Development of Long-Term Training Plans using matched Competency Assessment and Discipline Training Roadmaps - DTRs

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People, Process and Technology Industry Challenges





Key challenges in HR Training and Development

- Rapidly developing innovative technologies
- Increased complexity of software and workflows
- Staff motivation and retention



Project Overview

The DTRs training plan is built to reflect the career path for KOC Exploration Group employee (Grades 12 – 17).

It is aimed to be the <u>master source</u> for individual training and development plan.

Objective: Design a Long-Term (10 Years) Training Development

Plan for the Exploration Group Team members, based on **five Job Family** classification:

- 1. Geology
- 2. Geophysics
- 3. Petrophysics
- 4. Petroleum Engineering
- 5. Reservoir Engineering



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JOB PROFILES IN EXPLORATION GROUP

	Activity Area	Job Profile	Code Profile
		Exploration Geologist	GE01
	-	Sequence Stratigrapher	GE02
		Sedimentologist	GE03
		Geochemist	GE04
	Geology (9)	Basin Modeler	GE05
		Biostratigrapher	GE06
		Structural Geologist	GE07
		Operations Geologist	GE08
Total:		Reservoir Geologist (Geomodeller)	GE09
(22 JPs) 🚽		Seismic Operations Geophysicist	GF01
		Seismic Acquisitions Geophysicist	GF02
		Data Processing Geophysicist	GF03
	Geophysics (7)	Seismic Interpreter	GF04
		Non-Seismic Interpreter	GF05
		Seismic Inversion Geophysicist	GF06
		Petrophysics / Rock Physics Geophysicist	GF07
	Detrophysics (2)	Exploration Petrophysicist	PF01
	Petrophysics (2)	Field Studies Petrophysicist	PF02
L		Reservoir Engineer	RE01
	Reservoir Engineering	Reservoir Simulation Engineer	RE02
	Dotroloum Engineering	Petroleum Engineer	PE01
	Petroleum Engineering	Operations Petroleum Engineer	PE02

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Project Phases

Phase One

 Develop the Discipline Training Roadmaps for the 5 major Disciplines within the Exploration Group. Joint effort between KOC Exploration and NExT

Phase Two

 Competency Assessments and development of long-term and short-term training plans for 100 staff within the Exploration Group. Performed by NExT SMEs.

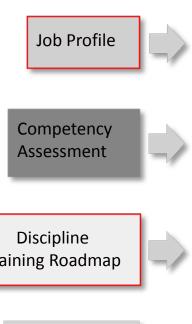
Phase Three

 Competency Assessments and development of training plans for 69 staff within the Exploration Group. Performed by KOC SMEs with NExT consultant.



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Elements of Training Management System



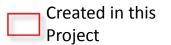
1. Defines Competencies needed for Jobtype

- Defines levels required 2.
- Defines progression of levels 3.
- Used to define actual training 4.
 - Establishes "baseline" level
 - Defines gaps
- 3. Allows refinement of Training Plans

Training Roadmap

Individual **Training Plan**

- Contains all training elements for jobtype 1.
- 2. Can be used to build long-term training plans
- 3. Is a "master" resource
- Defines training chronology and priority 1.
- 2. Specifies course/vendor
- 3. Used to monitor progress





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Alignment with Existing Policies and Strategies

N	ExT		KOC	Level	Level of knowledge and ability to use it
Competency	Sub-competency	Competency	Sub-competency	1	No Knowledge
	Trapping mechanisms Source rock and hydrocarbon generation	-		2	Understands basic principles with no application to very limited application
Petroleum Systems	Fluid migration Organic and Inorganic geochemistry		Organic Geochemistry Inorganic Geochemistry,	3	Has practical experience of using skill in doing 'real' work under guidance
	Preservation and Timing Play characterization workflows		Development & Production chemistry Basin and Play Fairway Analysis	4	Applies skill to some routines or frequently performed tasks without guidance
Basin, Play, and Prospect Analysis	Prospect evaluation workflows Play Fairway Analysis Petroleum Systems Modeling	PROSPECT	Basin Modeling Prospect Evaluation (OIP, reserves and risk	5	Carries out all routine including some complex tasks within the career path independently
	1D/2D/3D General siliclastic sedimentology Alluvial fans Fluvial Lacustrine		assessment) Clastic Depositional Systems	matrice	It KOC training es were remapped with matrices to form new
Siliclastic Sedimentology	Aeolian Deltaic Coastal and shallow marine Deepwater	SEDIMENTOLOGY			nized matrices for each
	Shale Siliciclastic diagenesis	1			



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KOC Competencies Matrix vs. DTRs Plan

Comprehensive

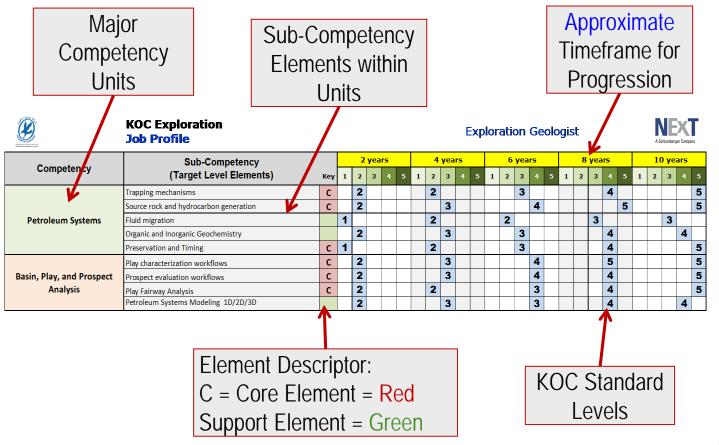
Example

- Comprehensive study of KOC "Competencies Matrix" has been conducted. ٠
- DTRs plan has been developed and mapped against KOC "Competencies • Matrix" for all Disciplines in Exploration Group.

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KOC - "Compet	encies Matrix "			DTRs
Competency	Sub-competency	Sub-competency		
	Clastic Depositional Systems	VS	SILICLASTIC SEDIMENTOLOGY	General siliclastic sedimentology Alluvial fans Fluvial Lacustrine Aeolian Deltaic Coastal and shallow marine Deepwater Shale Siliciclastic diagenesis

Example Job Profile (partial)





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How to Use the Training Roadmaps

- The Job Profile defines what types, levels or training are required for each jobtype.
- > The **DTRs plan** is the resource to populate the individual training plan.
- Competency Assessment can be used to establish the baseline level and better define gaps. It is *optional*; i.e. the Training Plan can be created from the Profile and DTR without an assessment, assuming all training is for specific job profile is mandatory.
- The DTRs plan will invariably contain every type of training. It is not expected that the individual training plan contains all of these. They must be based on priority and time available.



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Example Training Plan Creation: Exploration Geologist

STEP ONE

Composite Job Profile and

STE	EP 1	WO

Gap Analysis

KOC Exploration Job Profile										Ex	plo	rati	on	Ge	olo	gisl	t					X	ŗ	
	Sub-Competency			2	year	s		4	yea	rs		6	yea	rs			8 y	ears) yea	ars	
Competency	(Target Level Elements)	Key	1	2	3	4 1	5 1	2	3	4	5 1	2	3	4	5	1	2 :	3	4 5	1	2	3	4	5
	Trapping mechanisms	С		2				2					3						4					5
	Source rock and hydrocarbon generation	С		2					3					4					5					5
Basin Modeling / Petroleum	Fluid migration		1					2				2					;	3				3		_
Systems	Organic and Inorganic Geochemistry			2					3				3						4				4	
Systems lay and Prospect Analysis siliclastic Sedimentology arbonate Sedimentology Stratigraphy	Preservation and Timing	С	1					2					3						4					5
	Petroleum Systems Modeling 1D/2D/3D			2					3					3					4			í T	3 4 3 4 4 4 4 4 4 4	_
	Play characterization workflows	С		2					3					4				1	5					5
Play and Prospect Analysis	Prospect evaluation workflows	С		2					3					4					4					5
	Play Fairway Analysis	С		2				2						3					4					5
	General siliclastic sedimentology	С		2					3					4				1	5			\square		5
Siliclastic Sedimentology	Siliciclastic diagenesis			2					3				3						4				4	_
	General carbonate sedimentology	С		2					3			1		4					4					5
Carbonate Sedimentology	Carbonate diagenesis			2					3			-	3						4				4	-
	Clastic continental sequence stratigraphy	С		2					3					4					4		1			5
	Clastic marine sequence stratigraphy	С		2					3					4					4					5
Stratigraphy	Carbonate sequence stratigraphy	С		2					3					4					4					5
	Seismic Stratigraphy		1					2					3				:	3					4	_
	Structural styles	С		2					3					4					4					5
	Fault analysis	С		2					3				3						4					5
Structure and Tectonics	Fold analysis	С		2					3				3						4					5
	Uncomformities and pinchouts	С		2					3				3						4					5
	Fracture analysis	С		2					3					4					4					5
	Plate tectonics			2		-		2				1	3			-		3			1	3	-	_



KOC Exploration Gap Analysis

Uncomformities and pinchouts

Fracture analysis

Plate tectonics

4 to 6 years 8 to 10 years 2 to 4 years 6 to 8 years Sub-Competency Competency (Target Level Elements) Key 2 2 1 2 3 2 Trapping mechanisms с Source rock and hydrocarbon generation с Basin Modeling / Petroleum Fluid migration Systems Organic and Inorganic Geochemistry Preservation and Timing с Petroleum Systems Modeling 1D/2D/3D с Play characterization workflows Play and Prospect Analysis Prospect evaluation workflows с Play Fairway Analysis с Seneral siliclastic sedimentology с Siliclastic Sedimentology Siliciclastic diagenesis с Seneral carbonate sedimentology Carbonate Sedimentology Carbonate diagenesis Clastic continental sequence stratigraphy с Clastic marine sequence stratigraphy с Stratigraphy Carbonate sequence stratigraphy С Seismic Stratigraphy Structural styles с Fault analysis с Fold analysis с Structure and Tectonics

с

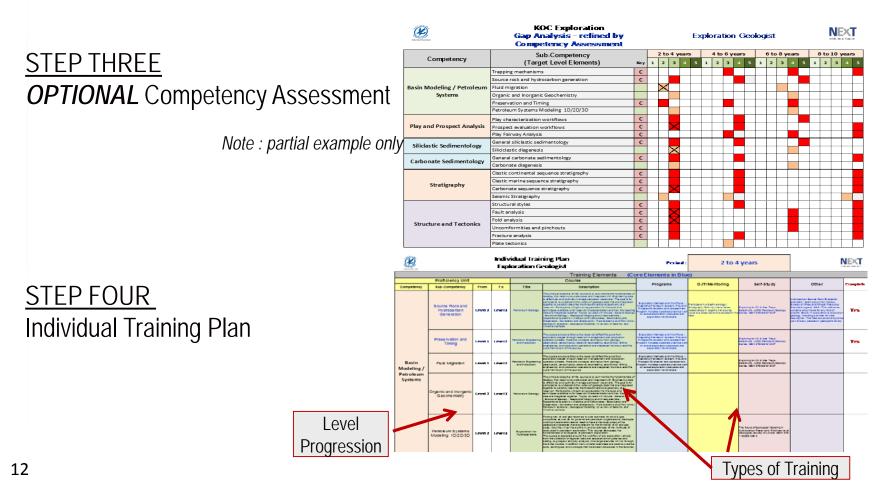
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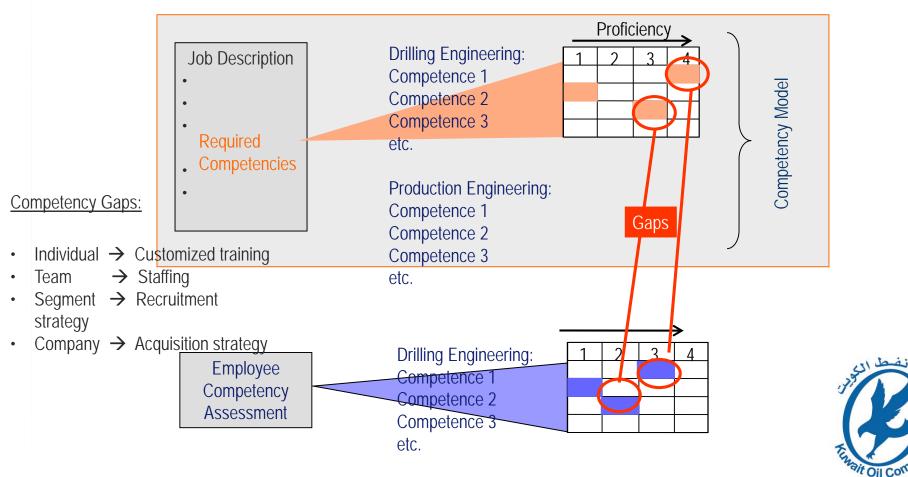
Exploration Geologist

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Example Training Plan Creation: Exploration Geologist

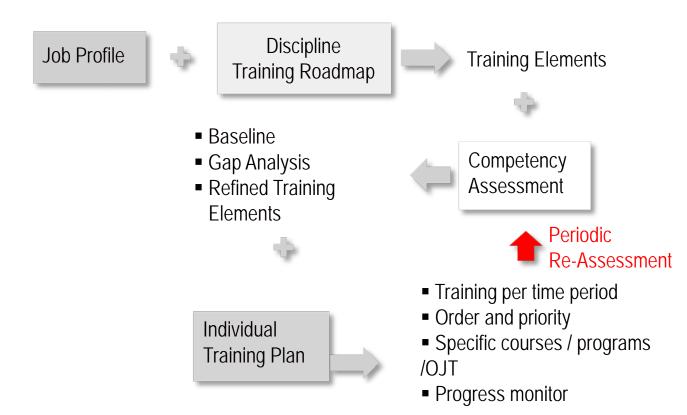


Competency Management



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The way forward





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Phase 2 – Competency Assessment Part One

What is Competency Assessment?

A <u>systematic</u> and consistent process for determining the knowledge and skill levels of individuals and groups by identifying their strengths and competency gaps, for the purpose of individual and organizational development

Competencies with technologies provide a common platform for Talent Management



Development of Individual Training Plans

- 100 persons assessed in 5 disciplines
- Gap Analysis (left) generated PDP (right)

Ø	KOC Exploration Gap Analysis								Б	фk	orai	tio	n C	ieo	log	ist		ļ	Solution		Ţ
Unit	E 1 1			2 to	o 4 y	ear	5		4 to	96 y	ears	5		6 to	8 y	ean	8	3 to	10	year	5
Unit	Element		1	2	3			1	2	з			1	2	3		1	2	3		
	Trapping mechanisms	С																			
Petroleum	Source rock and hydrocarbon generation	С																			
Systems	Fluid migration																				
systems	Organic geochemistry																				
	Preservation and Timing																				
	Play characterization workflows	С																			
Prospect	Prospect evaluation workflows	С																			
	Play Fairway Analysis																				
Analysis	Petroleum Systems Modeling 1D/2D/3D																				
	General siliclastic sedimentology	С																			
	Alluvial fans																				
	Fluvial																				
	Lacustrine																				
Siliclastic	Aeolian																				
Sedimentology	Deltaic																				
	Coastal and shallow marine						1														
	Deepwater																				
	Shale																				
	Siliciclastic diagenesis																				

B				idual Trai Ioration G		Period :	2 to 4	years	!	NEXT
					Training Elements (Co	ore Elements in Blue	e)	_		
	Proficiency Unit				Course	Programs	OJT/Nentoring	Self-Stude	Other	Cumtete
Competency	Sub-Competency	From	То	TÉle	Desoription					
	Source Rock and Hydrocarbon Generation	Lend Z	Lme13	Perseun Geologi	The photophotophotophotophotophotophotophot	Eglerator Nehada and Wardens I Inagata Pantaon Rysen, Ray and Pacagor Baladon and Jasas men Pagen Incluies coshed pecto work on astanti-generator pecto work and angle address and angle and angle address angle a	Rentopes in a Saltin endopy Settypopy felding share factors determine in grants Achievers determine descend and externel in the feld	Solary fo CL & Se Tage. Second LUDI Fernies Gelagy anne Se stockerson	Hydrocation Source Rock Distantion Brander - Durnyte tythen Herica Bureau Pillone and Minesel Resource Bardee Lager Visit - This Insteam Bardee Lager Visit - This Insteam Bardee Lager Visit - This Insteam Bardee Haddee Insteam Bardee In	1
	Preservation and Timing	Land 1	Line 12	Parolem Engineeing and Producton	The source entropy follows the exercision/field the space from registration program through reaced or non-permeter and production operation (hasses in Reach or another and though from pedado), pedynistics, permotyration, reach or appresention, according a registration, according to the second and the space from the second file space from examining the course.	Epionalon Nambols and Worldows : Insighting Pandacon Aystan, Pay and Propper Databation and bases mem- brogram includes coached process and on accutategionation prospects and expansion relevantagies		Beplaring for DI & das Tiege. Basomon: JuPG Peroleum Geology Barea: IS DI ISTOCONONICST		Yes
Basin Modeling /	Fluid Migration	Lend 1	Level 2	Percisin Engineering and Production	The course structure follows the essential field the cycle from exploration argues through wears in reangement and production operation phases. Relevant sumcars and topics from peopy exploration, party take, meanor is epithesito, account is a drilling engineeing, and production generics and insigned into the second the part frame work in the account.	Exploration Mehade and Workfows : Integrating Pandacon Ayean, Pay and Prospect Evaluation and Sectorement Program Includes coached peoples work on accurate/paration program and angloration releasable.		Bejong triði á dæ Tiege. Resonart 1950 Perskun Geology Serke, 1954 S'Sconnatz?		
Petroleum Systems	Organic and inorganic Geochemistry	Lenel Z	Leelä	Petroleum Geology	The properties of the source is not market the final source is the source of the source is a source of the source is a strategy of the source is the source of the source is a strategy of the source of the source of the source is the source of the					
	Petroleum Systems Modeling 1D/2D/3D	Lend Z	Unel3	Eigloration for Hydrocarbona	Another the control of the second section of the of the control o			The Store of Geological Hodelog in Hydroceton Reservoirs Robinson er B Geologica Geolegy of London (S Dr. 1976) 1462/20-200-2		

- PDP is related to Job Grade 2 year phases
- Assessment verifications done by NExT discipline experts
- Assessor training performed for KOC senior staff



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Phase 3 – Competency Assessment (Part Two)

- 69 persons assessed in 5 disciplines
- Most of this group are more senior staff
- Assessment verifications done by KOC discipline experts
- Transfer of knowledge allows KOC to perform future assessments

Interviews by KOC SMEs with guidance from NExT Project Manager





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Conclusions

- Objective of Project was to create a high-standard competency management system for KOC Exploration Group
- Combination of expertise from KOC and NExT
- DTR forms the basis of KOC 10 year training plans
- Transfer of technology allows KOC to continue development

"An example of how collaboration between two companies can lead to superior results"



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