taq Taq
- 2004-2011 – Independents enter region
- 2011-2014 – Supermajors enter region
CHIA SURKH – 1903 vs 2013

CS-01 1903

CS-10 2013
THE RIGHT ENVIRONMENT FOR INVESTORS

- Safe and secure operating environment
- Rule of law (clear and comprehensive hydrocarbon legislation)
- Contracts well balanced between risk and reward
- Minimum of government bureaucracy
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**GENEL’S HISTORY IN KURDISTAN**

- 2002 – First Taq Taq contract
- 2003 – First drilling at Taq Taq
- 2009 – First commercial production at Taq Taq
- 2009 – Additional licences: Tawke, Dohuk, Ber Bahr, Miran and Chia Surkh
- 2011 – Merger with Vallares
- 2012 – Acquisition of Miran (100% operatorship), Bina Bawi and Chia Surkh (operatorship)
- 2013 – Major gas discoveries at Miran and Bina Bawi / major oil discovery at Chia Surkh
- 2014 – Gross production from Taq Taq and Tawke exceeds 200,000 bopd
GENEL’S LICENCE POSITION IN KURDISTAN

YE-2013 reserves and resources estimates
2P = 2P Reserves
CR = Contingent Resources
PR = Prospective Resources
1 Includes Tawke Deep and Peshkabir
2 Operator estimate
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THE HYDROCARBON SYSTEM

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BALANCED CROSS SECTION – NORTH

Tawke Balanced Cross Section
1 : 100,000
BALANCED CROSS SECTION – CENTRAL (TAQ TAQ)

Taq Taq Balanced Cross Section 1:100,000
BALANCED CROSS SECTION – CENTRAL (MIRAN)

Miran Balanced Cross Section
1 : 100,000

SW
NE
BALANCED CROSS SECTION – SOUTH (CHIA SURKH)

Chia Surkh Balanced Cross Section
1 : 100,000
DISTRIBUTION OF OIL/GAS DISCOVERIES TO DATE

Distribution of discoveries by hydrocarbon type

Distribution of discoveries by reservoir age

Legend
- Cenozoic
- Cretaceous
- Jurassic
- Triassic
- Genel Energy Blocks

Source: IHS July 2014

Legend
- Gas Fields
- Oil & Gas Fields
- Oil Fields
- Genel Energy Blocks
TAWKE SATTELITE IMAGE
TAWKE SEISMIC LINE

Interpreted seismic line TQ-04, used for Tawke section (Interpreted in Lithotect by D.Schelling 2014)
Interpreted seismic line TQ-04, with seismic stratigraphic colour-fill
TAQ TAQ SATELITE IMAGE
Interpreted seismic line Koya 61-7, used for Taq Taq section (Interpreted in Lithotect by D.Schelling 2014)
TAQ TAQ CROSS SECTION

Interpreted seismic line Koya 61-7, used for Taq Taq section
(Interpreted in Lithotect by D.Schelling 2014)
Interpreted seismic line CS-10-08
(used in the construction of the Chia Surkh structural cross section)
CHIA SURKH CROSS SECTION

Interpreted seismic line CS-10-08 (in depth) (used in the construction of the Chia Surkh structural cross section)
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