AUDIT OF PROSPECTIVE RESOURCES, SELECTED PROSPECTS, BLOCK 58, OMAN

TETHYS OIL

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Company Contacts

Report Prepared By:	Report Prepared For:
Merlin Energy Resources Ltd	Tethys Oil
Newberry House, New Street Ledbury, HR8 2EJ, United Kingdom Tel: +44 (0)1531 636000 E-mail: info@merlinenergy.co.uk	Hovslagargatan 5B 1 tr SE-111 48 Stockholm Sweden

Distribution List

Company	Attention	Position	No.
Tethys Oil	Alex Ilic		email
Tethys Oil	Fredrik Robelius		email

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Authorisations

	Name / Position	Signature / Date
Prepared By :	Bill Wilks Principal Geophysicist	Bill Wilks Digitally signed by Bill Wilks Date: 2024.04.11 16:12:33 +01'00'
Prepared By :	Helen Bone Chartered Geologist	Helen Bone Digitally signed by Helen Bone Date: 2024.04.11 13:50:58 +01'00'
Prepared By :	Paul Taylor Principal Geochemist	Paul Taylor Digitally signed by Paul Taylor Date: 2024.04.11 13:46:07 +01'00'

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EXECUTIVE SUMMARY

Merlin Energy Resources Limited (MERL) has undertaken an audit of Tethys Oil's prospective resources for selected prospects and reservoirs within Block 58, Sultanate of Oman, as of 10th April 2024. The prospective resources data are risked estimates of the volume of prospective resources for each of the prospects evaluated within the Block;

- Fahd prospect in the Nafun Group Carbonates.
- Fahd South and Fahd South-West Prospects in the Ara and Nafun Group Carbonates.
- SL1, SL2, SL5, SL6, SL9 and SL10 in the Ara Group Carbonates.

This document is an update of an earlier MERL review (dated 6th February 2023) to include the SL1, SL2, SL5, SL6, SL9 and SL10 prospects. No further work has been carried out on the Fahd, Fahd South and Fahd South-West prospects as part of this update.

MERL has carried out this work in accordance with the June 2018 SPE/WPC/AAPG/PREE/SEG/SPWLA/EAGE Petroleum Resources Management System (SPE-PRMS) as the standard for classification and reporting. The full text of this can be downloaded from Petroleum Resources Management System – 2018 Update (spe.org).

The SPE-PRMS requires that an audit is performed to obtain reasonable assurance as to whether the prospective resources data are free of material misstatement. An audit also includes an assessment of whether the prospective resources data are in accordance with the principles and definitions presented in the SPE-PRMS.

Table 1 sets forth the risked oil volumes for the Prospective Resources as audited. For those prospects which continue outside Block 58, asterisked, only the Prospective Resources within the block are considered. The resources are considered by MERL to constitute a fair and reasonable assessment.

PROSPECT	FORMATION	STOIIP (MMbbls)				RECOVERABLE (MMbbls)				Pg	RISKED Pmean RECOVERABLE (MMbbls)
		P90	P50	P10	Pmean	P90	P50	P10	Pmean		
Fahd South	Ara	26.3	99.5	289.6	135.0	4.6	18.8	60.8	27.1	0.18	4.9
	Buah	70.7	240.9	653.9	310.8	12.3	45.4	135.3	62.1	0.21	13.0
	Khufai	26.5	126.4	380.5	171.8	4.8	23.9	77.7	34.2	0.24	8.2
Fahd South-West	Ara	5.8	20.3	51.7	25.4	1.0	3.8	10.9	5.1	0.18	0.9
	Buah	14.8	42.8	94.5	49.9	2.5	8.0	20.0	10.0	0.21	2.1
	Khufai	5.6	22.7	61.1	29.0	1.0	4.3	12.7	5.8	0.24	1.4
Fahd*	Buah	23.3	89.5	251.4	118.0	4.0	16.7	52.2	23.6	0.16	3.8
	Khufai	11.5	57.3	189.3	83.3	2.0	10.6	38.7	16.5	0.19	3.1
SL1	Ara A2C	79.9	290.9	677.5	341.9	14.1	54.3	144.7	68.6	0.10	6.8
SL2	Ara A2C	26.7	81.1	183.4	94.8	4.8	15.2	38.4	18.9	0.14	2.6
SL5	Ara A2C	60.3	218.8	506.2	256.1	10.8	41.0	108.0	51.7	0.10	4.9
SL6	Ara A2C	58.0	210.0	491.4	247.3	10.2	39.3	101.8	49.2	0.06	2.8
SL9*	Ara A2C	46.3	159.8	371.3	188.4	8.3	29.4	77.4	37.5	0.11	4.0
SL9*	Ara A5C	5.6	16.2	34.8	18.3	1.0	3.0	7.3	3.7	0.10	0.4
SL10	Ara A2C	29.4	92.6	212.5	109.2	5.3	17.5	45.0	21.9	0.11	2.3

Table 1 – Audited Prospective Oil Resources Block 58, Oman

MERL agrees with Tethys that oil would be the more likely hydrocarbon fluid phase, in a discovery. However, from the existing discoveries made in the region it is noted that in certain geological circumstances, set out below in Section 4.1, gas accumulations are possible. Table 2 sets forth *alternative* Prospective Gas Resources for the Ara stringer prospects.

PROSPECT	FORMATION	GIIP (bcf)				RECOVERABLE (bcf)				PMean REC (MMboe)*
		P90	P50	P10	Pmean	P90	P50	P10	Pmean	
SL1	Ara A2C	232	843	1977	996	124	458	1101	549	91
SL2	Ara A2C	77	240	541	280	42	130	301	154	26
SL5	Ara A2C	179	637	1486	751	96	345	827	414	69
SL6	Ara A2C	171	608	1417	717	92	330	789	395	66
SL9*	Ara A2C	137	472	1093	555	73	256	608	306	51
SL9*	Ara A5C	16	47	103	54	9	26	58	30	5
SL10	Ara A2C	86	275	623	321	47	149	347	177	29

** Conversion factor 6000cf=1boe*

Table 2 - Audited Alternative Prospective Gas Resources for Ara Stringer Prospects

MERL considers that considerable upside exists within the intra-Ara Formation plays in Block 58. The prospect portfolio presented by Tethys largely summarises the potential of one stringer level within each prospect, with the exception of SL9. Additional intra-Ara seismic reflectors exist, and these may represent additional stringer reservoirs. Moreover, Tethys has not yet evaluated the 'basal' Ara carbonates (A1/A0) or the A4 Athel Silicylite plays, which have both proved to be highly prospective in the South Oman Salt Basin.

In MERL's opinion, the Prospective Resources data audited have, in all material respects, been determined and are in accordance with the SPE-PRMS, which has been consistently applied.

MERL is an independent consultancy specialising in geoscience and engineering evaluation. Neither MERL nor the staff responsible for authoring this report have, at the date of this report, nor have had within the previous two years, any share holding in Tethys Oil. Consequently, MERL and the staff responsible for authoring this report consider themselves to be independent of the Company, it's directors and senior management.

MERL has the relevant and appropriate qualifications, experience, and technical knowledge to appraise professionally and independently the assets.

MERL's audit has largely been restricted to a validation of the interpretations presented by Tethys, which are considered to be reasonable. However, MERL expresses no opinion on the underlying data used by Tethys to constrain their interpretations, which were not themselves audited as part of this review. Prospective resources data are based on judgements regarding future events, actual results will vary, and the variations may be material.

1 INTRODUCTION

Tethys Oil has matured nine prospects in the Block 58, Oman (Figure 1) targeting carbonate reservoirs of the Nafun Group (Buah and Khufai Formations) and Ara Group:

- Fahd Prospect
- Fahd South Prospect
- Fahd South-West Prospect
- SL1 Prospect
- SL2 Prospect
- SL5 Prospect
- SL6 Prospect
- SL9 Prospect
- SL10 Prospect

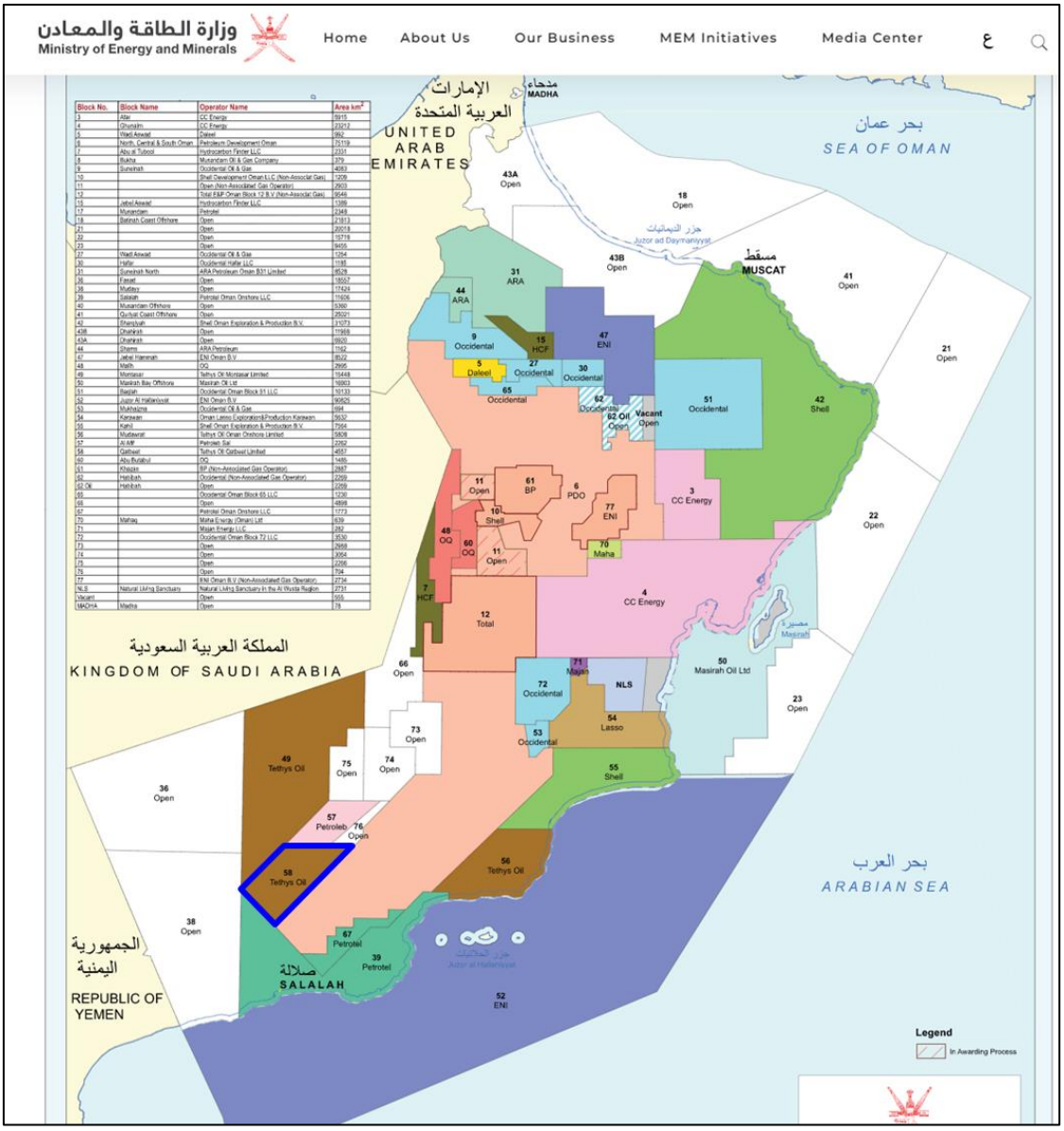

Figure 1 – Location Map (Block 58 Outlined in Blue)

MERL was asked to undertake an audit of the prospective resources and risking of the 9 prospects. The following report outlines the data made available for the audit and the process undertaken by MERL to confirm prospective resource volumes.

2 TRAP CHARACTERISATION

2.1 FAHD PROSPECTS

MERL was given access to the interpretation products of Tethys Oil's seismic interpretation exercise in Block 58, as a Kingdom seismic workstation project. Whilst MERL has not been tasked with the exhaustive validation of all aspects of the seismic interpretation, the depth maps presented for the purpose of volumetric assessment and risking were deemed to be reasonable.

MERL was able to assess the geological evolution of the three prospects and concur with Tethys Oil's interpretation that these structures are thrust anticlines, belonging to a compressional region widely known as the 'Western Deformation Front'.

MERL reviewed Tethys' assessment of the reservoir depth structure within each prospect and consider that the oil column heights modelled by Tethys Oil in its volumetric assessments (Table 3) are reasonable and are consistent with the geological model.

Prospect	Case	Formation	Gross Reservoir Thickness (m)	Oil Column Modelled (m)	Gross Rock Volume (MMm3)	N/G	Porosity	So	Boi	Recovery Factor
Fahd South	Low	Ara	10	66	13	0.10	0.02	0.50	1.7	0.05
Fahd South	Best	Ara	95	226	661	0.50	0.06	0.75	1.4	0.2
Fahd South	High	Ara	200	386	3494	0.90	0.10	0.90	1.1	0.35
Fahd South	Low	Buah	20	94	22	0.05	0.02	0.50	1.7	0.05
Fahd South	Best	Buah	120	346	1197	0.60	0.06	0.75	1.4	0.2
Fahd South	High	Buah	220	489	6630	0.95	0.12	0.90	1.1	0.35
Fahd South	Low	Khufai	10	94	11	0.05	0.02	0.50	1.7	0.05
Fahd South	Best	Khufai	50	346	678	0.50	0.07	0.75	1.4	0.2
Fahd South	High	Khufai	100	489	4116	0.95	0.11	0.90	1.1	0.35
Fahd South-West	Low	Ara	10	61	7	0.10	0.02	0.50	1.7	0.05
Fahd South-West	Best	Ara	95	140	211	0.50	0.06	0.75	1.4	0.2
Fahd South-West	High	Ara	200	201	562	0.90	0.10	0.90	1.1	0.35
Fahd South-West	Low	Buah	20	67	22	0.05	0.02	0.50	1.7	0.05
Fahd South-West	Best	Buah	120	207	466	0.60	0.06	0.75	1.4	0.2
Fahd South-West	High	Buah	220	252	815	0.95	0.12	0.90	1.1	0.35
Fahd South-West	Low	Khufai	10	67	13	0.05	0.02	0.50	1.7	0.05
Fahd South-West	Best	Khufai	50	207	248	0.50	0.07	0.75	1.4	0.2
Fahd South-West	High	Khufai	100	252	553	0.95	0.11	0.90	1.1	0.35
Fahd (Block 58)	Low	Buah	20	55	32	0.05	0.02	0.50	1.7	0.05
Fahd (Block 58)	Best	Buah	120	115	253	0.60	0.06	0.75	1.4	0.2
Fahd (Block 58)	High	Buah	220	261	2747	0.95	0.12	0.90	1.1	0.35
Fahd (Block 58)	Low	Khufai	10	55	17	0.05	0.02	0.50	1.7	0.05
Fahd (Block 58)	Best	Khufai	50	115	173	0.50	0.07	0.75	1.4	0.2
Fahd (Block 58)	High	Khufai	100	261	2159	0.95	0.11	0.90	1.1	0.35

Table 3 – Volumetric Input Parameters for the Fahd Prospects

2.2 ARA CARBONATE STRINGER PROSPECTS

MERL was given access to the interpretation products of Tethys Oil's seismic interpretation exercise in Block 58, as a Kingdom seismic workstation project and was able to conduct audit sessions with Tethys' project geologists and geophysicists. Whilst MERL has not been tasked with the exhaustive validation of all aspects of the seismic interpretation, the interpretations and maps presented for the purpose of volumetric assessment and risking were deemed to be reasonable.

MERL was able to assess the geological evolution of the six Ara prospects, based on its regional experience, and concur with Tethys Oil's interpretation that these structures are most likely to be intra-salt carbonate stringers within the Ara Group. As is typical for the region, and considering the compressional tectonics in Block 58, there is always some uncertainty regarding the stratigraphy of the stringer units interpreted. The prospects are mostly assigned to A2C level, which is reasonable considering the predominance of stringers of this age in the adjacent Harweel Cluster of fields. Other correlations are possible, however, and the presence of prospective intra-salt silicilytes cannot be ruled out. Regardless of the exact stratigraphic assignment, it is reasonable to assume that the mapped prospects are likely to be intra-Ara reservoir units.

MERL reviewed Tethys' assessment of the reservoir mapping and amplitude extractions for each prospect and consider that the gross rock volume assumptions (Table 4) are reasonable and are consistent with the geological model. Furthermore, the parameters are wholly consistent with data provided for wells within the Harweel cluster and MERL's experience in the region.

Prospect	Case	Formation	Gross Rock Volume (MMm3)	Porosity	Sh	Boi	GEF	RF Oil	RF Gas
SL1	Low	Ara A2C	36	0.03	0.75	1.8	280	0.05	0.4
SL1	Best	Ara A2C	312	0.05	0.90	1.5	320	0.2	0.5
SL1	High	Ara A2C	4356	0.10	0.98	1.3	420	0.35	0.75
SL2	Low	Ara A2C	36	0.03	0.75	1.8	280	0.05	0.4
SL2	Best	Ara A2C	115	0.05	0.90	1.5	320	0.2	0.5
SL2	High	Ara A2C	1174	0.10	0.98	1.3	420	0.35	0.75
SL5	Low	Ara A2C	36	0.03	0.75	1.8	280	0.05	0.4
SL5	Best	Ara A2C	245	0.05	0.90	1.5	320	0.2	0.5
SL5	High	Ara A2C	3267	0.10	0.98	1.3	420	0.35	0.75
SL6	Low	Ara A2C	36	0.03	0.75	1.8	280	0.05	0.4
SL6	Best	Ara A2C	235	0.05	0.90	1.5	320	0.2	0.5
SL6	High	Ara A2C	3116	0.10	0.98	1.3	420	0.35	0.75
SL9	Low	Ara A2C	36	0.03	0.75	1.8	280	0.05	0.4
SL9	Best	Ara A2C	191	0.05	0.90	1.5	320	0.2	0.5
SL9	High	Ara A2C	2396	0.10	0.98	1.3	420	0.35	0.75
SL9	Low	Ara A5C	13	0.02	0.60	1.8	280	0.05	0.4
SL9	Best	Ara A5C	51	0.04	0.70	1.5	320	0.2	0.5
SL9	High	Ara A5C	420	0.06	0.80	1.3	420	0.35	0.75
SL10	Low	Ara A2C	36	0.03	0.75	1.8	280	0.05	0.4
SL10	Best	Ara A2C	127	0.05	0.90	1.5	320	0.2	0.5
SL10	High	Ara A2C	1355	0.10	0.98	1.3	420	0.35	0.75

Table 4 – Volumetric Input Parameters for Ara Carbonate Prospects

3 RESERVOIR CHARACTERISATION

The prospectivity on Block 58 is characterised by carbonate reservoirs belonging to the Pre-Cambrian Nafun Group (Khufai & Buah Fm. Reservoirs) and Ara Group. The Khufai and Buah Fm. reservoirs are widely understood to be carbonate ramp sediments deposited at the top of broad shallowing-up marine succession. The Ara Group is dominated by thick salt deposition with platform carbonates and carbonate stringers deposited during higher sea-level episodes in the basin. These geological characteristics are well understood in the South Oman Salt Basin.

Tethys Oil made available its log interpretation of key offset wells to the nine prospects, including well data from Block 58 and neighbouring blocks. Together with the reviewers' experience working in the basin, this gave a strong indication of the likely presence, thickness and effectiveness of carbonate reservoirs over the three prospects.

3.1 NAFUN GROUP PROSPECTS

In order to further validate the petrophysical inputs to Tethys' volumetric assessments for the Nafun Group prospects, MERL was given access to well data and reports for Blocks 3 and 4, where Tethys Oil has a non-operated interest in a number of discoveries within these carbonate reservoirs. MERL carried out a brief audit of these data, in order to further validate the volumetric inputs in Block 58. Data for the petrophysical evaluation comprised well data for 4 wells drilled into Blocks 3 and 4, Oman (Saiwan East-3, Samha-2, Shahd-F2, Ulfa-2). These offset data are the closest appropriate data that Tethys was able to share at the time of evaluation. Although significantly offset to Block 58, the Block 3 and 4 wells are interpreted to be in broadly the same carbonate ramp depositional setting and are thus appropriate for the broad validation of petrophysical inputs to volumetrics. Core descriptions of the wells highlights the importance of the early dolomitisation phase in the Block 3 & 4 wells for the maintenance of porosity in the carbonates. The data Tethys Oil holds for the offset well data in nearby blocks also indicate the presence of dolomitised reservoirs proximal to Block 58. These wells have not been included in the petrophysical review but do contribute to the assessment of gross reservoir thicknesses applied in the volumetric analyses. The overall uncertainty of the reservoir character is captured in the broad input ranges applied in the volumetric analysis.

Data provided for the petrophysical evaluation included; raw log data, interpreted log data for limited intervals, conventional core analysis, petrophysical parameterisation for a subset of the wells, extracts from field FDP documents covering the petrophysical analysis undertaken. The FDP documentation included the cementation exponent (m) and saturation exponent (n) parameters as derived from SCAL data, but no original SCAL report was available to confirm these parameters and their accuracy. No data was available to review the parameterisation of the Ara Group carbonates.

MERL reviewed the well logs and petrophysical analysis for wells Samha-2 and Ulfa-2 provided by Tethys and found the interpretation to be reasonable when compared against petrophysical curves derived by MERL.

Average parameters for each reservoir intervals were derived by MERL using the petrophysical cut-offs outlined in the FDP reports provided as these were deemed reasonable; 35% Vsh, 2% porosity, 50% water saturation. The resulting sums and averages

were compared to those provided by Tethys. Whilst MERL was not able to accurately match the sums and averages presented in the reports for Blocks 3 and 4, MERL staff were able to use their prior experience in the region to review the parameter ranges for the Block 58 volumetric analysis, Table 3.

3.2 ARA GROUP PROSPECTS

In order to validate the petrophysical inputs to Tethys' volumetric assessments for the Ara Group prospects, MERL was provided with the interpretation workflow for the Qashoob-1 and -2 wells located immediately east of the prospects within Block 6. In addition, the Qashoob-2 well proposal was provided which detailed the A2C analysis results determined by Petroleum Development Oman (PDO) prior to the drilling of the well. These helped guide the validation of petrophysical ranges for the prospects identified.

MERL carried out an audit of the petrophysical workflow carried out by Tethys, which confirmed the analysis averages provided by PDO for the Qashoob wells and was in line with previous experience of MERL in the region. The use of the Qashoob-2 well proposal A2C petrophysical averages was accepted to provide appropriate uncertainty ranges for the volumetric assessment of the Ara prospects, Table 4.

Within the SL-09 prospect, Volumetrics are presented for a shallower Ara stringer, tentatively assigned as 'A5'. Whilst the stratigraphic level is uncertain, MERL has assessed the more conservative volumetric assessment and found it to be reasonable.

In conclusion, following its evaluation of the reservoir geology, MERL considers that the petrophysical inputs to Tethys' volumetric assessments, presented in Table 3 and Table 4, are fair and reasonable.

4 VOLUMETRICS

Monte Carlo simulations have been run on each prospective accumulation, constrained by the volumetric inputs set out in Table 3 and Table 4. These calculations were carried out following an industry standard methodology.

MERL considers the resulting volumetric assessments, laid out in Table 1 to be a fair and accurate representation of the input data.

4.1 FLUID PHASE AND OIL VERSUS GAS SCENARIOS

Whilst the Ara intra-salt stringer play of South Oman is predominantly an oil play, the potential to encounter gas does exist. Known wet gas-condensate accumulations are observed in the carbonate stringers of Harweel and Birba Clusters (e.g. Rabab and Birba North). Producible free gas has only been observed in stringers with reservoir pressures that are close to hydrostatic gradient, and relatively close to dew point pressure. A combination of geochemical analysis and PVT modelling (Taylor et al. 2010[1]) showed that such gas columns could be created by geological "deflation" of a highly overpressured volatile oil reservoir in a process described by Kukla et al. (2011[2]). The principal mechanism of deflation is fluid communication of an overpressured stringer with hydro-pressured strata in overlying clastic minibasins or in the pre-salt section.

Gas was observed in an overpressured Ara carbonate stringer reservoir in the Lahan-1 well, with the reservoir situated beneath an over-thrust block. This highly sour dry (non-commercial) gas probably represents the remnant of a paleo oil column that has been destroyed by thermochemical sulphate reduction (TSR) and/or oil to gas cracking. Extensive TSR has not been observed elsewhere in the South Oman Salt Basin, and its presence in Lahan is related to an unusual burial and thermal history in which reservoir temperatures have been in excess of 120°C since Ghudun time and reached a maximum of approximately 170°C in the Mesozoic (1D modelling by Merlin for Tethys, September 2022).

Burial history and maturation modelling has not been carried out on the South Lahan stringer prospects. We anticipate that the temperature history of the prospects will be similar to the Ara reservoirs in the nearby Harweel Cluster. Hence the most likely mechanism that would result in a gas discovery would be the pressure deflation mechanism described above. In this case, the probability of encountering gas can be assessed by proximity of the reservoir target to the top or base of salt. For hydrocarbon charge risking MERL advocate that oil and gas cases be considered separately.

[1] Taylor, P. N., Al Harrasi, A., van Eden, C., & Al Ghammari, M. (2010, March). Hydrocarbon charge and reservoir pressure history of the carbonate stringer play in South Oman-implications for pre-drill pore pressure risking. In GEO 2010 (pp. cp-248). European Association of Geoscientists & Engineers.

https://www.earthdoc.org/content/papers/10.3997/2214-4609-pdb.248.043

[2] Kukla, P. A., Reuning, L., Becker, S., Urai, J. L., & Schoenherr, J. (2011). Distribution and mechanisms of overpressure generation and deflation in the late Neoproterozoic to early Cambrian South Oman Salt Basin. Geofluids, 11(4), 349-361.

https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1468-8123.2011.00340.x

5 RISKING

5.1 FAHD SOUTH AND FAHD SOUTH-WEST PROSPECTS

MERL has reviewed Tethys Oil's risking of both the Fahd South and Fahd South-West Prospects and found both to be reasonable assessments, as set out in Table 5. In addition to the data available to Tethys Oil, MERL staff used their extensive technical experience in the area to guide the risking exercise. For the benefit of this assessment, all carbonate reservoirs within the Ara were considered as one.

Considering the traps, the availability of fair/high quality 3D seismic data renders the trap definition unequivocal, in MERL's view. The Trap effectiveness was generally found to be positively supported, given the strong indications for the presence of sealing salts and shales over the crests of the prospects.

In order to support the assessment of charge risk, MERL carried out a petroleum systems study, using data from key offset wells and involving the 1D modelling of 'pseudo wells' in the vicinity of the Fahd South and Fahd South-West prospects. 1D burial history and thermal maturity models were constructed at offset calibration wells and at pseudo wells in potential kitchen areas to the NW and SE of the prospects, and on the crest of the Fahd South-West Prospect. Estimates of missing section at key unconformities were made in the context of the area's structural history using seismic data available.

The results of the maturity modelling for most reasonable scenarios showed that potential source rocks charging the prospects were thermally mature for oil, and that the main phase of oil and gas expulsion occurred after the Fahd South and Fahd South-West traps were in place. Chance Factors for Charge and Trap Timing shown below are supported by this work.

Target	Reservoir			Trap				Charge			Pg
	Presence	Effectiveness	Overall	Presence	Effectiveness	Timing	Overall	SR Quality & Maturity	Effective Migration	Overall	
Ara	0.80	0.80	0.64	1.0	0.70	0.90	0.63	0.70	0.65	0.46	0.18
Buah	0.80	0.85	0.68	1.0	0.60	0.90	0.54	0.80	0.70	0.56	0.21
Khufai	0.90	0.70	0.63	1.0	0.70	0.90	0.63	0.80	0.75	0.60	0.24

Table 5 - Fahd South and Fahd South-West Prospect Risking

5.2 FAHD PROSPECT

Burial history and maturation modelling was not carried out on Fahd, or in the kitchen area for the prospect, so there is slightly more uncertainty in the charge and timing risk elements than for the Fahd South and Fahd South-West Prospects, see Table 6. The chance factors for charge and timing shown in Table 6 appropriately reflect this slightly higher uncertainty.

All other chance factors were considered to be the same as those applied in the equivalent reservoirs for Fahd South, reflecting the expected geological continuity between the three prospects.

Target	Reservoir			Trap				Charge			Pg
	Presence	Effectiveness	Overall	Presence	Effectiveness	Timing	Overall	SR Quality & Maturity	Effective Migration	Overall	
Buah	0.80	0.85	0.68	1.0	0.60	0.75	0.45	0.75	0.70	0.53	0.16
Khufai	0.90	0.70	0.63	1.0	0.70	0.75	0.53	0.75	0.75	0.56	0.19

Table 6 – Fahd Prospect Risking

5.3 ARA PROSPECTS SL1, SL2, SL5, SL6, SL9 & SL10

MERL has reviewed Tethys Oil's risking of the Ara Prospects and found them to be reasonable assessments, as set out in Table 7. In addition to the data available to Tethys Oil, MERL staff used their extensive technical experience in the area to guide the risking exercise. For the benefit of this assessment, all prospects were considered to be Ara carbonate stringers. Pg is considered to be the chance of encountering a producible hydrocarbon accumulation. No scenario POS of gas versus oil has been assigned, although oil is considered to be the most likely hydrocarbon fluid.

Considering the traps, the successful Harweel Cluster is located just to the east of the Block 58 prospects. The Harweel Cluster contains many proven hydrocarbon accumulations within the Ara stringers. However, the proximity to the Western Deformation Front in Block 58 brings additional structural complexity. That, in turn, brings additional risk for prospects that are potentially affected by the over-thrust sheet, or have been exposed to leakage through juxtaposition with overlying clastic 'Haima pods'. MERL considers that Tethys has appropriately considered these issues in the Trap effectiveness risks presented.

Charge and migration is not seen by MERL as a significant risk given the analogue fields in the region. High expulsion efficiencies are observed from the laminated source rock facies with short migration distances within the interbedded reservoir and source rock facies.

Reservoir presence in the carbonate stringers is largely interpreted to be low risk, with the exception of SL-6. However, reservoir effectiveness is variable through the well penetrations of the Ara Carbonates, with some tight wells relating to non-reservoir facies or plugged porosity. Given the unpredictability of this, Reservoir effectiveness has been assigned a POS of 0.5 for possible A2C reservoirs dropping to 0.45 in the SL-9 A5C reservoir in line with offset stringer observations.

Target	Reservoir			Trap			Charge			Pg
	Presence	Effectiveness	Overall	Presence	Effectiveness	Overall	SR Quality & Maturity	Effective Migration	Overall	
SL-1 A2C	0.70	0.50	0.35	0.9	0.50	0.45	0.70	0.90	0.63	0.10
SL-2 A2C	0.70	0.50	0.35	0.9	0.70	0.63	0.70	0.90	0.63	0.14
SL-5 A2C	0.75	0.50	0.38	0.9	0.45	0.405	0.70	0.90	0.63	0.10
SL-6 A2C	0.50	0.50	0.25	0.8	0.45	0.36	0.70	0.90	0.63	0.06
SL-9 A2C	0.75	0.50	0.38	0.9	0.50	0.45	0.70	0.90	0.63	0.11
SL-9 A5C	0.75	0.45	0.34	0.9	0.50	0.45	0.70	0.90	0.63	0.10
SL-10 A2C	0.75	0.50	0.38	0.9	0.50	0.45	0.70	0.90	0.63	0.11

Table 7 – Ara Prospect Risking