APPENDIX 2.6 NOTES OF AUTHORITY MEETINGS

SHELL SOUTH AFRICA UPSTREAM B.V.

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

NOTES OF AUTHORITY MEETING HELD ON 25 FEBRUARY 2015, 14H30, AT THE NAMAKWA DISTRICT MUNICIPALITY, SPRINGBOK

PRESENT AND APOLOGIES:

Please see the list of attendees and the attached attendance register in Attachment A.

1. INTRODUCTION

- 1.1 Jeremy Blood (JB) introduced himself and the project team (including Nigel Rossouw and Claude Vanqa of Shell, and Jonathan Crowther of CCA Environmental) and thanked everyone for attending the meeting.
- JB explained that the main purpose of the meeting was to present the findings of the specialist studies and impact assessment process undertaken for Shell's proposed exploration well drilling programme in the Orange Basin Deep Water Licence Area.

2. PRESENTATIONS

2.1 SHELL: PROJECT OVERVIEW

Nigel Rossouw (NR) of Shell presented an overview of the project covering the location of the licence area, a geological section of the Orange Basin, the seismic surveys that have been undertaken, the well location, drilling programme and drilling procedure as well as the sea and land based support likely to be required during implementation. A copy of the presentation is attached as Attachment B.

2.2 CCA: IMPACT ASSESSMENT PROCESS AND FINDINGS

JB provided an overview of the Impact Assessment process and presented the key findings of the specialist studies (including marine fauna, fishing and oil spill modelling) and conclusions of the Impact Assessment process. A copy of the presentation is attached as Attachment C.

3. DISCUSSION

3.1 Christiaan Fortuin (CF) of the Namakwa District Municipality asked for clarity as to why drilling has been pushed out to the second or third exploration right renewal period.

NR explained that the delay in the drilling programme was due to the combined factors of the lower global oil price and the uncertainty in the current legislative regime as a result of the MPRDA Amendment Bill.

NR noted that Shell's exploration right had a potential nine year validity period, including the three renewal periods. Based on the current situation, drilling is anticipated to occur in the second (2017 - 2018) or third (2019 – 2020) exploration right renewal period.

3.2 CF noted that the Northern Cape was in competition with the Western Cape (Cape Town and Saldanha) to provide the necessary support services. CF wanted to know what is expected of the Northern Cape so he can assess the possibilities.

NR noted that the Northern Cape could become involved in the oil and gas industry through Operation Phakisa, as offshore oil and gas exploration has been identified as a priority sector. NR noted that Saldanha has been identified as an oil / gas hub and is currently forging ahead with providing the necessary support services.

NR noted that he could, if requested, schedule a meeting between CF and Shell's exploration manager in Cape Town order to discuss how long-term development could positively impact the Northern Cape.



JC suggested that the key issues with regard to economic opportunities during exploration relate to the very short-term duration of each exploration operation and the variable number of exploration projects (i.e. not a constant flow of exploration projects). JC noted that to date no significant quantities of hydrocarbons have been found off the West Coast of South Africa. JC mentioned further that there would be greater socio-economic benefits for the Northern Cape should a project move into the production phase.

3.3 CF stated that the Northern Cape wants to be in a position to provide the necessary services if a viable oil / gas resource is discovered.

JC noted that it was important not to create unrealistic expectations during the exploration phase as the opportunities are currently limited.

3.4 CF noted that the Northern Cape did not have a provincial Oil Spill Response Plan and that Shell would need to consider the Western Cape's Oil Spill Response Plan.

NR noted that under Operation Phakisa the government is developing mechanisms to co-ordinate Oil Spill Response for pollution from ships in transit and for oil and gas exploration.

3.5 CF asked for a definition of "benthic fauna".

JB stated that "benthic fauna" refers to various marine organisms found on and / or in the seabed.

4. CLOSURE

4.1 JB thanked everyone for attending and formally closed the meeting at approximately 15h15.



ATTACHMENT A

LIST OF ATTENDEES AS PER ATTENDANCE REGISTER

NAME	ORGANISATION
Authorities	
Christiaan Fortuin	Municipal Manager, Namakwa District Municipality
Lucinde Bonn	Namakwa District Municipality
Eddie Julius	Deputy Director, Department of Economic Development and Tourism
Sarah Cloete	Kamiesberg Municipality
Soritha Cloete	Kamiesberg Municipality
Wessel Weels	Nama Khoi Municipality
Esau Jantjies	Nama Khoi Municipality
CLIENT	
Nigel Rossouw	Shell
Claude Vanqa	Shell
EAP	
Jonathan Crowther	CCA Environmental
Jeremy Blood	CCA Environmental

PROPOSED OIL AND GAS EXPLORATION AND DEVELOPMENT PROJECTS OFF THE WEST COAST OF SOUTH AFRICA

INFORMATION-FEEDBACK MEETING: ATTENDANCE REGISTER

Wednesday 25 February 2015

Venue: Namakwa District Municipality, Van Riebeeck Street, Springbok

Name & Surname	Company / Organisation	Tel / Cell No.	Fax No.	E-mail
JEREMY BLOOD	CCA ENVIRONMENTAL	021 461 1118	021 461 1120	jeremy@ccaenvironmental,
Soritha Cloeke	Kamiesberg Mun.	027 6528060	021 6528001	Contrace Comiestery . co. 30
Sarah Cloete	Kamiesberg Mun	6276528000	0862114065	Sarah c@kamiesbeg.co.za
CHILIS FERTEIN	NAMALWA BM	027 717 8600	627 712 8040	anstanalora-dongov. Ze
EDDIE Jucius	DEDAT	0277128000	08 602 6100	ejulius 4@ gmail. com.
J. CROWTHER	CEA ENVIRONMENTAL	0827771477	021 461-1118	jonathan & cocaenvironmental. co
Vige Russom	Shell	0836423040		ngel. ressoureshell. com.
Lucinde Bonn	Namakwa Dm	6277128000	027 7178040	lucindab@namakisadmagov.za
Claude Vanga	Shell	0828097883		chaude vanga@8hell. com
0 0	Mama Khoi	372 8259271		Assel Debenanathoi, 700. 20.
ESAU JANTIES			027-7121635	eeaujantjies @namakhoi.gov.za

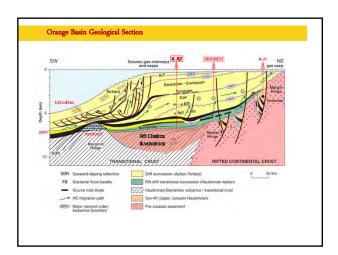
ATTACHMENT B SHELL PRESENTATION: PROJECT OVERVIEW	

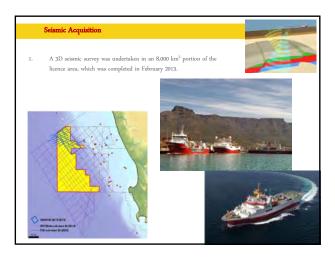


DEFINITIONS AND CAUTIONARY NOTE

Licence Area Orange Basin geology section 2. Seismic acquisition Drilling programme Sea- and land-based support

Licence area is $^{\sim}37~290~\mathrm{km^2}$ in extent. The eastern border of the licence area is located between 150 km and 300 km off coast roughly between Saldanha Bay and Kleinzee. Water depths range from 500 m to 3 500





Well Location 1. Area of interest: - 900 km² in extent. - 1,500 m to 2,100 m water depth. 2. Final well location will be based on: - further analysis of the 3D seismic data - the geological target; and - seafloor obstacles

Drining Programme

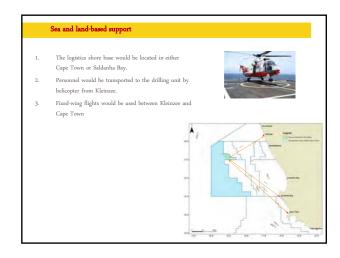
- 1. Shell is proposing to drill one or possibly two wells
- Depending on the success of the first well, a second well may be drilled to establish the resource quantity and flow rate.
- 3. Drilling is expected to take place in a future summer window period, between November to April
- 4. Well drilling would take in the order of 3 months to complete
- 5. The second well would be drilled at least one year after completion of the first well
- 6. Drilling unit: semi-submersible drilling unit or a drill-ship

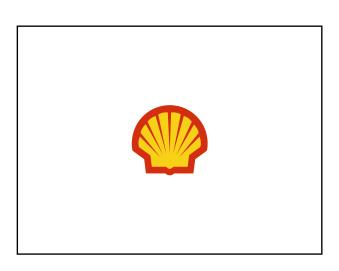












ATTACHMENT C
CCA PRESENTATION: IMPACT ASSESSMENT PROCESS AND FINDINGS



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

IMPACT ASSESSMENT OVERVIEW

- Key legislative requirements
- Impact assessment process
- Impact assessment findings
- Conclusions

KEY LEGISLATIVE REQUIREMENTS 1



- Mineral and Petroleum Resources Development Act, 2002:
 - Shell has an Exploration Right and approved EMPr for seismic surveys and well drilling in the Licence Area.
 - Approved EMPr needs to be amended.
- National Environmental Management Act, 1998:
 - The proposed drilling operation requires that a <u>Scoping & EIA process</u> be undertaken.
 - Repeal of EIA Regulation 2010 and transitional

IMPACT ASSESSMENT PROCESS

- 1. Scoping Phase
 - FSR was accepted by DEA on 23 Jan 2015.
- 2. EIA Phase
 - Specialist studies:
 - > Drill Cuttings and Oil Spill Modelling.
 - Fishing Industry Assessment.
 - Marine Faunal Assessment.
 - Draft EIR and EMPr Addendum:
 - 40-day review and comment period.
 - 2 March 15 April 2015





IMPACT ASSESSMENT PROCESS (cont.)

- 2. EIA Phase (cont.)
 - EMPr Addendum.
 - Update report and submit to PASA (120 days).
 - Final EIR:
 - Compile Final EIR.
 - 30 day review and comment period.
 - DEA (121 days)
- Distribute decisions.
- Statutory appeal period.

IMPACT ASSESSMENT FINDINGS: MARINE FAUNA



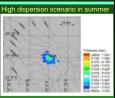
- 1. Normal discharges from drilling unit and vessel operations:
 - Considerations:
 - > Short duration (3 months per well).
 - > Small discharge volumes.
 - > Distance offshore (~230 km).
 - > High energy sea conditions.
 - Impact significance: VERY LOW. Key mitigation:
 - Compliance with MARPOL 73/78 standards.
 - Implement a Waste Management Plan.

IMPACT ASSESSMENT FINDINGS: MARINE FAUNA (cont.)



- 2. Smothering by drill cuttings:
 - Deposition thickness: 80 cm around wellhead to < 1 mm for distances greater than 150 m.
 - Benthic habitat types beyond 500 m water depth are 'Least Threatened'.
 - Due to distance offshore, plankton abundance is low and fish spawning areas occur inshore
 - Recovery expected in 2 5 years (short-term).







IMPACT ASSESSMENT FINDINGS: MARINE FAUNA (cont.)



- 2. Smothering by drill cuttings (cont.):
 - Impact significance: VERY LOW (unconsolidated sediments) to LOW (hard grounds / reefs).
 - Key mitigation:
 - > Undertake ROV survey.
 - Adjust well location to avoid vulnerable habitats and / or species.
 - > Use innovative technologies (e.g. weighted muds).
 - Discharge cuttings from drilling unit at least 5 m below the sea surface.

IMPACT ASSESSMENT FINDINGS: FISHING INDUSTRY

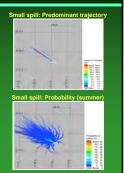


- 1. Loss of access to fishing grounds:
 - Temporary safety zone around drilling unit during drilling:
 - > Sectors affected: Only large pelagic long-line.
 - > Small % of national catch & effort: ~ 1%.
 - > Limited extent: 500 m around drilling unit.
 - > Short duration: 3 months per well.
 - Impact significance: VERY LOW.
 - > Consultation and notification.
 - > NAV warnings.



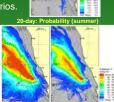
IMPACT ASSESSMENT FINDINGS: OIL SPILL (cont.)

- Small (1 ton hydraulic fluid) and medium (10 ton diesel) spill scenarios:
 - Predicted to travel in a narrow plume in a NW direction.
 - Extent: 110 km (medium) to 150 km (small) from well.
 - Duration: Oil would remain on the sea surface for a maximum of 1.5 days (medium) and 2 days (small).
 - No probability of shoreline oiling.
 - Impact significance: VERY LOW.



IMPACT ASSESSMENT FINDINGS: OIL SPILL (cont.)

- 2. Large spill scenarios (5 & 20 day blow-outs):
 - Predicted to travel in a NW direction into Namibian waters.
 - Oil would not reach the shore under the following summer scenarios:
 - > 5-day spill: all weathering scenarios.
 - > 20-day spill: fast and medium weathering scenarios.
 - Oil <u>may</u> reach the shore under the following summer scenarios:
 - > 20-day spill: <10% probability under slow weathering scenario



IMPACT ASSESSMENT FINDINGS: OIL SPILL (cont.)

- 5. Large blow-out:
 - Impact significance: HIGH.
 - Improbable.
 - Key mitigation:
 - > Summer drilling period.
 - > Oil spill response plan.
 - > Subsea well intervention capping equipment in Saldanha Bay.



IMPACT ASSESSMENT CONCLUSIONS

1. Ecological integrity:

- Disturbance to benthic communities is negligible in relation to available area of similar habitat (Least Threatened).
- Recovery in 2 5 years (short-term).
- Negligible loss of ecological integrity.

2. Economic efficiency:

- Exclusion of large pelagic long-line in 500 m safety zone. Three months per well.
- Limited job opportunities as operation is highly technical.
- Limited opportunities to provide support services.
- Economically efficient, as no other parties would be significantly impacted.

IMPACT ASSESSMENT CONCLUSIONS (cont.)

3. Equity and social justice:

- Project would not unfairly discriminate against any one party.
- No unequal distribution of negative impacts.

It is the opinion of CCA in terms of the sustainability criteria described above, there is no reason why the project should not receive a positive decision.

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA



SHELL SOUTH AFRICA UPSTREAM B.V.

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

NOTES FROM SHELL'S PRESENTATION AT THE
NORTHERN CAPE PROVINCIAL COASTAL COMMITTEE MEETING HELD ON 26 FEBRUARY 2015
AT THE GOEGAP NATURE RESERVE, SPRINGBOK

PRESENT AND APOLOGIES:

Please see the list of attendees and the attached attendance register in Attachment A.

WELCOME

1.1 Mr van Heerden (DvH), Head of Department of Environment and Nature Conservation (DENC) and chairperson of the Northern Cape Provincial Coastal Committee (NCPCC), welcomed the project team and invited them to provide the presentation on Shell's proposed exploration well drilling programme in the Orange Basin Deep Water Licence Area.

2. INTRODUCTION

2.1 Jeremy Blood (JB) introduced himself and the project team (including Nigel Rossouw and Claude Vanqa of Shell, and Jonathan Crowther of CCA Environmental) and thanked the NCPCC for allowing them an opportunity to present the proposed project and findings of the Impact Assessment process.

3. PRESENTATIONS

3.1 SHELL: PROJECT OVERVIEW

Nigel Rossouw (NR) of Shell presented an overview of the project covering the location of the licence area, a geological section of the Orange Basin, the seismic surveys that have been undertaken, the well location, drilling programme and drilling procedure as well as the sea and land based support likely to be required during implementation. A copy of the presentation is attached as Attachment B.

3.2 CCA: IMPACT ASSESSMENT PROCESS AND FINDINGS

JB provided an overview of the Impact Assessment process and presented the key findings of the specialist studies (including marine fauna, fishing and oil spill modelling) and conclusions of the Impact Assessment process. A copy of the presentation is attached as Attachment C.

4. DISCUSSION

4.1 An attendee asked why the current Impact Assessment process only considers NEMA and the MPRDA. He noted that the project also needed to consider the provincial planning documents, particularly SPLUMA.

NR explained that NEMA and the MPRDA are the two key pieces of legislation informing the Impact Assessment process. He noted that the Draft Environmental Impact Report does provide a review of other key legislation. SPLUMA would have implications for onshore greenfield developments within municipal boundaries. Most of the activities for the proposed exploration programme would be in offshore in deep water. Shore based activities would occur within the port precinct and make use of existing facilities.

NR noted that the service infrastructure required to provide the necessary onshore support is currently in place and no additional onshore infrastructure or approval is necessary for the project.



4.2 Wilna Oppel (WO) of DENC asked if the project team was aware of the proposed offshore Marine Protected Areas (MPAs) and enquired about the potential implications on these MPAs.

NR noted that Shell has been in discussions with the South African National Biodiversity Institute (SANBI) regarding the proposed MPAs over the northern part of their licence area. NR explained that the proposed Orange Shelf MPA overlaps with the northern portion of Shell's exploration block.

4.3 An attendee asked what operations were planned for Kleinzee.

NR stated that one logistics option is possibly to transport work personnel to and from the drilling unit via helicopter from Kleinzee and then have a fixed-wing aircraft further transfer the crew to Cape Town for their international flights. Another logistics option is to only use Kleinzee for emergency response, where a helicopter would be on stand-by for emergency evacuation.

JB noted that due to the technical nature of exploration activities employment opportunities were limited during the exploration phase. JB noted that there would be greater socio-economic benefits should a project move into the production phase.

4.4 An attendee enquired about the potential impact on the large pelagic long-line sector due to fish mortality and vessel exclusion.

NR stated that fish mortality is unlikely under normal drilling conditions, as they would move away because of the underwater sound from drilling.

JB reiterated that the large pelagic long-line sector would be excluded from 500 m safety zone around the drilling unit for a period of three months per well.

4.5 An attendee asked what the impact of an oil spill would be on the proposed MPAs in the licence area.

NR stated that the proposed Orange Shelf MPA was being established for the protection of the benthic environment and that oil would float on the surface and not impact the MPAs in the unlikely event of an oil spill.

NR also noted that the oil spill modelling provides scenarios with no mitigation implemented. The different scenarios are therefore all worse-case scenarios. Thus the 20-day simulation can be considered the extreme of a worst case scenario.

5. CLOSURE

5.1 DvH thanked the project team for taking the time to present the proposed project and finding of the Impact Assessment to the NCPCC.



ATTACHMENT A

LIST OF ATTENDEES AS PER ATTENDANCE REGISTER

NAME	ORGANISATION
NCPCC	
Mr D. van Heerden	HoD DENC
Ms W. Oppel	DENC
Mr Obopeng	DENC
Mr K. van Zyl	DENC
Mr E. Oosthuysen	DENC
Ms B. Cornelissen	DENC
Ms A. Cloete	DENC
Mr R. van der Poll	DENC
Mr E. Swartbooi	DENC
Mr M. Farmer	DENC
Ms B. Botes	DENC
Mr J. Peter	DEA: Oceans & Coasts
Ms V. Cloete	DEA
Mr A. Meyer	De Beers Consolidated Mines
Mr E. Julius	Department of Economic Development and Tourism (DED&T)
Mr E. Steenkamp	Kamiesberg Municipality
Mr C. Fortuin	Namakwa District Municipality
A. Brown	Namakwa District Municipality
Mr J. Coraizin	SAMSA
Mr A. Koopman	SANBI
Mr B van Lente	SANParks – Namaqua national Park
Ms L. Swartbooi	Alexkor Richtersveld Mining Company JV
Mr M. Carstens	Alexkor Richtersveld Mining Company JV
Ms A. Makgato	TransHex Operations
Mr A. le Roux	EMI
Mr P. van der Linde	TechAF
CLIENT	
Nigel Rossouw	Shell
Claude Vanqa	Shell
EAP	
Jonathan Crowther	CCA Environmental
Jeremy Blood	CCA Environmental



			0		To a
Name & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	Date 22 October 2015

HoD DENC Mr. D. van Heerden	bbotes@ncpg.gov.za			
Mr. A. Mabunda DENC	Chief Director: Biodiversity Management Services AMabunda@ncpg.gov.za fjansen@ncpg.gov.za			
1. DENC Member Ms. Wilna Oppel	Deputy Director: Coastal Management T: 027 718 8800 F: 027 718 8814 C: 082 440 3209 E: woppel.dtec@gmail.com	Office.		
2. DENC Member Ms. E. Groeners Alternate Mr. M. Farmer	Deputy Director: Environmental Empowerment Services T:0538077300 E:egroeners@ncpg.gov.za			
3. DENC Member Mr. Obopeng Gaoraelwe Alternate Mr. Nico Laubscher	Deputy Director-Compliance and Enforcement T: 053 807 7430/027 718 8800 ogaoraelwe@ncpg.gov.za Nico./aubschere.hclmai	1.co.za		

0795340947



Name & Organization	Designation & Contact Details	26 February 2015	21 May 2015	23 July 2015	22 October 2015
4. DENC Member Mr. Klaas Van Zyl	T: 027 718 8800 F: 027 718 8814	NATURE RESERVE			
5. DENC Member Ms. Raylene Nel	E: kvanzyl1@vodamail.co.za Director: Policy, Planning and Coordination T: 0538077300 E: rnel@ncpg.gov.za				
Alternate Mr. Enrico Oosthuysen	Conservation Planner T: 027 718 8800 F:027 718 8814 E:enricooosthuysen@gmail.com	Elin			

Date

Date



		NC PCC Meetin		15.	Date
Name & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	22 October 2015
6. DEA: Oceans & Coasts Member Mr. John Peter Alternate	Integrated Coastal Management T: 021 819 2496 F: 021 402 3009 E:jpeter@environment.gov.za				
7. CSA Member Mr. Ronald Newman Alternate Mrs. Esther Engelbrecht	T: 027 718 1577 E:rnewman@conservation.org eengelbrecht@conservation.org				
8. De Beers Consolidated Mines Member Mr. Anton Meyer	T: 027 807 2934 E:anton.meyer@debeersgroup.com				
Alternate Mr. Chris Groenewald	E:Chris.Groenewald@debeersgroup.co	0			



NC PCC Meeting					Date
Name & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	22 October 2015
9. Department of Agriculture, Land Reform and Rural Development Member Mr. Ernst Meissenheimer Alternate Mr. Darren Engelbrecht	T:027 712 1315 C:082 560 9050 E:meissenheimer.ernst@ gmail.com				
10. Department of Corporate Governance, Human Settlement & Traditional Affairs Member: Mr. Schalk Grobbelaar Alternate Neords. Load Mrs. Corrie van Zyl Corporate Governance Human Settlement & Traditional Affairs	T: 053 807 2836 F: 086 513 7177 E: sgrobbelaar@ncpg.gov.za OS3 807 2829 T: 053 807 2837				



		NC PCC Meetin	g		1-
Name & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	Date 22 October 2015
11. Department of Economic Development, Environment and Tourism Member Mr. Edward Julius Alternate Sipho Wampe Mr. Vincent Cupido Department of Economic Development, Environment and Tourism	T:079 514 3810 E: ejulius4@gmail.com Research and Plants T:079 514 3810 E: vincent.dtec@gmail.com	of Zulins			
12. Department of Mineral Resources Mr. J. Niewoudt Ms. D. Williams	Jasper.nieuwoudt@dmr.gov.za deidre.williams@dmr.gov.za	Presat			



Name & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	Date 22 October 2015
13. Department of Water and Sanitation Member Mr. Moses Mahunonyane Alternate Mr. Gawie van Dyk	Water use and regulation vandykg@dwa.gov.za 053-8308802				
14. Kamiesberg Municipality Member Mr. Elsabè Stewens	T:027 672 1130 E:sarahc@kamiesberg.co.za T (Garies): 027 652 8000 F (Garies): 0276528001				



NC PCC Meeting
Date

		NC FCC Meetin	<u> </u>	Data	Date
ame & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	22 October 2015
15. Namakwa District Municipality Member Mr. Christiaan Fortuin Namakwa District Municipality Alternate Jannie Loubser CA 11.5 BRO WN	Acting Municipal Manager C:082 901 8539 T: 027 712 8000 E:chrisf@namakwa-dm.gov.za E: janniel@@namakwadm.gov.za 9 US b W nawa wa - dw	A4			
16. SANBI Member Ms. Shahieda Davids Alternate Mr. Lubabalo Ntsholo SANBI Alternate Ms. Prideel Majiedt	T: 021 799 8864 C: 079 175 8363 F: 086 588 9603 E:S.Davids@sanbi.org.za E:L.Ntsholo@sanbi.org.za				



NC PCC Meeting
Date

		NC PCC Meetin	8		D
Name & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	Date 22 October 2015
17. Richtersveld Municipality Member Mr. Leon Ambrosini Alternate Mr. Abraham De Wet Richtersveld Municipalit	Councillor T: 027 851 1111/2 C: 072 584 7219 E:sureta@richtersveld.gov.za T: 027 851 1111/2 E:Abraham@richtersveld.gov.za	Present			
18. SAPS Port Nolloth Member Lt Col J. Brooks	Cluster Commander T:027 851 1026 C:082 495 5246 E:portnolloth.cluster.man@ saps.org.za				
19. SAMSA Member Mr. Justin Coraizin	T:027 851 7695 C:082 386 2141 E:jcoraizin@samsa.org.za	Present			



		NC PCC Meetin	g	T. P. Carlo	Date
ame & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	22 October 2015
20. SANParks-Namaqua National Park Member Mr. Bernard Van Lente Alternate Mr. Petrus Schreuder	Park Manager T: 027 672 1948 F: 027 672 1015 E:bernardvl@sanparks.org E:petrus.schreuder@sanparks.org	M. Matthys attended			
21. Nama-Khoi Municipality					
22. Alexkor Richtersveld Mining Company-Joint Venture Member Ms. Leilani Swartbooi	T:027 831 8399 8383 99 E:leilanis@alexkor.co.za	8			



NC PCC Meeting					Date
ame & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	22 October 2015
23. Trans Hex Operations (pty) LTD. Member Mr. Pierre Kotze Alternate Abegail Makgato	Operations Manager: Marine T: 027 217 1561 C: 082 451 2673 E: pierrek@transhex.zo.za T:021 937 2028 abegailm@ranshex.zo.za	Mkg			
24. Richtersveld CPA Member Mr. Edwin Farmer	edwincfarmer@gmail.com 076 630 4060				
DENC Mr. Bronwen Cornelisser	Environmental Officer: Coastal Management T: 027 718 8800 F: 027 718 8814 C: 082 440 3209 Bronwen.dtec@gmail.com	26/02/2015			



		NC PCC Meetin	5		Date
ame & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	22 October 2015
DENC Ms. Adeleen Cloete	Environmental Officer: Coastal Management T: 027 718 8800 F: 027 718 8814 C: 082 440 3209 adeleenmarine@live.co.za	Poste			
DEA MZONDELECI DLULANE	DIRECTOR ENFORCEMENT 021-405 9408 0833186647 mdlylane@environment.gov.s	11 motherane			



NC PCC Meeting					
Name & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	22 October 2015
F. L. N JOYU OFFICE OF THE	Deputy Director T: 053 838 2660	Flidjova			
PREMIER	fnjovu @ncpg. gov. 29				
L. Geldenhuys DENC	geldenhays louise I & gmail. com	Light			
NAOLOKAZI	CED: ESTUARIES MAN nmadio kazi cenvironmen gov. 201 021 201 819 2473	nt-			
Daisy Kotsedi	Environmental Officer DKolsediaenvironment	gov. Adsedi			
DEA: Oceans+	0218142639				



		NC PCC Meeting			I D
Name & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015	Date 23 July 2015	Date 22 October 2015
Danic Potgieter	Tel 064 368 3800 e-mail: potaisterdadwa gov.24	`			
B. Botos DENC.	Tel: 053-8017306. 0823316039 bbotes@ncpg.gov.za				
E.F. Swantbook	Condition of the	29			
AJ Le Roux DENC	EMI adriaanlerouxTegmail.com				
DENC	ralphvanderpoll@gmail.co	on Wandfoll			



		NC I CC Micetin	5
Name & Organization	Designation & Contact Details	Date 26 February 2015	Date 21 May 2015
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Date

22 October 2015

Date

23 July 2015

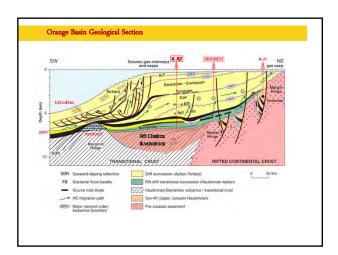
ATTACHMENT B SHELL PRESENTATION: PROJECT OVERVIEW	

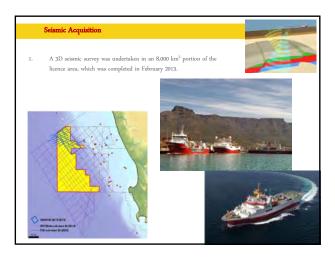


DEFINITIONS AND CAUTIONARY NOTE

Licence Area Orange Basin geology section 2. Seismic acquisition Drilling programme Sea- and land-based support

Licence area is $^{\sim}37~290~\mathrm{km^2}$ in extent. The eastern border of the licence area is located between 150 km and 300 km off coast roughly between Saldanha Bay and Kleinzee. Water depths range from 500 m to 3 500





Well Location 1. Area of interest: - 900 km² in extent. - 1,500 m to 2,100 m water depth. 2. Final well location will be based on: - further analysis of the 3D seismic data - the geological target; and - seafloor obstacles

Drining Programme

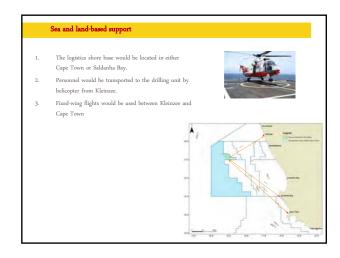
- 1. Shell is proposing to drill one or possibly two wells
- Depending on the success of the first well, a second well may be drilled to establish the resource quantity and flow rate.
- 3. Drilling is expected to take place in a future summer window period, between November to April
- 4. Well drilling would take in the order of 3 months to complete
- 5. The second well would be drilled at least one year after completion of the first well
- 6. Drilling unit: semi-submersible drilling unit or a drill-ship

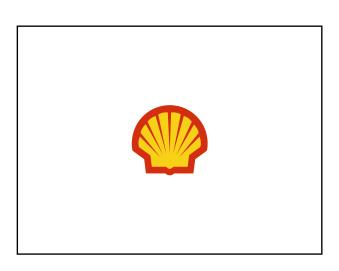












ATTACHMENT C
CCA PRESENTATION: IMPACT ASSESSMENT PROCESS AND FINDINGS



PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

IMPACT ASSESSMENT OVERVIEW

- Key legislative requirements
- Impact assessment process
- Impact assessment findings
- Conclusions

KEY LEGISLATIVE REQUIREMENTS 1



- Mineral and Petroleum Resources Development Act, 2002:
 - Shell has an Exploration Right and approved EMPr for seismic surveys and well drilling in the Licence Area.
 - Approved EMPr needs to be amended.
- National Environmental Management Act, 1998:
 - The proposed drilling operation requires that a <u>Scoping & EIA process</u> be undertaken.
 - Repeal of EIA Regulation 2010 and transitional

IMPACT ASSESSMENT PROCESS

- 1. Scoping Phase
 - FSR was accepted by DEA on 23 Jan 2015.
- 2. EIA Phase
 - Specialist studies:
 - > Drill Cuttings and Oil Spill Modelling.
 - Fishing Industry Assessment.
 - Marine Faunal Assessment.
 - Draft EIR and EMPr Addendum:
 - 40-day review and comment period.
 - 2 March 15 April 2015





IMPACT ASSESSMENT PROCESS (cont.)

- 2. EIA Phase (cont.)
 - EMPr Addendum.
 - Update report and submit to PASA (120 days).
 - Final EIR:
 - Compile Final EIR.
 - 30 day review and comment period.
 - DEA (121 days)
- Distribute decisions.
- Statutory appeal period.

IMPACT ASSESSMENT FINDINGS: MARINE FAUNA

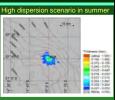


- 1. Normal discharges from drilling unit and vessel operations:
 - Considerations:
 - > Short duration (3 months per well).
 - > Small discharge volumes.
 - > Distance offshore (~230 km).
 - > High energy sea conditions.
 - Impact significance: VERY LOW.
 - Key mitigation:
 - Compliance with MARPOL 73/78 standards.
 - Implement a Waste Management Plan.

IMPACT ASSESSMENT FINDINGS: MARINE FAUNA (cont.)



- 2. Smothering by drill cuttings:
 - Deposition thickness: 80 cm around wellhead to < 1 mm for distances greater than 150 m.
 - Benthic habitat types beyond 500 m water depth are 'Least Threatened'.
 - Due to distance offshore, plankton abundance is low and fish spawning areas occur inshore
 - Recovery expected in 2 5 years (short-term).





IMPACT ASSESSMENT FINDINGS: MARINE FAUNA (cont.)



- 2. Smothering by drill cuttings (cont.):
 - Impact significance: VERY LOW (unconsolidated sediments) to LOW (hard grounds / reefs).
 - Key mitigation:
 - > Undertake ROV survey.
 - Adjust well location to avoid vulnerable habitats and / or species.
 - > Use innovative technologies (e.g. weighted muds).
 - Discharge cuttings from drilling unit at least 5 m below the sea surface.

IMPACT ASSESSMENT FINDINGS: FISHING INDUSTRY

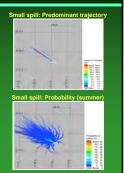


- 1. Loss of access to fishing grounds:
 - Temporary safety zone around drilling unit during drilling:
 - > Sectors affected: Only large pelagic long-line.
 - > Small % of national catch & effort: ~ 1%.
 - > Limited extent: 500 m around drilling unit.
 - > Short duration: 3 months per well.
 - Impact significance: VERY LOW.
 - > Consultation and notification.
 - > NAV warnings.



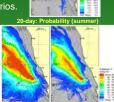
IMPACT ASSESSMENT FINDINGS: OIL SPILL (cont.)

- Small (1 ton hydraulic fluid) and medium (10 ton diesel) spill scenarios:
 - Predicted to travel in a narrow plume in a NW direction.
 - Extent: 110 km (medium) to 150 km (small) from well.
 - Duration: Oil would remain on the sea surface for a maximum of 1.5 days (medium) and 2 days (small).
 - No probability of shoreline oiling.
 - Impact significance: VERY LOW.



IMPACT ASSESSMENT FINDINGS: OIL SPILL (cont.)

- 2. Large spill scenarios (5 & 20 day blow-outs):
 - Predicted to travel in a NW direction into Namibian waters.
 - Oil would not reach the shore under the following summer scenarios:
 - > 5-day spill: all weathering scenarios.
 - > 20-day spill: fast and medium weathering scenarios.
 - Oil <u>may</u> reach the shore under the following summer scenarios:
 - > 20-day spill: <10% probability under slow weathering scenario



IMPACT ASSESSMENT FINDINGS: OIL SPILL (cont.)

- 5. Large blow-out:
 - Impact significance: HIGH.
 - Improbable.
 - Key mitigation:
 - > Summer drilling period.
 - > Oil spill response plan.
 - > Subsea well intervention capping equipment in Saldanha Bay.



IMPACT ASSESSMENT CONCLUSIONS

1. Ecological integrity:

- Disturbance to benthic communities is negligible in relation to available area of similar habitat (Least Threatened).
- Recovery in 2 5 years (short-term).
- Negligible loss of ecological integrity.

2. Economic efficiency:

- Exclusion of large pelagic long-line in 500 m safety zone. Three months per well.
- Limited job opportunities as operation is highly technical.
- Limited opportunities to provide support services.
- Economically efficient, as no other parties would be significantly impacted.

IMPACT ASSESSMENT CONCLUSIONS (cont.)

3. Equity and social justice:

- Project would not unfairly discriminate against any one party.
- No unequal distribution of negative impacts.

It is the opinion of CCA in terms of the sustainability criteria described above, there is no reason why the project should not receive a positive decision.

PROPOSED EXPLORATION DRILLING IN THE ORANGE BASIN DEEP WATER LICENCE AREA OFF THE WEST COAST OF SOUTH AFRICA

