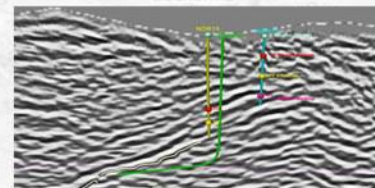
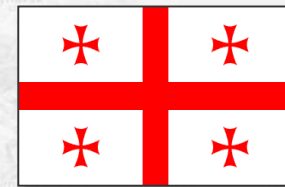




Georgia Oil and Gas Limited (GOG)



Exploration opportunities in the Kura-Kartli foreland basin (onshore central Georgia)

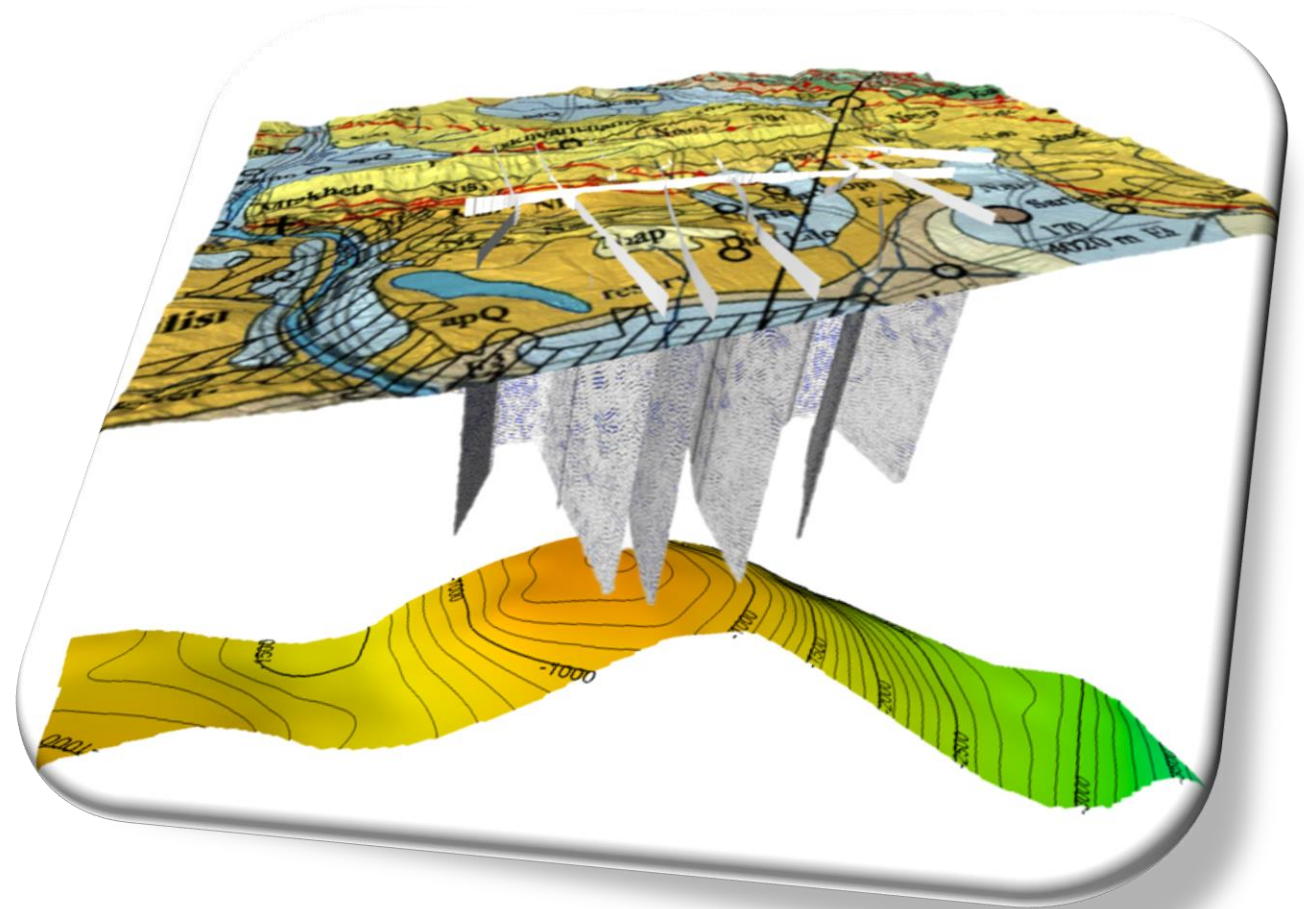
Paolo Pace

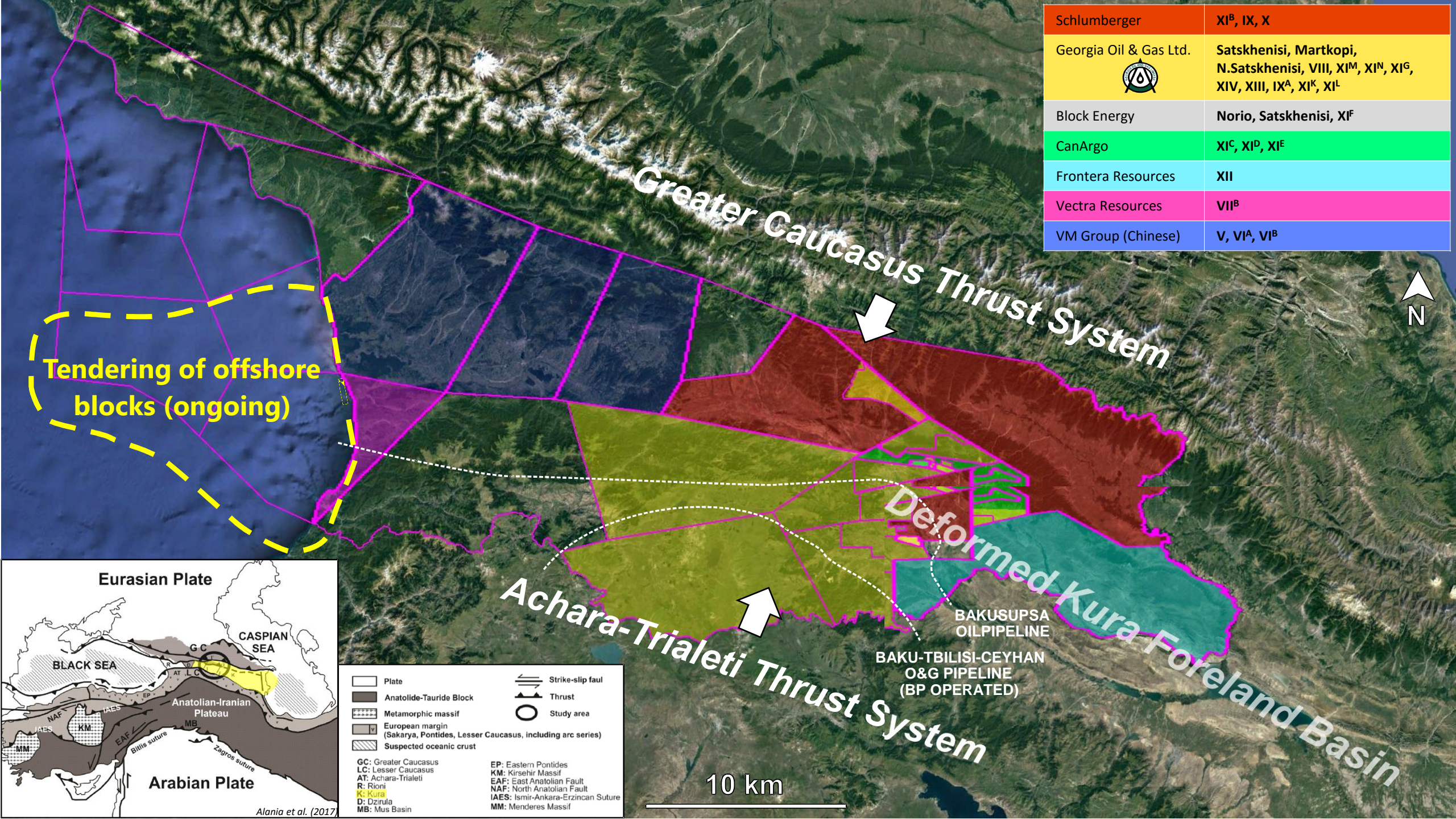
Georgia Oil and Gas Lunch & Learn
London, March 4th 2020



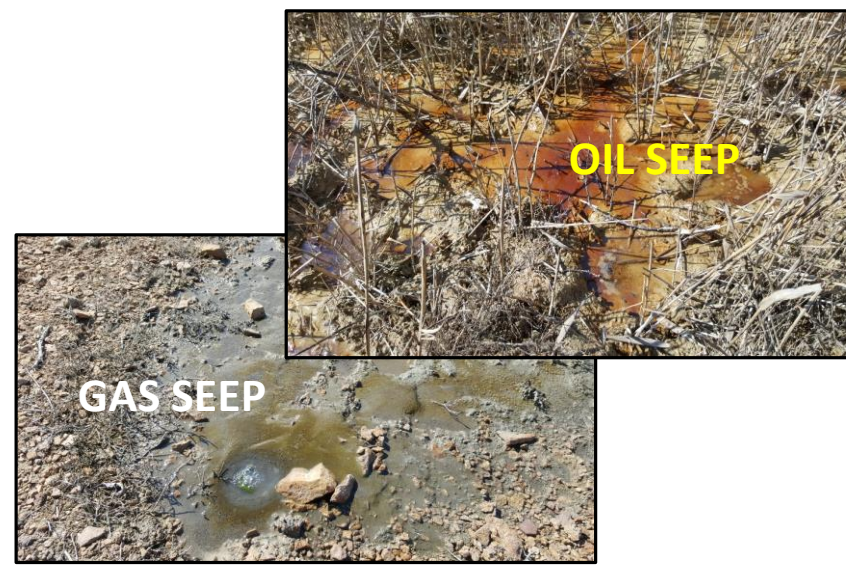
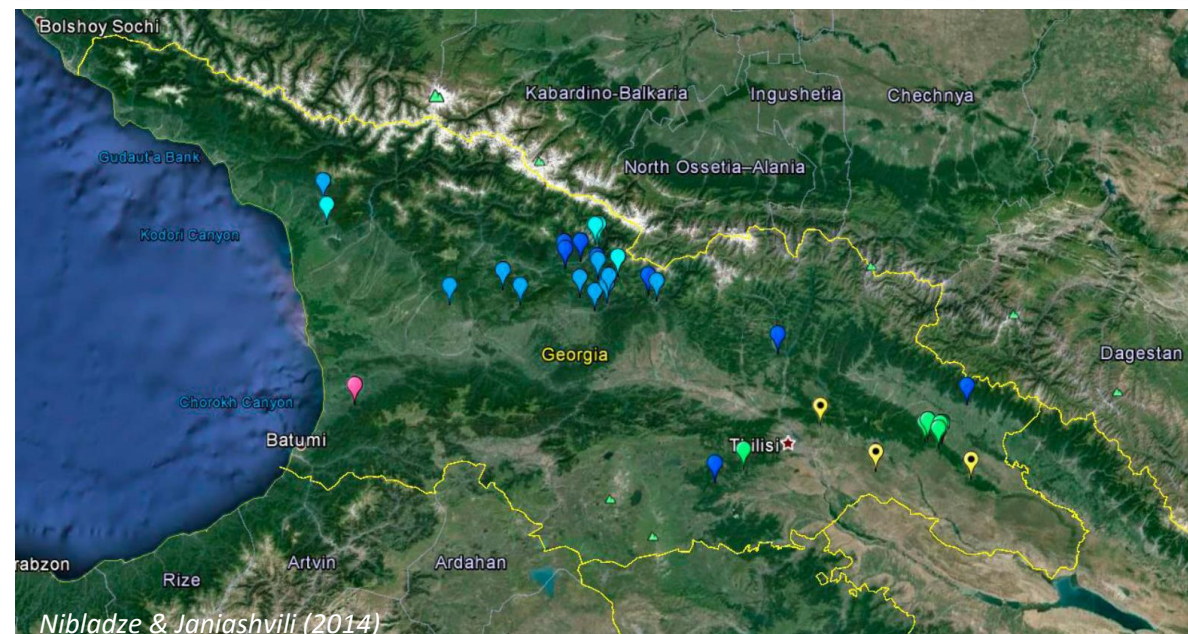
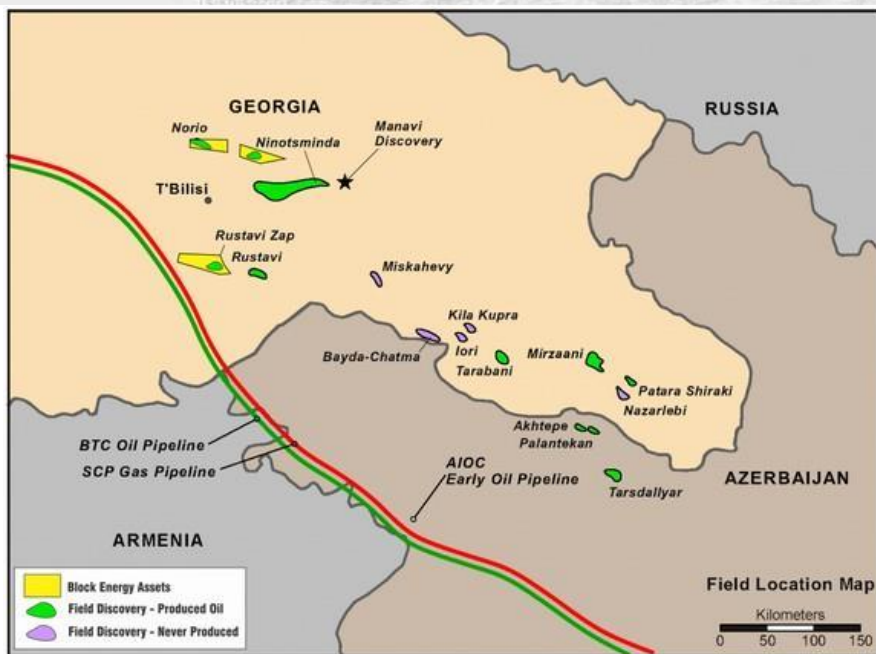
Confidential

- REGIONAL FRAMEWORK & LICENSES OVERVIEW
- TECTONO-STRATIGRAPHY & MAIN PSE
- DATASET
- HC PROSPECTIVITY: IDENTIFIED PROSPECTS & LEADS
- MAIN TAKE AWAY MESSAGES





Main Fields, Discoveries & Seeps



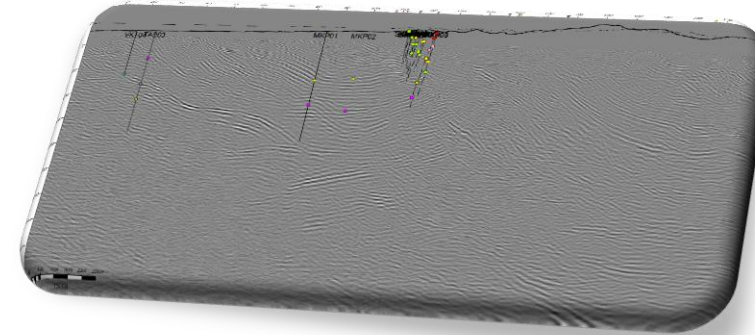
- **VERY ACTIVE PETROLEUM SYSTEM IN THE KURA BASIN**
- **STILL UNDEREXPLORED WITH SIGNIFICANT POTENTIAL**

Play-Based Prospect Generation Workflow

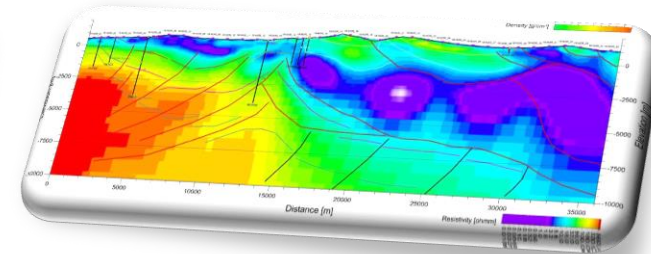
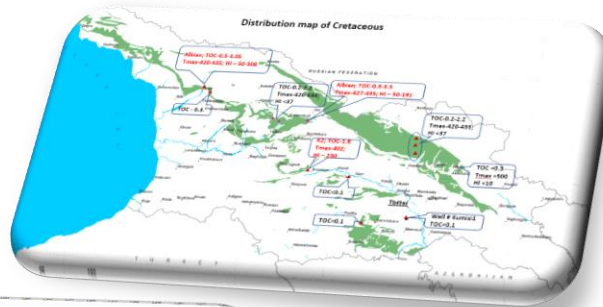
- SEISMIC INTERPRETATION
- INTEGRATION WITH MT & GRAV-MAG
- KINEMATIC RESTORATION
- STRUCTURAL & STRAIN MODELLING
- 2D BASIN MODELLING
- PLAY & PROSPECT DEFINITION
- VOLUMETRICS
- RISK ASSESSMENT

De-risking Strategy

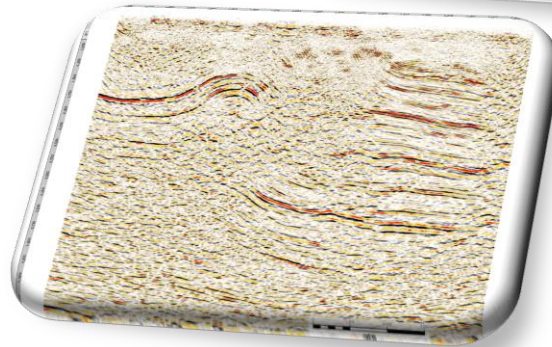
- 2D PSTM & PSDM REPROCESSING OF VINTAGE SEISMIC
- MT ACQUISITION
- REGIONAL GRAVITY & MAGNETICS
- SOURCE ROCK EVALUATION
- 3D SEISMIC REPROCESSING
- RESERVOIR CHARACTERISATION FROM OUTCROP ANALOGUES



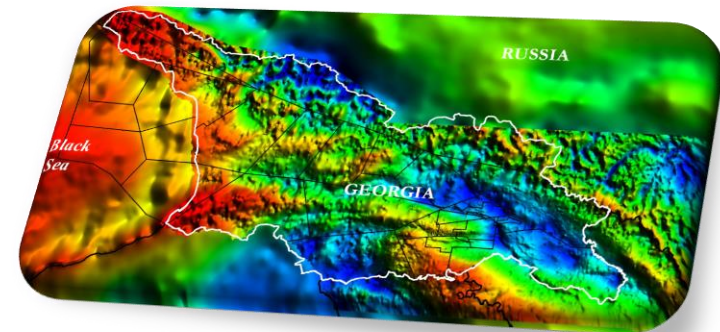
GK processing



geopartner



MONTAN
UNIVERSITÄT
LEOBEN



getech

Tectono-Stratigraphy

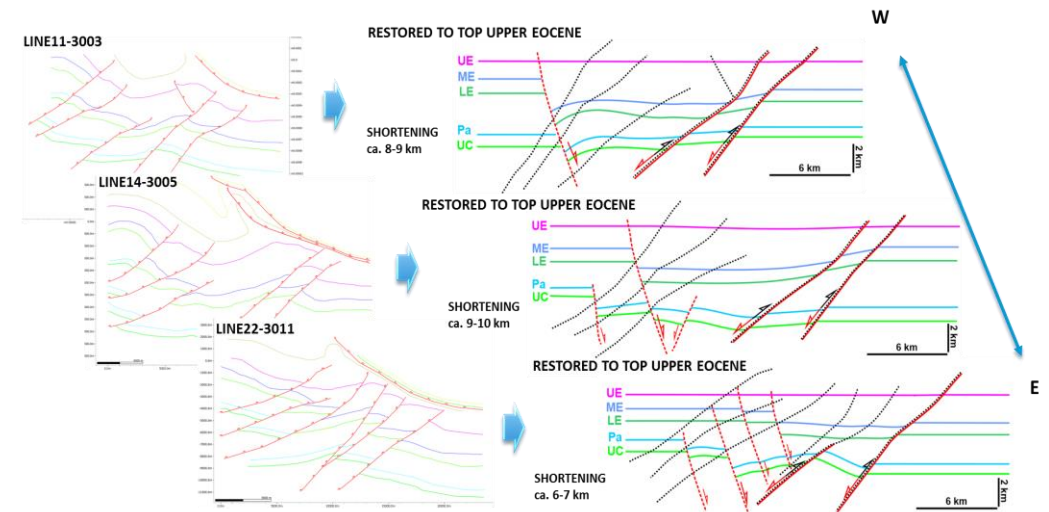
	PERIOD	EPOCH	AGE	PICKS (Ma)	LITHOSTRATIGRAPHY	REGIONAL STRATIGRAPHY	DEPOSITIONAL ENVIRONMENT	REGIONAL TECTONIC REGIMES	SEQUENCE STRATIGRAPHY	DUCTILE EVENTS
CENOZOIC	TERTIARY	NEOGENE	QUATERNARY	1.2-0						
			PLIOCENE	3.6-2.6						
			ZANCLIAN	5.0						
			MESSINIAN	5.3-5.0						
			TORTONIAN	11.0		PONTIAN	Fluvial		GROWTH STRATA	COMPRESSION
		MIOCENE	SERRAVALLIAN	13.0		MEOTIAN				
			LANGHIAN	12.0		SARMATIAN				
			BURDIGALIAN	16.0		GUZULI	Shallow marine			
		OLIGOCENE	AQUITANIAN	23.0		UPPER EOCENE	Delta front		FORELAND MEGASEQUENCES	SUBSIDENCE
			CHATTIAN	28.4		MAIKOPTIAN	Shallow water/shelf			
			RUPELIAN	33.9		KHADUMI	Shallow water			
		EOCENE	PRIABONIAN	37.2			Shallow-marine		TRANSITION MEGASEQUENCES	Pull-apart
			BARTONIAN	48.4			Shallow-marine			
			LUTETIAN	48.4			Shallow-marine		EXTENSIONAL MEGASEQUENCES	EXTENSION
		PALEOCENE	YPRESIAN	56.0			Shallow-marine			
			THANETIAN	59.8			Shallow-marine		PRE-EXTENSIONAL MEGASEQUENCES	LOADING
			SELANDIAN	64.7			Shallow-marine			
MESOZOIC	CRETACEOUS	LATE	MAASTRICHTIAN	65.5			Shallow-marine/shelf		TRANSITION MEGASEQUENCES	LOADING
			CAMPANIAN	80.5			Shallow-marine/shelf			
			SANTONIAN	89.5			Shallow-marine/shelf		EXTENSIONAL MEGASEQUENCES	EXTENSION
			CONIACIAN	90.5			Shallow-marine/shelf			
			TURONIAN	93.5			Shallow-marine/shelf			
		EARLY	CENOMANIAN	99.6			Shallow-marine/shelf		TRANSITION MEGASEQUENCES	SUBSIDENCE
			ALBIAN	112.0			Shallow-marine/shelf			
			APTIAN	112.0			Shallow-marine/shelf			
			BARREMIAN	120.0			Shallow-marine			
			HAUTERIVIAN	130.0			Shallow-marine			
		LATE	VALANGINIAN	140.2			Shallow-marine			
			BERRIASIAN	145.5			Shallow-marine			
			TITHONIAN	150.3			Shallow-marine			
			KIMMERIDGIAN	155.7			Shallow-marine			
			ONFORDIAN	155.7			Shallow-marine			
	JURASSIC	MIDDLE	CALLOVIAN	161.2			Shallow-marine			
			BATHONIAN	164.7			Subaerial volcanic		EXTENSION MEGASEQUENCES	EXTENSION
			BAJOIAN	167.3			Shallow-marine			
		EARLY	ALENIAN	171.6			Shallow-marine			
			TOARCIAN	175.8			Shallow-marine			
PALEOZOIC	PALEOZOIC	PALEOZOIC	PLEINSBACHIAN	201.0			Shallow-marine/shelf			
			SINEMURIAN	201.0			Shallow-marine/shelf			
			HETTANGIAN	201.0			Shallow-marine/shelf			

CONTRACTION & FORELAND BASIN

PASSIVE SUBSIDENCE WITH EPISODES OF EXTENSION

RIFTING

- **SEDIMENTARY SEQUENCE DOMINATED BY VOLCANOGENIC INFLUX REPEATED OVER TIME**
- **REPEATED EVENTS OF EXTENSION FROM JURASSIC TO EOCENE**
- **MAIN CONTRACTIONAL EVENT WITH THRUST BELTS DEVELOPMENT DURING MIDDLE-UPPER MIOCENE**
- **INVERSION OF PRE-EXISTING EXTENSIONAL BASINS AS TESTED VIA 2D KINEMATIC RESTORATION**



PSEs: Main Source Rocks

	PERIOD	EPOCH	AGE	PICKS (Ma)	LITHOSTRATIGRAPHY	REGIONAL STRATIGRAPHY	DEPOSITIONAL ENVIRONMENTS	HYDROCARBON POTENTIAL			SEQUENCE STRATIGRAPHY	TECTONIC EVENTS
								SOURCE ROCK	SEAL	RESERVOIR		
CENOZOIC	TERTIARY	NEOGENE	QUATERNARY									
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
			PLIOCENE	3.60								
MESOZOIC	PALEOGENE	Eocene	YPRÉSIAN	56.0			Shallow marine					
			YPRÉSIAN	56.0			Shallow marine					
			YPRÉSIAN	56.0			Shallow marine					
			YPRÉSIAN	56.0			Shallow marine					
			YPRÉSIAN	56.0			Shallow marine					
		Oligocene	CHATTIAN	34.0			Shallow water/shelf					
			CHATTIAN	34.0			Shallow water/shelf					
			CHATTIAN	34.0			Shallow water/shelf					
			CHATTIAN	34.0			Shallow water/shelf					
			CHATTIAN	34.0			Shallow water/shelf					
		Miocene	LANGHIAN	15.97			Shallow marine					
			LANGHIAN	15.97			Shallow marine					
			LANGHIAN	15.97			Shallow marine					
			LANGHIAN	15.97			Shallow marine					
			LANGHIAN	15.97			Shallow marine					
		Pliocene	RUPELIAN	3.60			Shallow water					
			RUPELIAN	3.60			Shallow water					
			RUPELIAN	3.60			Shallow water					
			RUPELIAN	3.60			Shallow water					
			RUPELIAN	3.60			Shallow water					
PALEOZOIC	JURASSIC	EARLY	TOARCIAN	252.0			Shallow marine/shelf					
			TOARCIAN	252.0			Shallow marine/shelf					
			TOARCIAN	252.0			Shallow marine/shelf					
			TOARCIAN	252.0			Shallow marine/shelf					
			TOARCIAN	252.0			Shallow marine/shelf					
		MIDDLE	BALENIAN	175.6			Shallow marine					
			BALENIAN	175.6			Shallow marine					
			BALENIAN	175.6			Shallow marine					
			BALENIAN	175.6			Shallow marine					
			BALENIAN	175.6			Shallow marine					
		LATE	KIMMERIDGIAN	191.3			Shallow marine					
			KIMMERIDGIAN	191.3			Shallow marine					
			KIMMERIDGIAN	191.3			Shallow marine					
			KIMMERIDGIAN	191.3			Shallow marine					
			KIMMERIDGIAN	191.3			Shallow marine					
PALEOZOIC	CRETACEOUS	EARLY	APTIAN	112.0			Shallow marine/shelf					
			APTIAN	112.0			Shallow marine/shelf					
			APTIAN	112.0			Shallow marine/shelf					
			APTIAN	112.0			Shallow marine/shelf					
			APTIAN	112.0			Shallow marine/shelf					
		LATE	CAMPANIAN	80.5			Shallow marine/shelf					
			CAMPANIAN	80.5			Shallow marine/shelf					
			CAMPANIAN	80.5			Shallow marine/shelf					
			CAMPANIAN	80.5			Shallow marine/shelf					
			CAMPANIAN	80.5			Shallow marine/shelf					
PALEOZOIC	PALEOZOIC	PALEOZOIC	MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					
			MAASTRICHTIAN	66.0			Shallow marine					



Tbilisi, Chanderi, Bata, Lagodkhi, Saginila State Reserve



TOC: 0.5-11%

OLIGOCENE MAIKOP SHALES



TOC: 0.3-10%

UPPER EOCENE (NAVTLUGHI SUITE)



TOC: 0.5-2.8%

MIDDLE EOCENE SHALES



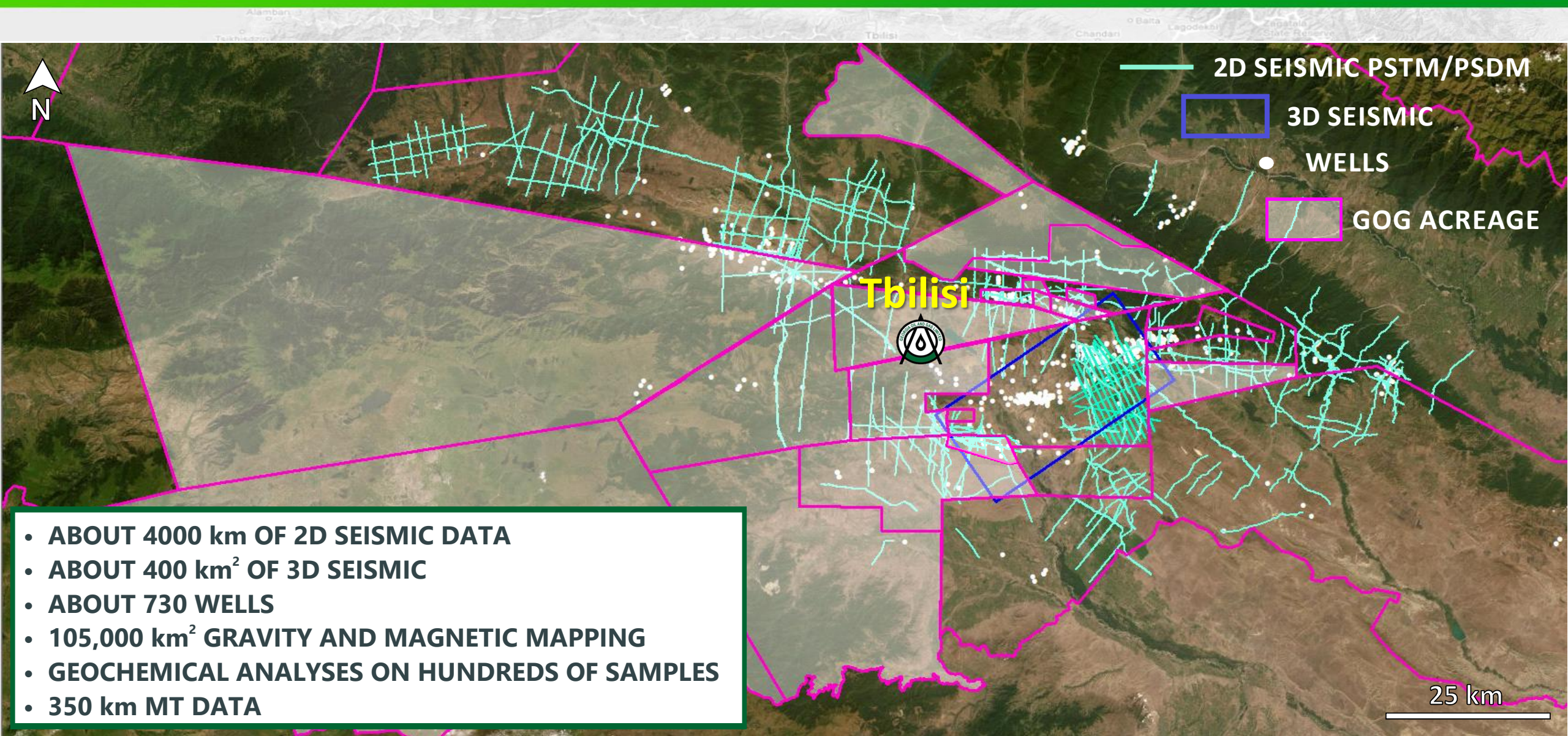
TOARCIAN SHALES

PSEs: Main Reservoirs

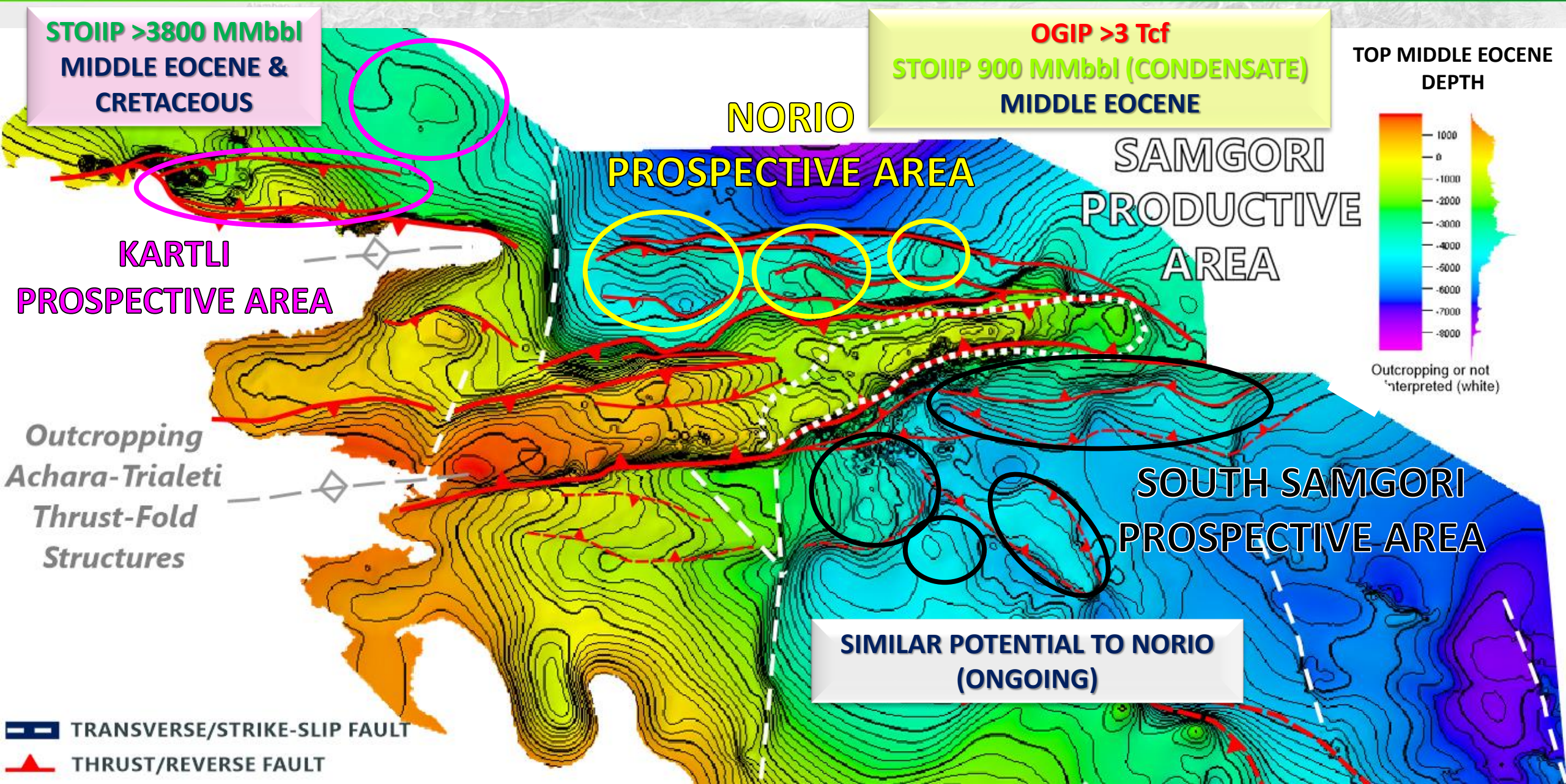
CENOZOIC	PERIOD	EPOCH	AGE	PICKS (Ma)	LITHOSTRATIGRAPHY	REGIONAL STRATIGRAPHY	DEPOSITIONAL ENVIRONMENTS	HYDROCARBON POTENTIAL				SEQUENCE STRATIGRAPHY	TECTONIC EVENTS																																												
	QUATERNARY	PLEISTOCENE	LATE		80-8000m			PONTIAN	Fluvial	SOURCE ROCK	SEAL			RESERVOIR	OTHER																																										
		PLIOCENE	THUROM	2.09																																																					
			PLACENZAN	3.40																																																					
TERTIARY	PALEOGENE	MIOCENE	MESSINIAN	5.33		SARMATIAN	Shallow marine					GROWTH STRATA	COMPRESSION																																												
			TORTONIAN	7.25										MAIKOPIAN	Shallow water/shelf	R	R	POST-EXTENSIONAL MEGASEQUENCES	SUBSIDENCE																																						
			SERRAVALLIAN	11.41																KOTSAKURIAN	Shallow marine	R	R	FORELAND MEGASEQUENCES																																	
			LANGHIAN	13.45																						SAKARAVULIAN	Shallow water																														
			BURDIGALIAN	15.97																UPHREMBREAN	Delta Front																																				
			AQUITANIAN	20.43										KHADUMI	Shallow water/shelf																																										
		CHATTIAN	23.81		Shallow marine	R	R	TRANSITION MEGASEQUENCES	?	Pull-apart																																															
		RUPELIAN	26.4								Shallow marine	R	R										EXTENSIONAL MEGASEQUENCES	EXTENSION																																	
		PRIABONIAN	33.9																						Shallow marine	R	R	EXTENSIONAL MEGASEQUENCES	EXTENSION																												
		BARTONIAN	37.2		Shallow marine	R	R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																																
	LUTETIAN	40.4		Shallow marine						R	R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																												
	YPRESIAN	46.4			Shallow marine	R	R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																																
	PALEOCENE	THANETIAN	55.8							50-450	Shallow marine																																														
		SELANDIAN	58.7		Shallow marine	R	R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																																
		DANIAN	61.7																	Shallow marine	R	R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																	
		MAASTRICHTIAN	65.5		Shallow marine	R	R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																																
	CAMPANIAN	70.6		Shallow marine						R	R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																												
	SANTONIAN	83.5			Shallow marine	R	R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																																
CONIACIAN	85.8		Shallow marine	R						R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																													
TUROMANIAN	90.2				Shallow marine	R	R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																																
CENOMANIAN	96.6		Shallow marine	R						R	EXTENSIONAL MEGASEQUENCES	EXTENSION																																													
MESOZOIC	CRETACEOUS	LATE			ALBIAN	1000-1500m		Shallow marine/shelf																																																	
			EARLY	APTIAN						300-1000m		Shallow marine/shelf																																													
																												BARREMIAN	300-400m		Shallow marine																										
																																							HAUTERIVIAN		Shallow marine																
																																																	VALANGINIAN		Shallow marine						
		TITHONIAN				Shallow marine																																																			
		JURASSIC	LATE	KIMMERIDGIAN	30-100m		Shallow marine																																																		
																	OXFORDIAN		Shallow marine																																						
																													CALLOVIAN		Shallow marine																										
																																								BATHONIAN		Shallow marine															
																																																		BAJOCIAN		Shallow marine					
ALENIAN																																																									
MIDDLE	TOARCIAN		PLIENSCHACHIAN	200-1000m		Shallow marine/shelf																																																			
																SINEMURIAN		Shallow marine/shelf																																							
																												HETTANGIAN		Shallow marine/shelf																											
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																																																			Shallow marine/shelf						
PALEOZOIC																																																									



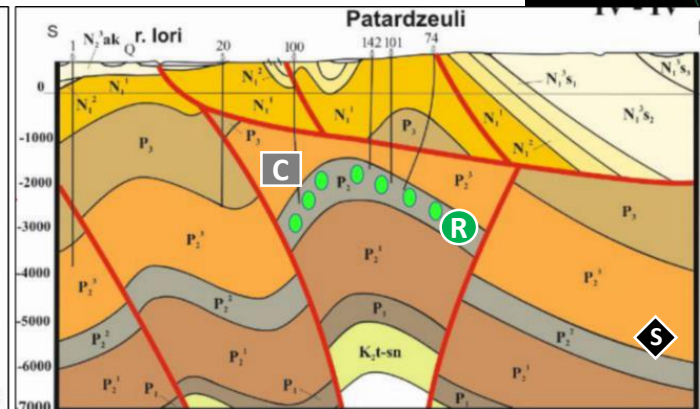
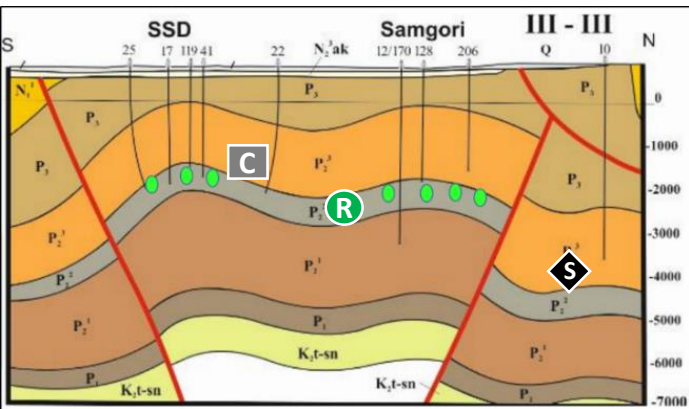
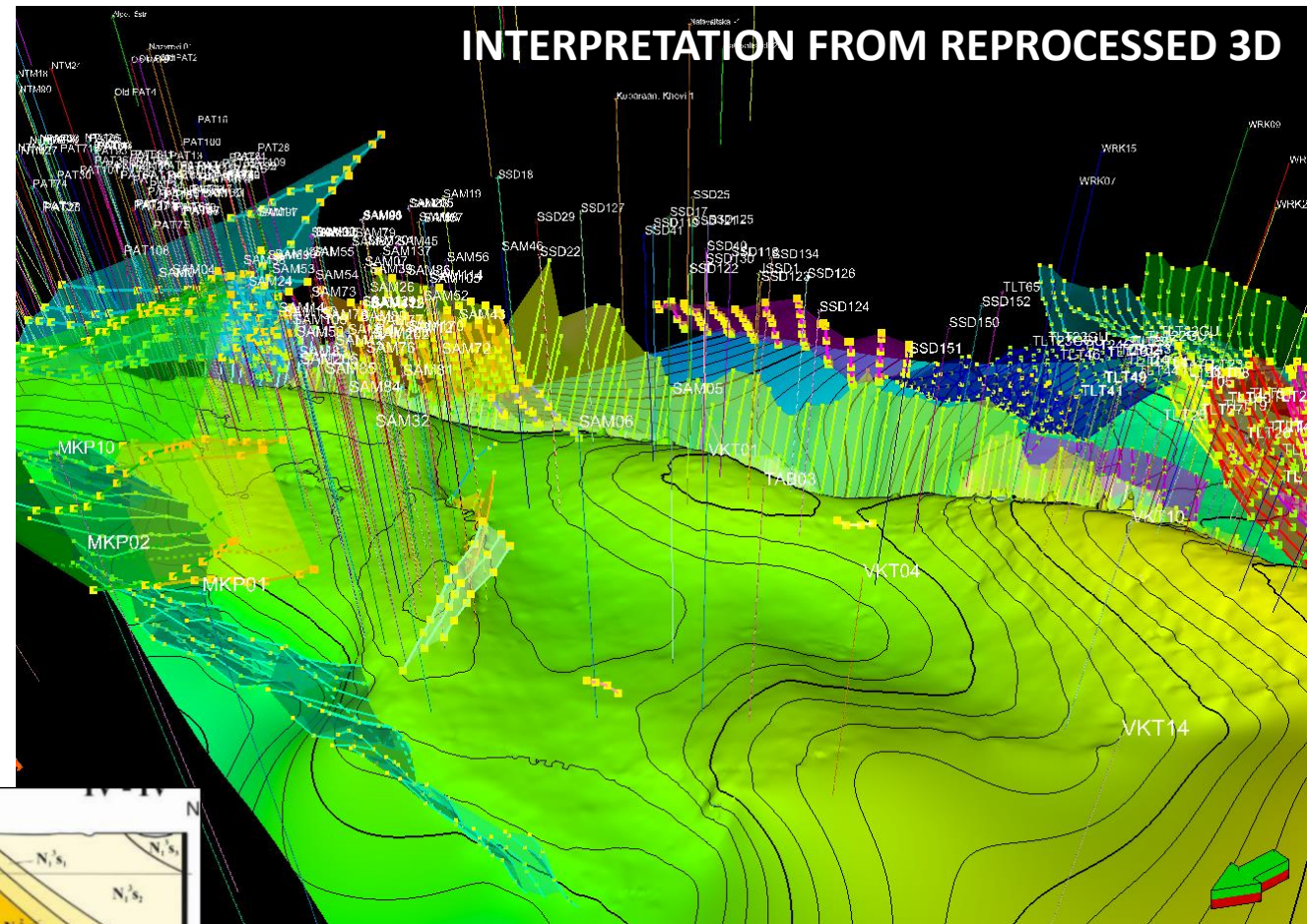
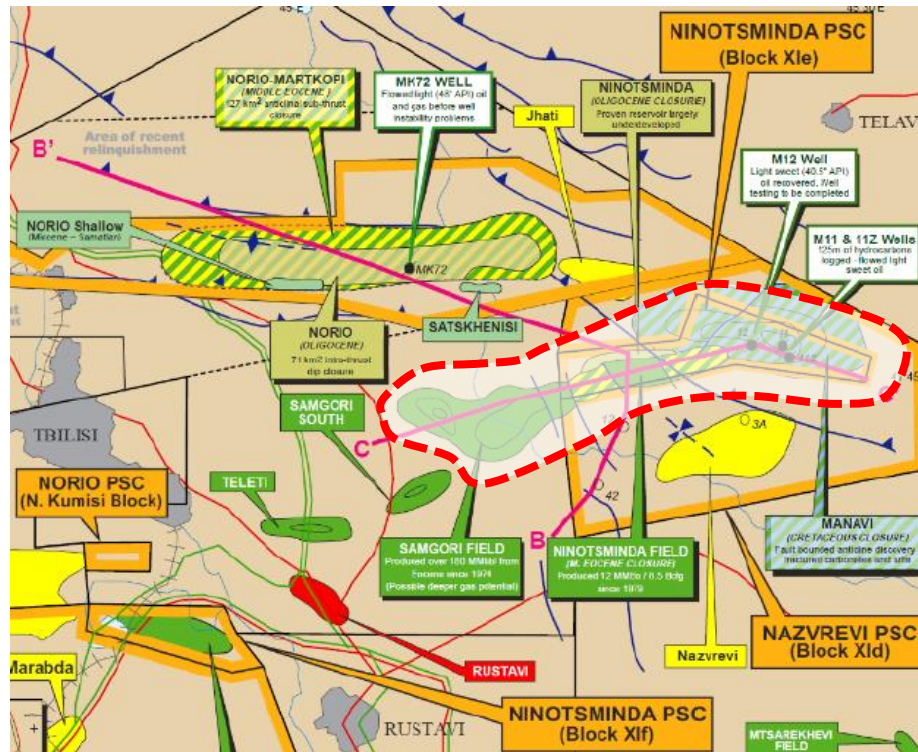
Dataset



Sweetspots & Overall Potential



Play Concept: Samgori Fields



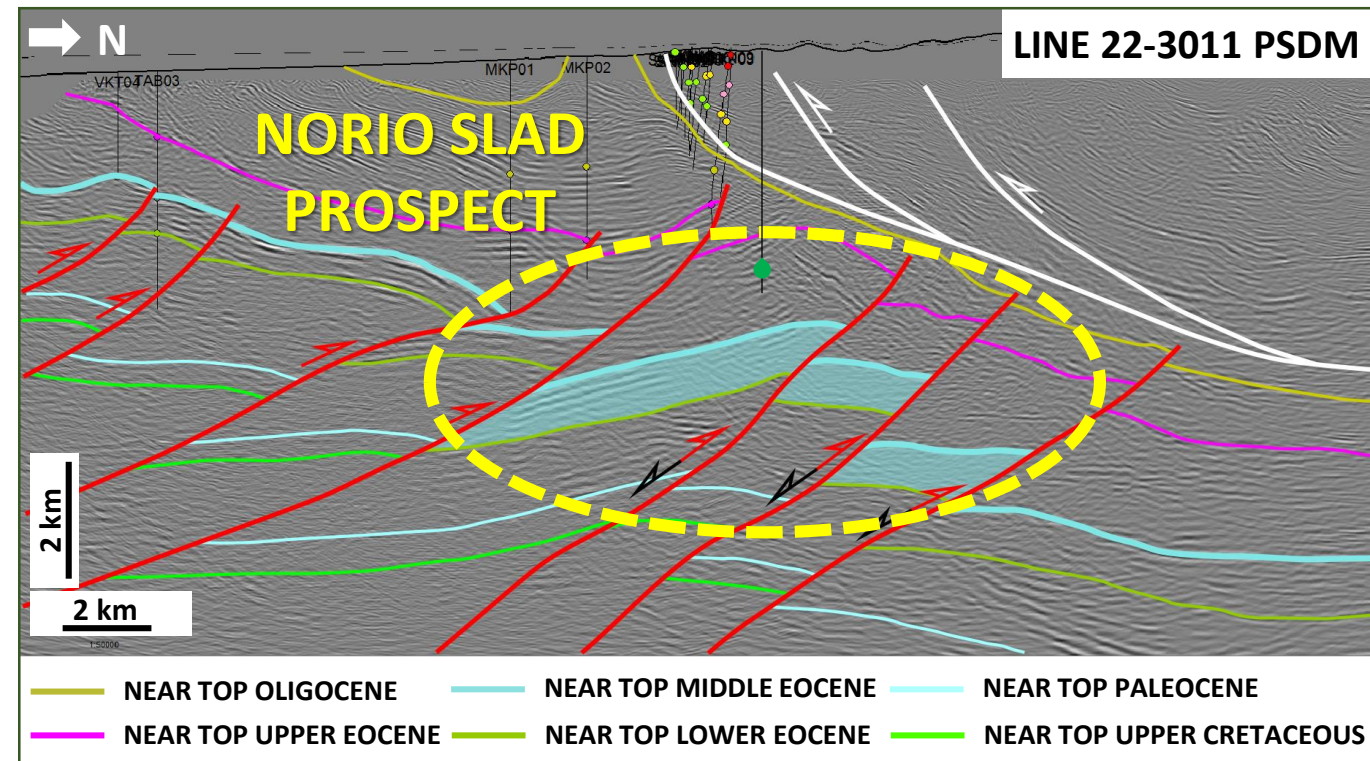
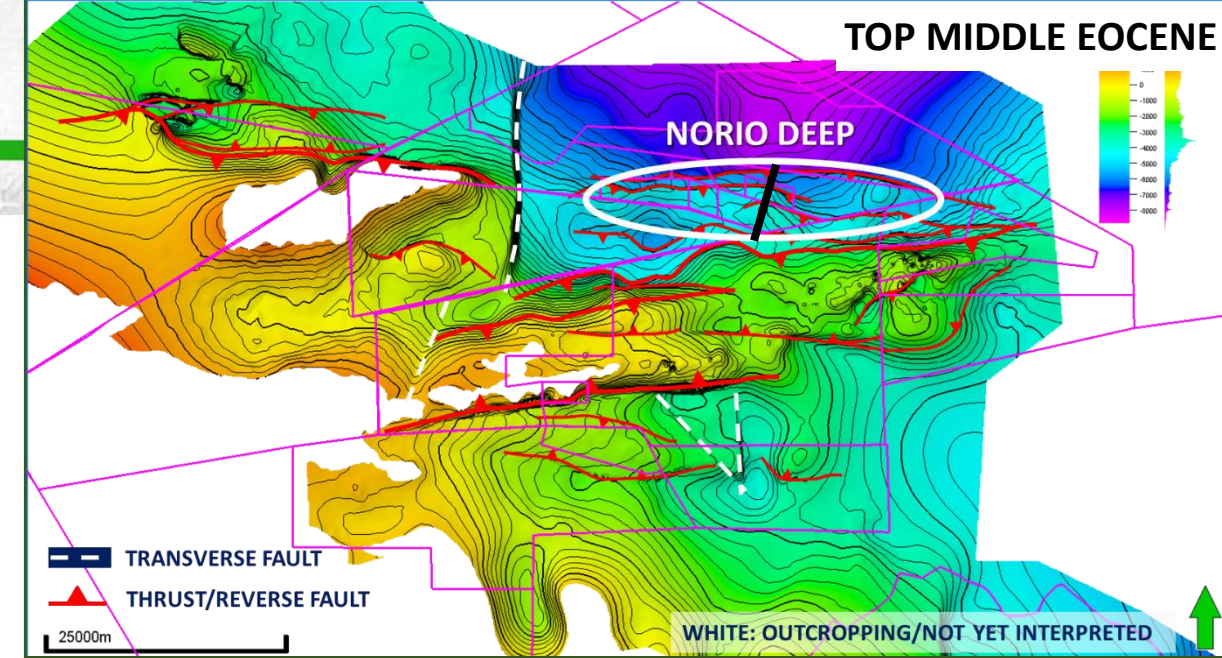
Norio Samgori Lookalike Deep

- **SOURCE:** UPPER EOCENE SHALES
POTENTIAL INTRA-MIDDLE EOCENE SHALES
- **RESERVOIRS:**
 - MIDDLE EOCENE VOLCANOGENIC SANDSTONES, TUFFS AND SILTSTONES (FRACTURED RESERVOIR) PRIMARY TARGET
 - UPPER & LOWER EOCENE AS SECONDARY TARGETS
- **SEAL:** UPPER EOCENE SHALES
- **TRAP:**
 - SUB-THRUST INVERSION STRUCTURE
 - CULMINATION AT 3780 TVDSS
 - 7 x 35 km (MAX WIDTH x ALONG-STRIKE LENGTH)
- **BLOCKS:** XIm, XIc, NORIO, SATSKHENISI, MARTKOPI

>3 Tcf (P50) OGIP SCEN. 1

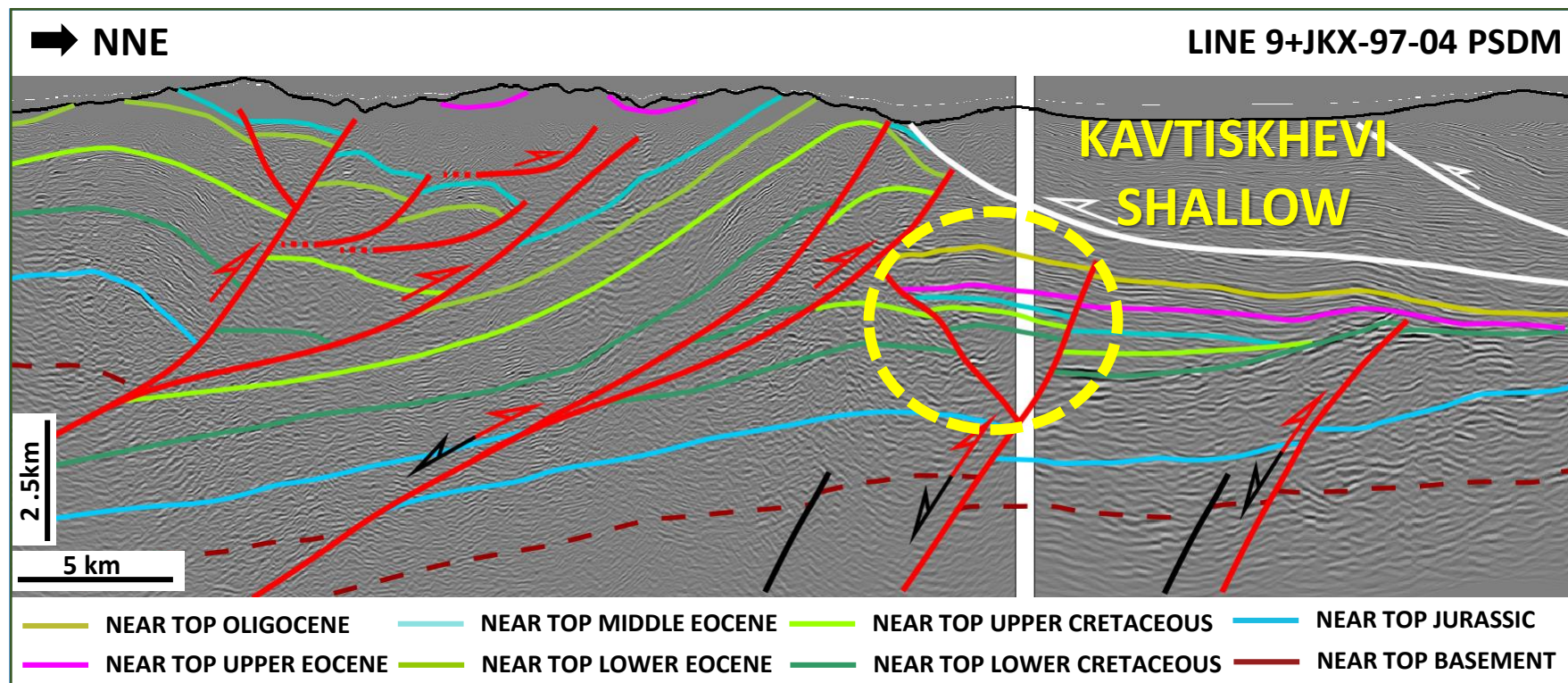
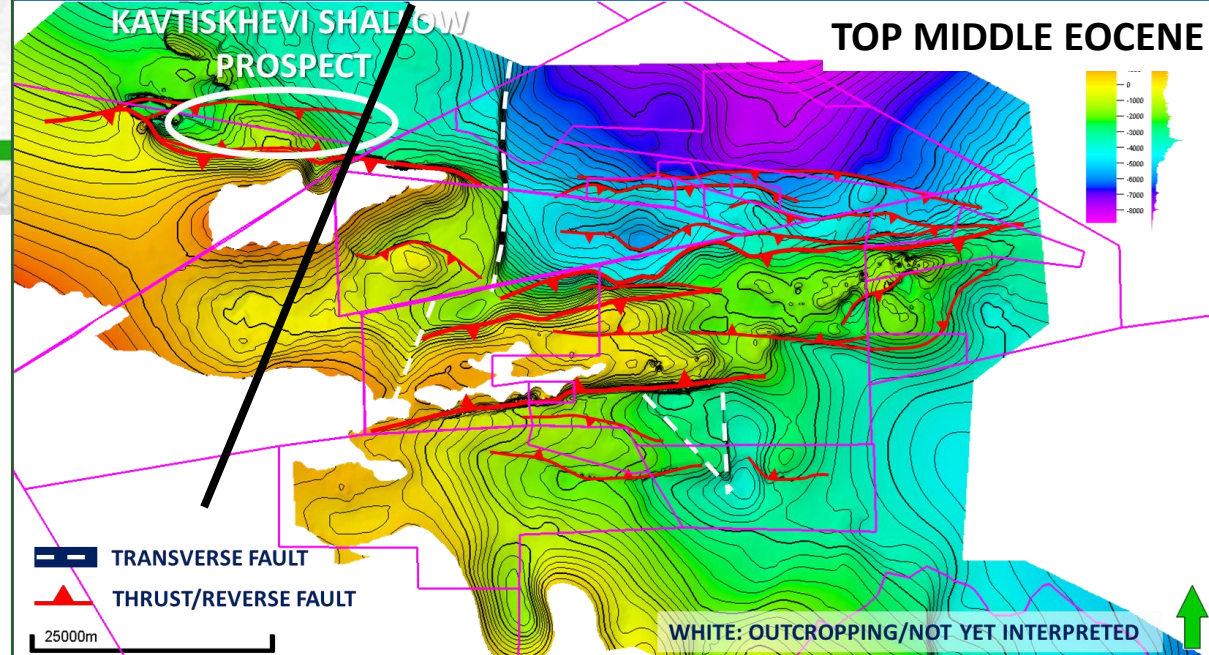
900 MMbbl (P50) STOIP CONDENSATE SCEN. 2

MIDDLE EOCENE
(UNRISKED)



Kavtiskhevi Shallow Prospect

- **SOURCE:** UPPER EOCENE SHALES
- **RESERVOIRS:**
 - MIDDLE EOCENE VOLCANOGENIC SANDSTONES, TUFFS AND SILTSTONES (FRACTURED RESERVOIR) PRIMARY TARGET
 - UPPER CRETACEOUS CARBONATES AND TUFF-SANDSTONES (FRACTURED RESERVOIR)
- **SEAL:** UPPER EOCENE SHALES
- **TRAP:**
 - SUB-THRUST INVERSION STRUCT.
 - CULMINATION AT 1000 TVDSS
 - 4.5 x 19 km (MAX WIDTH x ALONG-STRIKE LENGTH)
- **BLOCKS:** XI, VIII

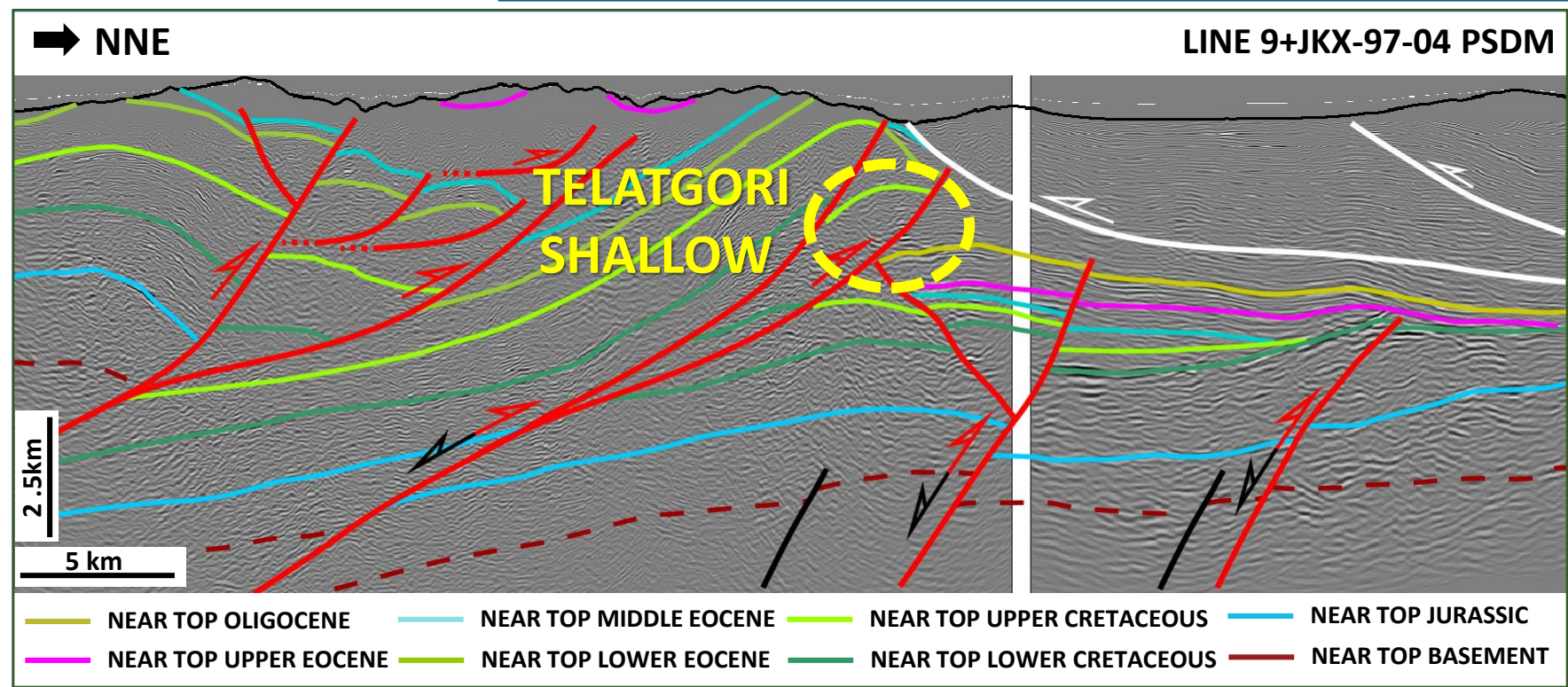
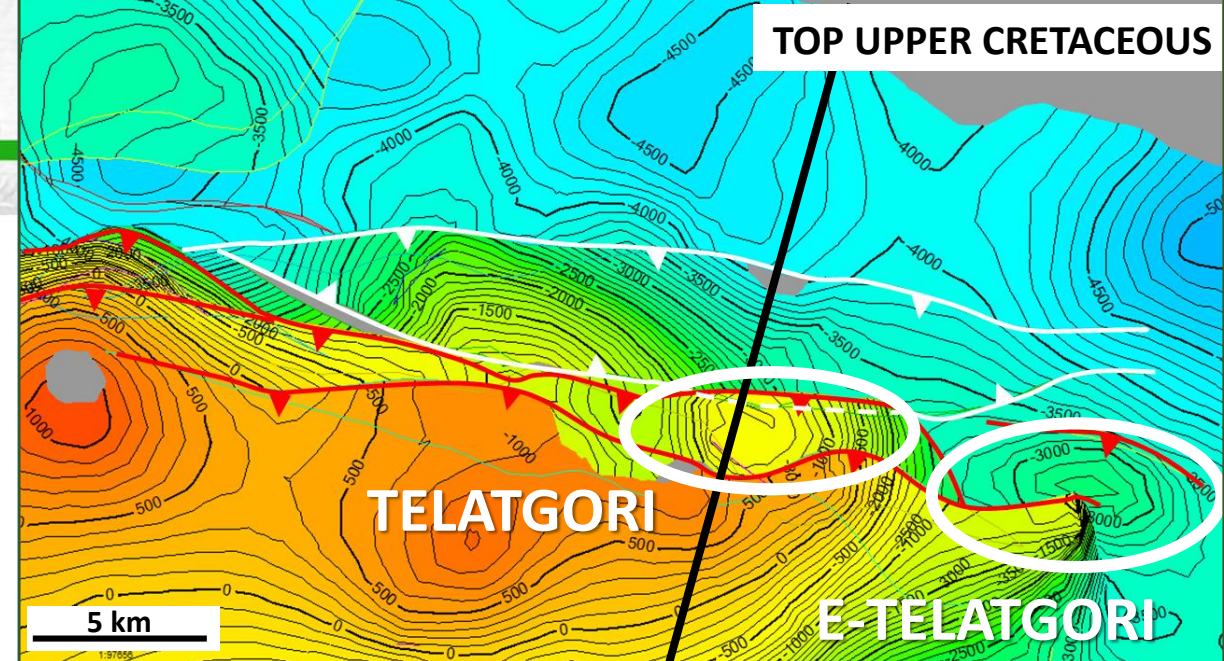


2400 MMbbl (P50) STOIIP

**MIDDLE EOCENE + U. CRETACEOUS
(UNRISKED)**

Telatgori & East-Telatgori Leads

- **SOURCE:** UPPER EOCENE SHALES
- **RESERVOIRS:**
 - UPPER CRETACEOUS CARBONATES AND TUFF-SANDSTONES (FRACTURED RESERVOIR)
- **SEAL:** INTRA-FORMATIONAL CRETACEOUS SHALES AND MARLS + LOWER EOCENE SHALES
- **TRAP:**
 - SUB-THRUST THRUST-RELATED ANTICLINE
 - CULMINATION AT 580 TVDSS
 - 2.5 x 6 km (MAX WIDTH x ALONG-STRIKE LENGTH)
- **BLOCKS:** XI, VIII



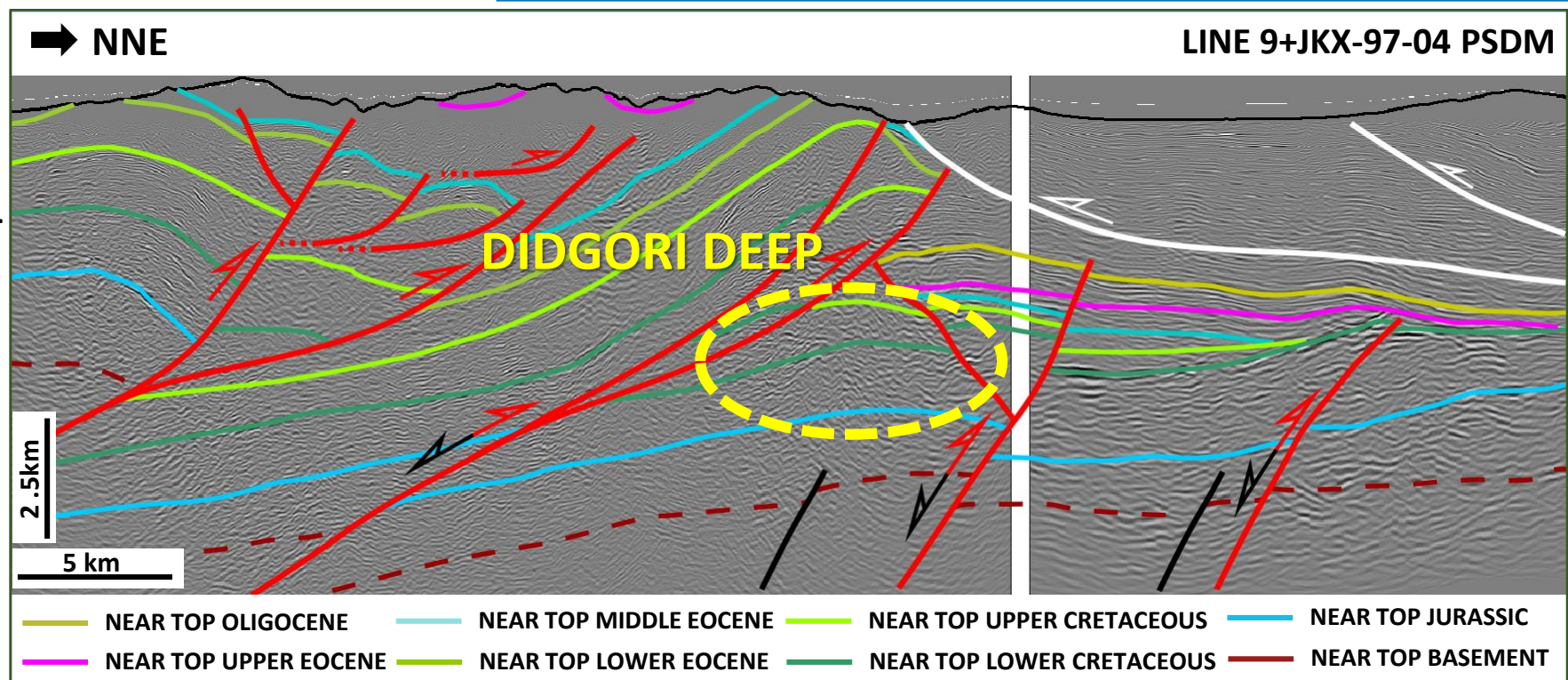
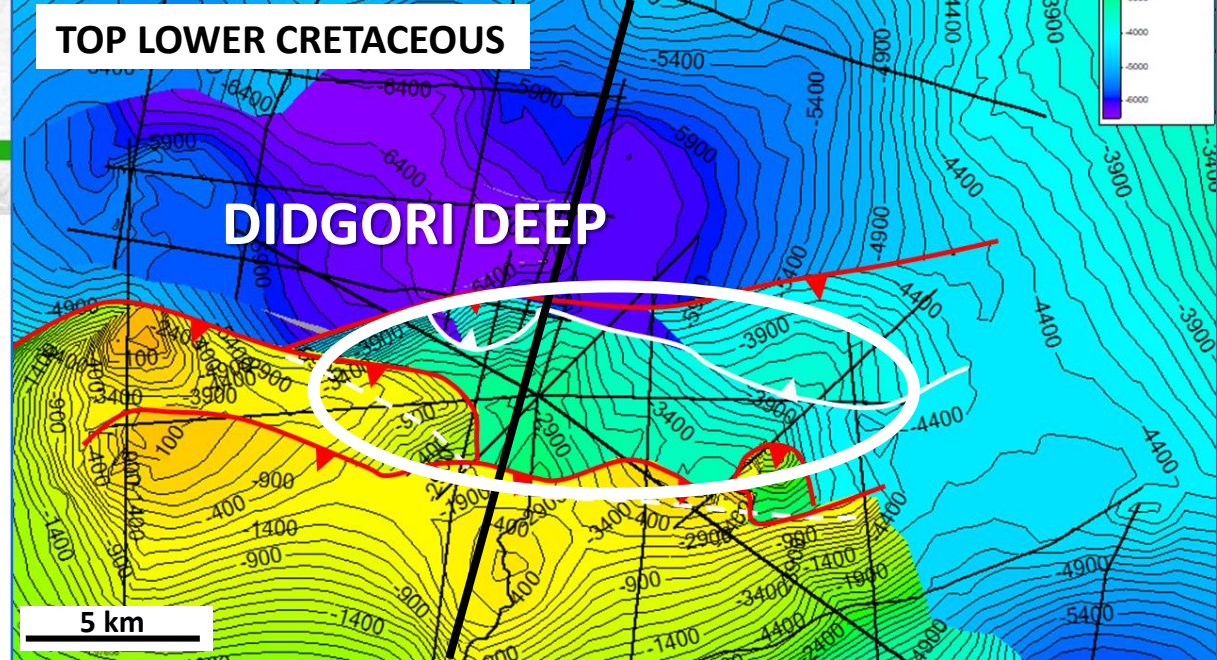
660 MMbbl (P50) STOIIIP
MIDDLE EOCENE + U. CRETACEOUS
(UNRISKED)

Didgori Deep Lead

- **SOURCE:** POTENTIAL JURASSIC SHALES
- **RESERVOIRS:**
 - LOWER CRETACEOUS TUFF-SANDSTONES AND VOLCANIC ROCKS (FRACTURED RESERVOIR)
- **SEAL:** INTRA-FORMATIONAL CRETACEOUS SHALES AND MARLS
- **TRAP:**
 - SUB-THRUST THRUST-RELATED ANTICLINE
 - CULMINATION AT 2500 TVDSS
 - 5 x 13 km (MAX WIDTH x ALONG-STRIKE LENGTH)
- **BLOCKS:** XI, VIII

800 MMbbl (P50) STOIIIP

L. CRETACEOUS
(UNRISKED)

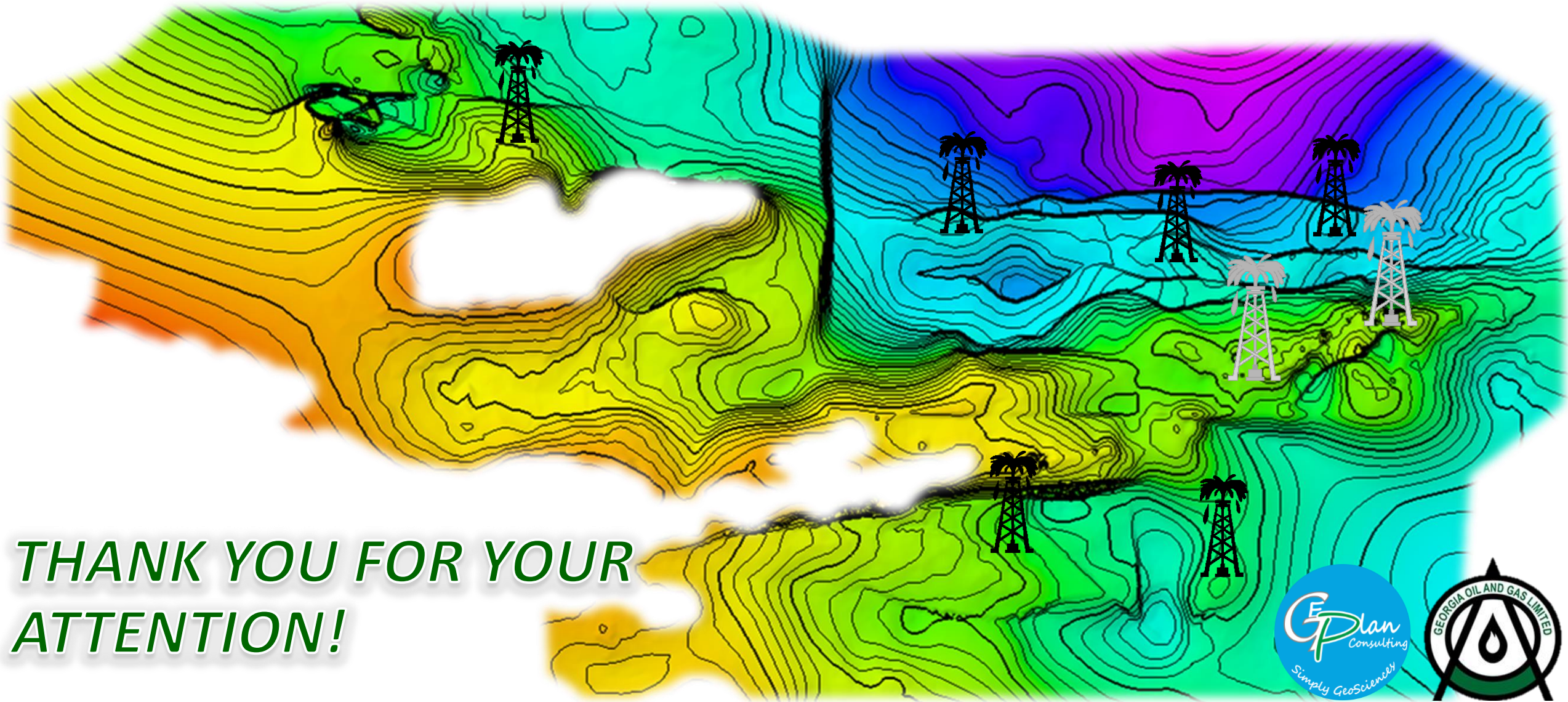


Main Take Away Messages



- **A CONSIDERABLE AMOUNT OF REPROCESSED TIME- AND DEPTH-MIGRATED SEISMIC DATA WERE INTEGRATED AND INTERPRETED FOR THE FIRST TIME THROUGHOUT THE KURA-KARTLI BASIN**
- **THE INTERPRETATION WAS CONSTRAINED BY SEVERAL WELL TOPS, BY SURFACE GEOLOGY MAPPED IN DETAIL CORROBORATED BY GRAV-MAG**
- **A SERIES OF ATTRACTIVE EXPLORATION TARGETS WERE IDENTIFIED WITH SOME OF THEM (NORIO) CONSIDERED TO BE SIMILAR TO THE SAMGORI FIELDS (SAMGORI LOOKALIKE) IN WHICH >200 MMbbls WERE PRODUCED**
- **THE MAIN RESERVOIR IS CONSIDERED TO BE THE MIDDLE EOCENE FRACTURED VOLCANOGENIC SEDIMENTS BUT POTENTIAL WAS IDENTIFIED ALSO IN THE UPPER EOCENE AND UPPER-LOWER CRETACEOUS**
- **THE IDENTIFIED TRAPS ARE THRUST-RELATED FOLDS OR INVERSION STRUCTURES IN SUB-THRUST POSITION**
- **POTENTIAL ADDITIONAL DRILLING CANDIDATES ARE ADDED TO THE PROSPECT PORTFOLIO BY ONGOING INTERPRETATION OF ADDITIONAL SEISMIC DATA DURING THE PROGRESS OF THE EXPLORATION WORK PROGRAMME**

***"There is no blue without yellow and without orange,
and if you put in the blue, then you must put in the yellow and orange too,
mustn't you?" (V. Van Gogh)***



***THANK YOU FOR YOUR
ATTENTION!***

