S. 37

File With _____

SECTION 131 FORM

Appeal NO:_PL 16.207212. **Defer Re O/H** ☐

TO:SEO

Having considered the contents of the submission dated/ received 07/10/04. from Maura Harrington. I recommend that section 131 of the Planning and Development Act, 2000 be/not be invoked at this stage for the following reason(s):. No new issues.

E.O.: Kieron Somers **Date:** 07/10/04.

To EO: _____

Section 131 not to be invoked at this stage. ☑

~~Section 131 to be invoked – allow 3/4 weeks for reply.~~ ☐

S.E.O.: _____ **Date:** 8/10/04

S.A.O: _____ **Date:** _____

M _____

Please prepare BP _____ **- Section 131 notice enclosing a copy of the attached submission**

to: _____

Allow 2/4weeks – BP_____

EO: _____ **Date:** _____

AA: _____ **Date:** _____

CORRESPONDENCE FORM

Appeal No: PL 16.207212

M r Fagan

Please treat correspondence received on 07/10/04 **as follows:**

1. **Update database with new agent for Applicant/Appellant** _____

2. **Acknowledge with BP** 23

3. Keep copy of Board's Letter ☐

Response to section. 131

1. RETURN TO SENDER with BP _____

2 Keep Envelope: ☐

3. Keep Copy of Board's letter ☐

Amendments/Comments

4. Attach to file

(a) R/S ☐ (d) Screening ☐

(b) Mapping ☐ (e) Inspectorate ☐

(c) Processing ☐

RETURN TO EO ☑

	Plans Date Stamped ☐ Date Stamped Filled in ☐
EO: Kieran Somers	**AA:** James Fagan
Date: 07/10/04	**Date:** 8/10/04

INDIGENOUS STAKEHOLDER COMMENT

ON

APPLICANT'S RESPONSE

(31 AUGUST AND 15 SEPTEMBER 2004)

TO FI REQUESTS BY AN BORD PLEANÁLA

ABP REF: PL 16.207212
MCC REF: P03/3343

Mayo County Council
Aras An Chontae
Castlebar

Ref No.: P03/3343

02/02/2004

Ms Maura Harrington
Doohoma
Ballina
Co. Mayo

A Chara

I wish to acknowledge receipt of submission received from you on 30/01/2004 in connection with planning application by **SHELL E & P IRELAND LIMITED for CONSTRUCT GAS TERMINAL FOR THE RECEPTION AND SERAPATION OF GAS FROM THE CORRIB GAS FIELD, AND FOR A PEAT DEPOSITION SITE, RESPECTIVELY. THE DEVELOPMENT WILL CONSIST OF THE CONCURRENT DEVELOPMENT OF TWO SITES LOCATED 11 KILOMETRES APART, APPROXIMATELY, AND IDENTIFIED AS THE SITE OF THE GAS TERMINAL FOR THE RECEPTION AND SEPARATION OF GAS FROM THE CORRIB GAS FIELD IN THE TOWNLAND OF BELLAGELLY SOUTH AND THE SITE OF THE PEAT DEPOSITION SITE IN THE TOWNLANDS OF SRAHMORE AND ATTAVALLY, BANGOR ERRIS. THE DEVELOPMENT AT THE BELLAGELLY SOUTH SITE WILL CONSIST OF: A GAS TERMINAL FOR THE RECEPTION AND SEPARATION OF GAS INCLUDING PLANT AND EQUIPMENT; PROVISION OF 4,935 SQ M (GROSS FLOOR AREA), APPROXIMATELY, OF BUILDINGS; ACCESS ROADS; 40 NO. CAR PARKING SPACES; AND ANCILLARY DEVELOPMENTS, OF WHICH 13 HA, APPROX, WILL BE DEVELOPED INRESPECT OF THE GAS TERMINAL'S FOOTPRINT. THE PROPOSED DEV. WILL OF THE BELLAGELLY SOUTH SITE WILL ALSO CONSIST OF; THE EXCAVATION AND REMOVAL OF 450,000 CUBIC M at BELLAGELLY SOUTH SRAHMORE ATTAVALLY.**

The matters referred to by you will be taken into consideration by the Council before a decision is made on the application. Notice of the Council's decision on the

application will be given in accordance with the requirements of the Planning and Development Regulations, 2001. This may be in the form of:

(a) posting the notice directly to you; or

(b) publishing the notice in a newspaper circulating in the area where the proposed development is situated.

Please note that in the event of an appeal being lodged by you, An Bord Pleanala will require a copy of this letter of acknowledgement.

Mise, le meas

pp

RUNAI CHONDAE

AN BORD PLEANÁLA
TIME _____ BY _____
07 OCT 2004
LTR-DATED _____ FROM _____
PL _____

Corruptio optimi pessima

We are, all of us, cursed to 'live in interesting times'. One doesn't go in pursuit of a saga – one finds oneself in the middle of it. The opportunity to use the distillation of one's lived life to 'fight the good fight' is not given to everybody but it is an interesting lottery from which to be chosen. As a history graduate I appreciate the nuances behind the cliché 'history is written by the victor'. At any given moment in history, it is the actions of, and decisions taken by ordinary people that determine the choice of future direction from that time. There is an RTE radio programme (Sunday, 11.00a.m.) called 'What If?' – What if the South won the American Civil War etc. All of us, An Bord Pleanála, Appellants and Applicant are involved in our own 'what if' saga – some of us at least, appreciative of the fact that the consequences of the outcome can only be properly assessed at a time when most of us will be returned to the dust which is our fate. In that context, for this appellant, Place is paramount.

I do not expect the applicant, Royal Dutch/Shell, or its agents to understand the paramouncy of Place – after all, on spreadsheets, a Place is just so many dots of cartridge ink. The *pro forma* approach to unique considerations by so many well-known (and hitherto respected by myself in a condition of blissful ignorance) companies has been a revelation. Any attempt to justify *pro forma* presentations can only result in platitudes which, at best, can only be second-rate. This, I believe, has been demonstrably shown throughout the planning history of the proposed Corrib Project. In support of this view I enclose for the attention of the Board copies of a missive sent to Mr. Jeroen van der Veer by myself together with his platitudinous reply. I would like to add that Mr. van der Veer's disgraced predecessor Phillip Watts gave a similar reply to a question posed on our behalf by ECCR at the 2003 Shell AGM prior to ABP decision (copies appended). A member of the Ecumenical Council for Corporate Responsibility attended the Oral Hearing in November 2002.

I believe Mr. Phillips' 31st Aug. '04 response to the Board fits the scenario set out above. Mr. Phillips remains bogged, fogged and befuddled. He appears to express a wish for an Oral Hearing (*1.2*) which, when one considers the hames he made of the last one, is surprising, to say the least. I note with interest Mr. Phillips' admitted difficulty in understanding the Board's request for further information (FI). Personally I had no difficulty in that regard but I experienced considerable difficulties – dare I say near trauma – in trying to frame any coherent comments on the stuff which was returned to the Board by Mr. Phillips *et al*. One likes to think one possesses a modicum of rationality – necessary to a School Principal and teacher of Infants. This material posed a serious threat to the retention of rationality caused largely, but not exclusively, by the applicant's proposal for the retention/redistribution of peat.

Mr. Phillips, on behalf of the applicant, persists in regurgitating sections of the current EIS in response to the Board's request for FI. It should surely be obvious that if the Board requests FI that can be taken to mean that the Board is not fully satisfied with the material currently before it. To refer back to such material is not helpful and at this stage I believe verges on, if not actually constitutes frivolous and vexatious behaviour *per* the Planning and Development Act 2000.

Of course, when Mr. Phillips tries further advocacy he makes matters worse. His statement, *2.1.1* is disingenuous – and that is the charitable interpretation. Mr. Phillips and Royal Dutch/Shell would prefer to forget – I don't – that the defunct Nov. 2000 concept and the deficient Apr. 2001 concept were both presented as 'world class, state of the art designs'. The central issue here is that, but for the common-sense and highly competent evaluations of these

planning/geotechnical concepts by local people, their appeal to ABP and upholding of same, the 'event' at Dooncarton/Glengad would have resulted in the 'landscaped bog' (Corrib PR video, enclosed) being washed into Carrowmore Lake together with the simultaneous fracturing of the unprecedented, unaudited, unadjudicated-upon upstream pipeline proposed to run through an area fractured by events of 19th Sept. 2003. This is an appalling retrospective vista which we have, thankfully, been spared. There is nothing within the applicant's 31st Aug. response to the Board that provides any scientific, statistical or rational indication to show that anything has changed.

A valuable precedent was set at the last Oral Hearing, ref PL 16.126073 when local expertise was listened to by the Inspector and Independent Consultant and was afforded equal validity with that of CV-backed experts. The significance of this remains lost on Mr. Phillips. How else can the inclusion of '*Managing Geotechnical Risk*' (Clayton 2001) – which contains no reference to peat and no reference to local expertise – be explained. Anybody who has completed 2nd year at 2nd level should be able to quote selectively from anything – one expects a more robust effort from adults. I will not add to the tedium of this process by listing counter quotes but will refer the Board to the *Glossary* – precedent practice; *p.24*, importance of effective design, and ask, *p.20*, what percentage of the total construction cost of the proposal for Ballinaboy has been spent on SI? (Parenthetically, how does SI percentage expenditure compare with expenditure incurred to date in trying to 'greenwash' a dubious planning concept?). To state, as Mr. Phillips does, on the basis of the foregoing that the impacts of 'designed risks' are indicative only is not an acceptable advocacy within Proper Planning, Sustainable Development or Precautionary Principle parameters.

Given the current and generally agreed future high price of oil/gas per barrel, the original cheapskate premise upon which this concept was based, i.e. meagre proven reserves, variously given as .87/1 TCF and within which, five years ago, a reasonable margin of profit to the consortium was factored in (greatly enhanced by no Royalties, no State Equity and no Special Taxes) there no longer remains even a shred of tenability attaching to what was, at best, a commercial argument based on Royal Dutch/Shell, Statoil and Marathon spreadsheets. In that context, to state that Field Trials for the site specific unproven methodology of mixing cement with peat will not be considered until post grant of planning is either incredibly ignorant or incredibly arrogant.

Mr. Phillips, *2.2.8* appears to be adopting the 'third time lucky' approach by repeating the mantra of Dec. '02 and Dec. '03 that 'it is the professional opinion of...'. Is this professional opinion backed up by written evidence of Professional Indemnity Insurance acceptance of liability in the case of ARUP and AGEC and by Swedish state acceptance of liability for SGI? I doubt it – otherwise, why is the presentation of such a glut of professional opinion immediately followed by a *caveat*?

This response is still littered with the usual woolly indeterminism– p.12, 'there is a reasonable comparison', 'appears to be proportional'. 'Reasonable comparison' isn't good enough; 'appears to be' – appears to whom and underwritten by whose PI??
It is also littered with contradictions:

p.7 'The Derrybrien methodology of floating roads on peat has been avoided
p.15 Contingency measures – Floating Roads!

p.8 'historically, bogslides...caused by man...excavating at toe of slope'

Is this an implied acceptance that Shell activity, Summer 2002 at toe of Dooncarton slope may have been a causal factor in consequences of 19th Sept.'03 heavy rainfall??

In his preparation of a response to Item 3, Mr. Phillips must have been delighted to find that the Water Framework Directive (WFD) 'places no responsibility on an individual developer'. First item on the agenda – don't bother addressing the WFD objectives under the River Basin District Management System process; that can be left to an incompetent Local Authority and a 'competent body', the EPA, incapable of managing its current workload (Dr. M. Egan, MWR interview, Sept. '04). The fact that the EPA is the designated 'competent body' in Ireland and that its current Director General is on record (Corrib PR video, enclosed), when spokesperson for IBEC, as showing uncritical support for the now failed P01/900, PL 16. 126073 must add enormously to the applicant's comfort – while inversely affecting this appellant's concerns.

I believe '*Behind the Shine. The other Shell Report 2003*' – a further copy of which I append for the convenience of the Board – provides strong documented evidence of Royal Dutch/Shell precedent and current global practice, and is, in real planning terms of stronger significance than aspirational twitterings geared solely towards scraping a planning approval which would then, I firmly believe, be contemptuously abused.

Under Royal Dutch/Shell rule the WFD would quickly become a WMD for Erris – and all hindsight is academic.

RISK REGISTER. COMMENTS/QUESTIONS.

When a 'justification' lends itself to the use of inverted commas and leads to nearly every sentence it contains raising a question can it, in good faith and natural justice be accepted as a Justification.

HAZARD NO. 1

- There are no 'proven techniques' for major civil engineering operations in peat; Derrybrien proves the absence of, rather than presence of such techniques.
- What 'current construction practices' have informed this 'justification'?
- Bord na Móna harvesting methods are not proposed for Ballinaboy – any reference to them, therefore, is irrelevant.
- Successful site investigations (SI's) mean just that. To state that SI's 'have shown that safe access over soft ground can be achieved and the hazard of soft ground reduced to a low probalility' is an insult to rationality. Only comprehensive field trials could begin to address the very real hazards of major industrial construction in peat. It is not surprising that it is the applicant's preferred option to defer these tests to post grant of planning.
- How does one 'schedule flexibility' within the construction schedule laid out in the EIS currently before the Board?
- How does one remove a boghole?

HAZARD NO.2

- There are no 'industry norms' for this proposed civil engineering activity in this specific terrain – peat is not a soft soil, it is a distinct, discrete entity. There is no 'current or precedent practice in similar ground conditions' (Clayton, p.24) by which the design controls for unexpected ground conditions can be checked. This 'justification' is verbiage.

HAZARD NO.3

- Are the British and European standards peat compatible? (Even I know that BS 8002 is hopelessly out of date). Given the reductionist Shell PR spin post ABP 2003 decision, vehemently promulgated by Messrs Ó Cúiv and Fahey, that the sole reason for refusal was a 'technicality' concerning peat, does this 'justification' demonstrate that the applicant has, in the interim, really attained a competent appreciation of the technicalities of peat?

HAZARD NO.4

- Would temporary propping systems have worked at Derrybrien? Where are precedent practice examples to support this? (Apologies for unintended pun). This reads like something out of Laurel and Hardy: the sheet piled wall starts to move; immediately noted by OM functionary whose job spec is, presumably, 'watch the wall'; a call goes out 'bring on the temporary propping system, start backfilling like blazes and move that 1RB from up there'! It can only result in……another fine mess.

HAZARD NO.5

- How can the applicant cite 'use of conservative soil strength parameters for strengthened soil design' and then, under contingency measures cite 'additional strengthening beneath and adjacent to the road'?

HAZARD NO.6 TYPO (APPLICANT)

HAZARD NO.7

- 'Availability of space is not an issue on this site'. Granted, 600 acres of property once vested on behalf of the state in the Minister DoMNR but now alienated from the State for over four years, without statutory local consultation, solely to facilitate Shell means that 'space is not an issue'. Rationality should dictate, though, that there must be some coherence in addressing this hazard other than ranging dementedly over all 600 acres!

HAZARD NO.8

- Where are examples of precedent practice of gabions retaining bogslides?
- Are the quantities of further imported material quantified together with attendant traffic movements?

HAZARD NO.9

- 'Blasting will not be used' – why then did MCC include 2 conditions to cover blasting?
- If difficulties are encountered – more likely than not given this applicant's standards to date – how will the vibrations created by rock breaking/rock splitting interact with concurrent peat strengthening, peat stabilisation, excavation, transportation etc.?
- Is it tenable to imagine the entire proposed site as a quivering, put-upon mass which, attacked in so many ways at the same time cannot hold itself together, and cannot be held together by 36,500 tonnes of cement and innumerable tonnes of imported rock? Such a scenario is not, I believe, to be contemplated or imposed.

HAZARD NO.10

- How can simultaneous rock breaking/splitting and bolting of rock to rock body be reconciled? Given the magnitude of this proposed unprecedented civil engineering/geotechnical experiment, of what possible relevance is 'netting to contain local spalling'?

HAZARD NO.11

- This reads like a nightmare. The applicant's on site experiments to date, most particularly the sinking of an artesian well during Summer 2004 – the authorised/unauthorised status of which is a matter for the Board – does not inspire confidence in the applicant's ability or willingness to properly understand the terrain to which they appear unhealthily attached but about which they remain congenitally ignorant.

HAZARD NO.12

- The 'justification' here is disingenuous – it is already stated by the applicant that field trials (post grant of planning) would determine the optimum mix for binder…
- There is no 'experience worldwide within the industry' which is specific to the characteristics of the proposed site at Ballinaboy.
- SGI may have confirmed that peat from the proposed site can be strengthened but that is it. SGI are still involved in an on-going investigative/laboratory process; that is a far cry from SGI issuing a statistical/scientific/rational *imprimatur* for what is now before the Board for planning adjudication.
- The tail-end inclusion of 'there is also some small environmental hazard through the use of cement' is depressingly consistent.

HAZARD NO.13? (Another typo!)

- Presented as No. 12, with Hazard and Cause incorrectly cut and pasted.

- With such sloppiness and lack of any professionally tenable standards, how can such outfits be let loose in the Erris region to wreck untold damage, mayhem and misery?
- To address Hazard No.13: Ground Strengthening – creation of dust, what are the cumulative calculations for exponential 24hr. leachate in 5-10m *per diem* 'roadworks? How many days of such operations are envisaged? In what prevailing weather conditions? What are the short/medium/long-term consequences for the ecological and Health and Safety status of Carrowmore Lake as prescribed by EU Directives transposed into Irish Law?

HAZARD NO.14

Cement leaching may be a 'non-issue' for the applicant; such contemptuous dismissal, while in keeping with Royal Dutch/Shell global malpractice is not acceptable to this appellant and is not, I believe, an acceptable proposition for the entity that is Erris.

HAZARD NO.15

- Extended periods of wet weather are <u>not</u> a 'temporarily prevailing condition' in Erris! At this stage in this planning saga, only those who don't put their noses outside their ivory towers would be so delusional.
- Given the status accorded to the validity of local expertise at the last Oral Hearing, I find ARUP's use of 'anecdotally' extremely repugnant.
- Once again the applicant chooses to use Belmullet Met. Station data. The differences in location, convection currents etc. between Belmullet and Ballinaboy make a nonsense of use of Belmullet data for calculation of 1:700 year events for Ballinaboy. Even using site-specific data gives, at best and stretching credibility to the limit, a I:300 yr. event reading.
- The applicant has never used site-specific data despite extant data being sourced by myself and made available to the MLVC two years ago. One can only ask, rhetorically, why the use of such data is suppressed by the applicant? A copy of RSK response to the MLVC is appended.
- In a historical context, mention of a 1:700 yr. event only serves to bring to mind the calamitous 14th Century. Having come through that, and succeeding centuries, can the Board accept the sloppily presented advocacy of Shell for current and future generations of people, flora and fauna in Erris?

HAZARD NO.16

- There are no 'recognised codes of practice' for this proposed concept.

HAZARD NO.17

- What are the design criteria for movement of sheet piles implicit in the 'justification' statement '...will detect any movement of sheet piles that is greater than predicted'?
- Philosophical perorations concerning the insignificant impact of structural collapse of settlement ponds which would 'continue to exist, albeit with reduced capacity' are such, I believe, as should remain in the philosophical realm and should not be allowed to disport their highly dubious physical consequences in the Reality of the Great Bogs of Erris.

HAZARD NO.18

- The admission of 'limited duration' of enabling works – approx. 12 months – contradicts the 'schedule flexibility' referred to under Hazard No.1.
- The first paragraph of this 'justification' is breath-taking in its arrogance/ ignorance. Given the consequences of Sept. 19th '03, referred to as 9/19 by Bishop Fleming (Homily, Sept. 19th '04 appended), the applicant's attempt to lump the consequences of a gas refinery in a bog

together with sediment run-off from all surrounding areas is, I believe, vexatious, frivolous and without substance or foundation.

- Bord na Móna settlement ponds, for BnM specific harvesting practices, did not work as evident in the current status of Tullaghan Bay (featured at end video). To invoke such pond criteria, and to include the silliness 'say 93mm' is, I contend a further indication of vexatious planning behaviour further compounded by the irrelevancy of 'there will be no impact to the site..'
- The imperatives of Proper Planning and Sustainable Development are not solely predicated on sites in corporate ownership but on the consequences to the health and safety of local communities – to include continued access to safe water supply – and to the statutory responsibility to EU Directives adherence thereby obviating the potential imposition of daily EU fines, the payment of which would be inimical to the National Interest through reduced availability of State Funds for Health, Education and Welfare not compensated for through any equity, royalties or special taxes from the oil/gas sector thanks to Ray Burke, Bobby Molloy and Bertie Ahern, Minister for Finance, 1992.
- Is 'add flocculation' to be read as 'add salt to taste'?

HAZARD NO.19

- Soft cohesive material appears to be a euphemism for dobe. This 'justification' does not explain how such a geotechnical imponderable is to be caught, contained and transported off-site be it opportunistically (EIS) or otherwise.
- The re-iteration of covering stockpiled materials in extreme weather conditions is infantile.

HAZARD NO.20

- Finally, the agents of the applicant, showing consistency of incomprehension, attempt to address the hazard of bogslide. They again miss the point, ingloriously. Derrybrien involved the construction of bases for windmills together with associated site access works. It did not include the simultaneous activities of peat strengthening, peat extraction, transportation, disaggregation, pile driving, sheet pile emplacement, gabion erection, rock excavation, rock retention, unquantified pumping requirements, on-the-hoof drainage systems, existential settlement ponds – all happening within time constraints incurred by the applicant's own sloppy planning practices and the tantalizing price of a barrel of oil. All of the foregoing would not cause a 'simple' bogslide – taken in its totality, this degree of unmitigatible geotechnical invasion could only, I believe, lead to total bog collapse. The centre will not hold. Being the bog, the centre is unconventional – the centre *is* the Bog.

SEPTEMBER 15th RESPONSE. COMMENTS/QUESTIONS

1.2 **Mr. Phillips, it seems, still pines for another Oral Hearing**

2.1 **Corporate annexation is a more honest description of what is now before the Board. In this instance, when a public road becomes a 'haul route' it means the State is willing to allow itself become a conduit for Royal Dutch/Shell. By so doing, the State is willing to throw its citizens on the mercy of what can now be called a corporate cur.**
The Open Days vaunted by the applicant were held in a premises which operates a selective barring policy towards myself. I remained outside this premises from 10.30 a.m. to 6.00p.m. on Sat. 29th November 2003. During that time, I was subjected to verbal abuse by a Security employee of the premises. I am no sugarlump and can deal with such matters but I will elaborate on what I consider its broader significance later on.

2.1.2 **Tinkers/Travellers; American Indians/Indigenous Tribes; Flagmen/Traffic Operators – nomenclature is irrelevant when substantive issues remain the same.**

2.1.4 **In the general mayhem envisaged by this proposed vagrancy, vehicle breakdown and the quaintly termed 'evening activity of road-sweeping' is, to use an Erris Tourism analogy, par for the course. Please see appended critique.**

2.1.8 **Coillte – waded in so deep that to return were as tedious as to go o'er; apologies to Macbeth.**

2.2.3 **Download appended, Magellan handset – GPS position accuracy.**

2.2.7 **Mr. Phillips, through ignorance or arrogance, appears to misunderstand this essential question. My own understanding of the Board's request is that they were inviting the applicant's proper consideration of the challenge posed to this sensitive area through proposed major geotechnical interference. Unfortunately, the calibre of the response is more of the same.**

The applicant may also have misinterpreted the Board's decision not to use the Inspector's recommended first reason for refusal in relation to visual impact in PL 16.126073. The admission that there is no record of any application of fertilizer to the site for the past five growing seasons is interesting. Bearing in mind that P03/3343 is a new planning application, trumpeted as such by the applicant, and is being examined *de novo* by the Board, it might behove the applicant to preserve the illusion that there will be a few scraggy specimens of conifer left on site.

I am precluded from comment on much of the SGI material because it is presented in Swedish. Shell's tolerance of Swedish is in marked contrast to their attitude to the Irish language – when my daughter tried to speak Irish in a telephone conversation with an oil company employee, she was informed that 'English is the preferred language'.
The SGI Interim Report, written in English, served only to conjure up an image of the Swedish Chef, who bumbled merrily through the Muppet Show being totally incomprehensible to everyone! This is not xenophobic – it came unbidden on reading 'The mixing could be compared to the mixing of the ingredients to a bread' *2.5 p.4.*

Who wrote Appendix 5?

CONCLUDING COMMENTS

And so to acknowledge the sense of finality which has pervaded the consideration of this FI response to the Board. It is, I repeat, a very interesting saga. To quote from Tolkien 'The road goes ever on and on, out from the door where it began…' (quoted from the book, read in the early 70's, not from the film which I don't intend to watch because the written word mediated through one lens is too limiting). Not a bad analogy for *pro forma* EIS's come to think of it.

As I'm sure the Board appreciates by now, my abiding tenet throughout this process has been defence of Place. The driving force which has sustained me throughout is the existential essence of Sruth Fada Conn contrasted with the grubby mindsets of those who considered the inhabitants of Ballinaboy, Gortacreagher, Rossport, Dooncarton/Glengad as inconsequential 'bog-trotters' incapable of addressing a State/Corporate *fait accompli*. That contrast – or dialectic if preferred – will continue to sustain me.

I referred earlier to an incident of verbal abuse to which I was subjected in Nov. 2003. On three occasions during the past year my car (an aged Peugeot, 310,000 miles clocked) has been pelted with missiles thrown by young males in Bangor Erris. I am well used to cat-calls of 'Up the Gas' and similar in both Bangor and Belmullet (expressions, perhaps, of the broad-based support of the local community cited by Mr. van der Veer; personally, I'd cite golfers and gurriers). As stated, I'm no sugarlump and these are low-level incidents. However, as a teacher I recognize the significance of such incidents and believe them to be indicative of a disquieting trend. It is an admitted global norm that whenever oil companies get a foothold within weak regulatory regimes, be it in the developing or developed world a societal dysfunction eventually follows. I know that momentous historical events didn't just spring onto the history pages – all have a long germination. Ken Saro-Wiwa and his companions were not just plucked out of thin air to be hanged. The class action taken by the Wiwa family against Royal Dutch/Shell currently being processed in the United States will, hopefully, reveal details of the State/Corporate machinations which led to such a tragic denouement. It is neither fanciful nor paranoid to posit that the genesis lay in a series of low-level incidents.

Since Royal Dutch /Shell purchased Enterprise Oil there has been a marked attitudinal change. One doesn't walk into the Shell office in Bangor; like the Shell Centre in London the door is controlled from within. The delays to development of the Corrib reserves, entirely attributable to Enterprise Oil/Shell mismanagement has led to a palpable sense of urgency, bordering on panic observable at local level. This is evidenced by their pre-emptive probing into an aquifer at Ballinaboy and the more recent environmental vandalism at Rossport – like Glengad in 2002, prior to ABP adjudication. The reasons for this may be the all-time high price of oil, the expiry of their exploration licence on 31st December 2004 and on-going difficulties with financial regulatory bodies. A copy of *SEC v Royal Dutch Petroleum Co. Ltd.* is appended for the information of the Board – may be verified at:

www.sec.gov/litigation/complaints/comp18844.pdf

Whatever the reasons and whatever about lost photo-calls for FF/PD politicians I believe that the National Interest and Natural Justice would be ill-served by undue deference being given to a State/Corporate nexus predicated on short term self-interest and Erris take the hindmost.

I wish to offer my sincere thanks to all within An Bord Pleanála with whom I've had contact for their unfailing civility and courtesy.

Maura Harrington

6th October 2004

APPENDICES

Missive to Mr. Jeroen van der Veer, September 2004

Mr. van der Veer Reply

ECCR/Shell, AGM 2003

Philip Watts/ECCR

RSK/MLVC

Homily, Bishop of Killala, September 19th 2004

Critique, Proposed TMP

Magellan GPS – download.

SEC *v* RD/S p.7

SEC *v* RD/S Complaint H-04-3359

Brameshuber *et al* – download.

First Party Participants

Irish Digest article.

Photograph, Shell Centre London

Shell AGM 2004, Bob Nind, ECCR and Appellant (M. Brinded in background)

Letter to Her Excellency, President McAleese

Presidential Secretariat Reply

Behind the Shine. The other Shell Report 2003.

Concluding Quote (Introductory quote, first submission P01/900 to MCC)

FOR THE PERSONAL AND URGENT ATTENTION OF MR. JEROEN van der VEER.

I am writing to you by registered post – copied to His Excellency J. van der Velden, Royal Netherlands Embassy, Dublin – to record the following, which I expect to receive your urgent and immediate attention.

My name is Maura Harrington. I am an indigenous native of Erris, North Mayo, Ireland – a Class 1 EU environment, increasingly rare of its kind and therefore, by definition, an increasingly valuable Natural Resource in its own right. I am a Primary School Principal by profession and have been, perforce for the past four years, a stakeholder in the proposed Corrib Gas Project.

- **The Corrib Natural Reserves, together with an ill-conceived, untenable, cheapskate development concept, were acquired by Royal Dutch/Shell on the acquisition of Enterprise Oil plc in 2002**
- **The development concept referred to above involves the proposed construction of a 'beachhead' refinery 9km inland in an area of natural instability which suffered the worst landslides in Irish history in September 2003. The unprecedented 9km upstream pipeline is proposed to run through areas of Atlantic peat bogs (which have a higher water content than milk) and which are, and always will be incapable of safely supporting such a pipeline. The Financial and PR implications of such a concept should not be lost on your good self.**
- **I attended and spoke at the Shell Transport and Trading plc AGM in London, June 2004. I found the standard of proceedings there less than impressive. It was perhaps over-optimistic to expect a quality of competence (much less excellence) within the upper echelons of a corporation when it is patently absent at mid and lower levels. I found the *pro forma* platitudes offered by the Directors and the Chairperson to be second-rate and deeply offensive to the many indigenous stakeholders present and, by extension, to your own shareholders.**
- **After the AGM proper, I spoke briefly with Mr. Malcolm Brinded. With regard to the proposed Corrib Project I found Mr. Brinded lamentably ill-informed. I believe that Mr. Brinded's incomprehension could lead to unfortunate consequences for both Royal Dutch/Shell and the proposed Receiving Community. I also spoke with Mr. Botts, CEO Shell E&P Europe. In a word, I found Mr. Botts obnoxious.**
- **At present, Shell E&P Ireland Ltd. (MD Mr. Andrew Pyle) is once more before the Irish Planning Appeals Board (An Bord Pleanála) with a proposed development concept which is more demented than that inherited from Enterprise Oil plc. It is now proposed, in order to facilitate this Third World type operation – the cost of which in total is less than half the overrun budget for Sakhalin – that Royal Dutch/Shell will irrevocably degrade a swathe of territory which includes two pristine bays, a lake which provides the <u>only</u> source of a Regional Water Supply and all riparian systems therein through a visual excrescence using outdated plant including flaring and noxious emissions into a totally rural**

environment. This can only be seen as a current example of Royal Dutch/Shell Reality at its worst.

- The abject collusion of a supine, sycophantic Local Authority and National Government is no excuse for a corporate entity which professes adherence to the principles of corporate governance currently espoused by Royal Dutch/Shell. Your implied complicity in the future liability of Irish citizens to daily EU fines for breach of EU Directives will hardly be viewed with equanimity by the SEC, FSA *et al.*
- In full empathy with the Ogoni people of the Niger Delta, underpinned by our own all-encompassing reality of Blanket Bog we now refer to ourselves as the Bogoni. For your information, this was coined by my good self and was adopted, with prior consent of accredited Ogoni representatives, at the 4th Ken Saro-Wiwa Memorial Seminar, June 2001.
- I note that Shell appear to be divesting themselves of downstream activities in Ireland and the UK. Please be advised that such divestment will not be sufficient to preclude the inevitable consequences of Royal Dutch/Shell perseverance with a fundamentally flawed concept in this special Place. This flawed concept is inimical to the common good of Corrib stakeholders and your own shareholders.

I acknowledge the current difficulties within Royal Dutch/Shell and would rationally expect that you, as Chairman of the CMD, would not wish to exacerbate an already fraught time. That said, because my own sense of urgency is fuelled by a defence of Place, I request your written response to this missive within 10 days of recorded posting of same per registered mail. Please be advised that an absence of written reply by your good self (not written or telephone communication by Mr. Pyle) within ten days will result in circulation of this missive to the following:

PriceWaterHouseCooper
KPMG
Dow Jones Newswires
Channel 4
Dr. Owens Wiwa
The Guardian
FOE UK & Wales
Global Community Monitor
Mr. Fadel Gheit
and others

Please also be advised that if you should propose a meeting, such a meeting would only be acceptable to myself and to those on whose behalf I write if conducted in an open forum – hitherto denied us by Shell E&P Ireland Ltd. My definition of 'open forum' is one which would include the presence of independent, internationally recognised witnesses together with local, national and international journalists – and would be fully audio and visually recorded.

I await your written response to:

MAURA HARRINGTON, DOOHOMA, BALLINA, CO. MAYO. IRELAND.

J. van der Veer

President of Royal Dutch Petroleum Company
Chairman of the Committee of Managing Directors
Royal Dutch/Shell Group of Companies

Ms Maura Harrington
Doohoma
Ballina
Co Mayo
Ireland

30 September 2004

Dear Ms Harrington,

Re: Corrib Natural Gas Project

Thank you for your letter dated 19th September.

The proposals for the Corrib project have been developed in conjunction with leading Irish and international experts and are subject to extensive examination by the relevant authorities in Ireland. We believe such scrutiny will ensure that stakeholders can be confident that the project will be developed in accordance with the highest safety and environmental standards.

As you are aware, we undertook extensive public consultation and held exhibitions prior to the submission of the current planning application. Feedback from this process, and from ongoing consultation, has given us the assurance that the current proposals have broad-based support from the local community and from other stakeholders.
You do not make clear on whose behalf you write, but I can say that the local community in Mayo has had every opportunity to review the Corrib planning applications and to make observations on those applications as part of the planning process. Indeed, you have been an active participant in this process yourself, and rightly so.

While I appreciate that you may never be convinced of the suitability of the proposed location for the onshore terminal and associated pipeline, I do believe we should await and respect the final decision of An Bord Pleanála, which I understand is due before the end of October.

I am sorry that you did not find the recent AGM to be helpful in regard to Corrib, however our staff in Ireland continue to be available to discuss the project in more detail.

Yours sincerely,

JvdV

Carel van Bylandtlaan 16
2596 HR The Hague
The Netherlands

Maura Harrington

From: Barbara Hayes <[redacted]>
To: maura harrington <maurah.ias@eircom.net>
Sent: 24 April 2003 13:22
Subject: Fw: Re Shell AGM

Dear Maura

An ECCR member attended the Shell AGM & asked the following question. Watch this space!

Barbara
---- Original Message ----
From: Christopher Hall
To: Barbara Hayes ; Bob Nind ; Stella Boswell
Sent: Thursday, April 24, 2003 10:46 AM
Subject: Re Shell AGM

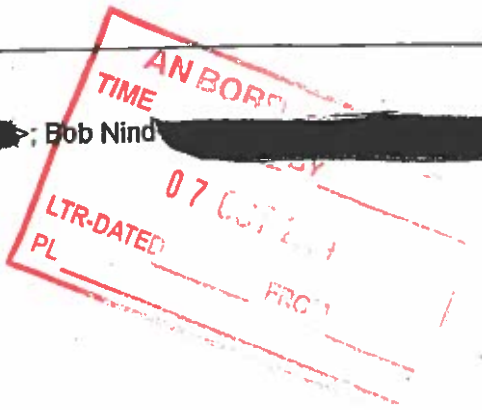
I made it with few minutes to spare, but found a seat from which Phil Watts may have recognised me, so was called second. I asked:

> May I please ask you about the CORRIB gasfield project off the shores of County Mayo ?
> From the fruitful discussions ECCR has had with you over the years, we know that Shell has learnt lessons from Nigeria about the value to be put on the concerns of local people, and on the environment. Indeed on such grounds the company has I believe withdrawn from projects in Chad/Cameroon and Peru.
> In regard to the CORRIB project, your regional manager has claimed that an off-shore refinery would be too costly. Yet the cost of the present proposals to Irish families who have lived there for generations would be incalculable. The people are not opposed to the gas being brought ashore, even though it will be of no benefit to them since none of them are ever likely to be able to use the gas. They would favour a nearby brown-field site.
> The penalties for environmental infringements which the company is likely to incur under European Law need to be weighed against the tax concessions the company could receive if a more costly plan is adopted which protects the environment. The company would also benefit from the public relations kudos gained by not damaging the fragile local eco-system and the local people.
> While the Planning Board Inquiry report is awaited, please would the Board with its stated environmental commitment itself undertake to study this scheme ?

PW commented that ECCR usually asked about Nigeria ! He undertook personally to look into the project, and said that my comments had been recorded and would be taken on baord by the appropriate department, while the planning process took its course. Ireland needed the revenue to help its balance of payments. An oil field has now also been discovered off Ireland.

Friends of the Earth had flown in nationals from Texas, SAfrica, the Philippines and Nigeria, to whom PW gave the floor. [See www.foe.co.uk/resource/press_releases/shells_neighbours_demand_a.html They included Oronto Douglas, who sent his best wishes. I joined in a ding-dong between him and Egbert Imomoh afterwards.

Maura Harrington



From: Christopher Hall [redacted]
To: Barbara Hayes [redacted]; Bob Nind [redacted];
Stella Boswell [redacted]
Cc: <maurah.ias@eircom.net>
Sent: 01 May 2003 12:08
Subject: Re Shell AGM

The following letter arrived this morning :

SIR PHILIP WATTS KCMG
SHELL CENTRE LONDON SE1 7NA
29 April 2003 TEL:+44(0)207934 5556 FAX:+44(0)2079345557

Dear Canon Hall

Thank you for your question at our recent AGM. As you know we always value the comments of the ECCR. I have followed up the issues you raised with our E&P staff and in particular the Managing Director of Enterprise Energy Ireland, Mr Andy Pyle, who has overall charge of this particular project.

The Corrib gas field was first discovered in 1996 and discussions were held with the relevant Irish authorities in regard to its development in 1998. During the preparation of the relevant Environmental Impact Assessments (EIA), extensive public consultation was held in regard to the method of development, the route for the offshore and onshore pipelines and proposed location for the onshore terminal. This led to the rerouting of the onshore pipeline and modifications to the overall design of the terminal.

Following completion of the EIA process, the project was then subject to approval by both the local Mayo authority and the then Department of Marine and Natural Resources. Both bodies also held an extensive process of examination and local consultation on the development. Mayo County Council sought further clarification of the EIS and the Department appointed ERM Environmental Consultants to act as independent advisors. The Department subsequently appointed an independent body of Irish experts chaired by the Chairman of the Irish Marine Institute to a dvise on conditions surrounding the licensing of the development. Both the ERM report and the report of the expert group are publicly available and you may find them useful background as to how the decision on an onshore processing facility was viewed as the preferred method of development for Corrib. This entire process was subject to extensive public scrutiny with meetings held locally, some chaired by the then Minister for the Marine and the opportunity for interested parties to make submissions on the relevant reports was allowed for.

In addition the onshore terminal, which has been appealed to the Planning Appeals Board (ABP), has been subject to one of the most detailed examinations ever undertaken into a project proposal in Ireland. Over 22 days of evidence has been heard by a Senior Planning Inspector of ABP. Included in the hearings was a detailed examination of alternative methods of development for Corrib. We are confident that the original proposed method is the safest and most environmentally sound option. The project is also supported by many people in the local area as evidenced by the activities of local support groups. We respect

the detailed planning process this project has undergone and we believe it is also respected by the project appellen.'ts. We await the outcome of the Board's deliberations and we would ask that you give due consideration to the very lengthy process undertaken by all involved. Andy Pyle, who is based in our Dublin office, is happy to meet with you to discuss any aspect of this project.

Please advise me of the outcome of your discussions and whether your concerns have been addressed.

Yours sincerely, Phil Watts

Chairman of The "Shell" Transport and Trading Company, p.l.c. Chairman of the Committee of Managing Directors of the Royal Dutch/Shell Group of Companies

Response to Maura Harrington's comments to the Department of the Marine and Natural Resources on the Corrib Natural Gas Field Development, Environmental Impact Statement.

This has been prepared by RSK Environment Ltd. on behalf of Enterprise Energy Ireland, 8th January 2002

This response has been prepared by RSK Environment Ltd., on behalf of Enterprise Energy Ireland Limited in response to comments raised by Maura Harrington in relation to the above Environmental Impact Statement. These comments are summarised under heading numbers in italics below with the corresponding answers in normal type.

Introduction – cover letter.

The letter's introduction suggests that the development, if allowed to go ahead, will cause material and perpetual damage to Erris. The Terminal EIS and the Offshore EIS demonstrate that in terms of the environment this will not be the case. Overall the proposed development has been designed with due regard to its environmental aspects, and a number of mitigation measures have been committed to. Providing that these constraints are implemented, it is the conclusion of the EIS documents that overall there is no likely significant impact on the environment. Section 17 of the Offshore EIS and Section 17 of the Terminal EIS summarise the cumulative impact considerations carried out by RSK and form the basis of our conclusion.

Is the national interest best served by sacrificing the integrity of a 5000 year old region for a 20 year supply of gas.

The submission suggests that this is the first development of any non-agricultural nature in this region. This is clearly not the case. It is recognised that this is a rural area. However, it should be noted that there are some industrial developments in the area already, including the former Norsk Hydro plant at Geesala, and the power station and wind farm in Bellacorick, in addition to large scale peat cutting. We would also like to point out that the site proposed for the terminal has been significantly modified in ecological terms during the last 50 years, first as a grassland experimental station and later as a site for commercial forestry.

On the basis of the studies carried out, RSK's view is that the area's integrity in environmental terms would not be compromised, were the proposed development allowed to go ahead.

Is there 7 – 8 tcf of gas out there?

The Enterprise co-venturers have identified a hydrocarbon bearing reservoir which contain in the region 1 tcf gas. So far these are the only reserves identified in the basin. The presence of additional reserves is unknown until further exploration activities, either by Enterprise or by other operators are carried out.

What is the true reason for not coming to Killala?

The reasoning behind the selection of Broadhaven Bay is outlined in detail in Section 4 of the Terminal EIS and Section 4 of the Offshore EIS. RSK confirm that the potential for contaminated sediments in Killala or the soil conditions at the Asahi sites were not considered as reasons for deselecting this site. Enterprise acknowledges that economic reasons formed part of the site selection considerations, as any enterprise whether privately or state owned would be required to do. These considerations did not override any environmental considerations. (See also response to 1 above).

What is the real economic cost to the State from the proposed project as currently considered?

The socio-economic benefits of the project to Ireland, regionally and nationally, have been outlined in Section 6 of the Terminal EIS and Section 6 of the Offshore EIS. RSK are not aware that there is any real economic cost from the proposed development.

What is the current position re the RAMCO Seven Heads gas find? What is its relevance vis a vis the Corrib Field potential in terms of indigenous gas supply?

RSK is not party to any information regarding the Seven Heads gas find. To our knowledge, this field has not been declared commercial. To discuss its relevance vis a vis the proposed Corrib Field Development would therefore have to be purely speculative, and is outwith RSK's scope of involvement with this project.

What is the socio-economic reality of this proposed project for Erris in terms of continued sustainable existence?

The socio-economic impacts of the proposed development have been discussed in Section 6 of the Terminal EIS and Section 6 of the Offshore EIS. The EIS documents conclude that there will be a socio-economic benefit to the region should this project go ahead. More specifically, on the basis of the review carried out in the preparation of the EIS documents, that in the event that spin-offs such as improved electricity supply and improved IT communications network (broad band) are realised, the potential for sustaining this region in terms of employment and enterprise prospects for young people would be measurably improved.

What was /were the essential element(s) in the additional information provided to MCC by Enterprise Oil /EEI that justified the grant of planning permission (with conditions) for P01/900.

RSK cannot speculate as to the reason why Mayo County Council considered that the information provided justified the granting of permission, other than that the data provided was adequate.

With regard to the Kinsale onshore pipeline what is the present condition at Inch Strand – has it yet stabilised? What are the differences/similarities in pipelaying methodologies between the pipeline at Inch Strand and Enterprise Oil/EEI's proposal for Sruth Fada Conn?

RSK were not involved in the Kinsale Head Gas Field project which was constructed in the mid seventies, and can therefore not compare the methodologies applied. However, RSK has significant experience in preparing EISs for pipeline projects, and consider that the proposed development is in accordance with internationally recognised standards, both with respect to design as well as methodologies proposed to minimise environmental impact; an issue which was considered to be of somewhat less importance 25 – 30 years ago.

We have been informed by Marathon International Petroleum Ireland Ltd, who is the operator of the pipeline, that there is no sign of instability at Inch Strand, in fact this is a recreational beach, subject to much use in the summer season.

What is the true level of risk accruing to the Erris region per this proposed project in terms of:

- *Cumulative air emissions?*
- *Cumulative discharges into Broadhaven Bay?*
- *System failure within the proposed plant at Ballinaboy?*
- *Accident/human error/sabotage along proposed Rossport upstream pipeline?*
- *Fire/explosion at plant?*

Cumulative air emissions – See Section 10 of the Terminal EIS and Section 10 of the Offshore EIS.

Cumulative discharges into Broadhaven Bay – See Section 7 and 9 of the Offshore EIS.

System failure, Accident, Fire/explosion at plant etc.

The effects of these non-routine events are assessed in Section 16 of both the Terminal and Offshore EIS.

Will there by 3 mg or half o tonne of mercury in Broadhaven Bay?

The discharges of mercury, at a concentration of equal to or less than 0.1 ug/litre (which is the EQS level) has been estimated to total less than 20 grams in the course of 20 years.

Mercury, like other metals, enters the bay from the ocean, and from precipitation as well as through other inputs such as rivers and run-off. The content of mercury in Broadhaven Bay is the product of the background concentration multiplied by the water volume.

The EIS predicts that overall background levels of mercury in the bay will not be increased as a result of the discharge from the proposed terminal. Therefore the amount of mercury in the bay will remain the same.

Why does the Marine EIS carry a disclaimer?

RSK sometimes use a disclaimer in reports. The purpose of this is to protect RSK against claims where the data acquired from various sources outside of RSK control turns out to have been erroneous in some way. The disclaimer does not refer to the integrity of the assessments carried out by RSK on the basis of the supplied data.

In the Marine EIS it is stated that meetings were held with Duchas and EPA. Do you have, or can you get minutes of these meetings?

This is a comment directed at MLVC. However, RSK has a record of these meetings and would be happy to share those with the MLVC.

Please verify all data provided in the EIS

This is a comment directed at MLVC.

Rainfall figures.

RSK has used Belmullet rainfall figures as advised by Met Eireann. Where such figures have been applied in design, e.g. for designing appropriate mitigation in terms of peat management and siltation control, Enterprise has applied a return period of 100 years, and thereby been very conservative in the use of rainfall data. We appreciate that the Glenamoy data adds to the database, and can inform you that Enterprise now operates a weather station at the terminal site in order to further verify meteorological data in preparation the project.

Lighting requirements

It is recognised that there should be very careful use of lighting at the terminal site in order to minimise the impact on the area. Therefore, best practice has been applied with respect to specifying 'down-lighting' in areas where lighting is required at night. The majority of the terminal site will not be permanently lit at night, but will have selective safety lighting which comes on only if required, or if there is movement within that area. The I.T. (Irish Times?) article referred to in the submission appears not to have been attached to the letter, and we can therefore not comment.

Proposal is reckless.

RSK notes that Ms Harrington is entitled to her opinion. RSK considers after having completed the Offshore and Terminal EIS documents, that the proposed development is responsible, technically in accordance with internationally recognised standards, and environmentally of a very high standard.

Submission to Mayo County Council

The rest of Ms. Harrington's letter and associated appendices deals with planning issues relating to the Terminal. We will respond to those in a separate document which will be issued to MLVC in due course.

115

Homily
Given by Bishop John Fleming
Pullathomas Cemetery.
First Anniversary of the landslides.
September 19th 2004.

A year ago tonight the serenity and tranquility of this area was shattered by an unknown and an unexpected force. Out of the blue, in the darkness of night, a force erupted which shattered lives, destroyed homes and disturbed the normal pattern of life in this area. Thankfully, there was no loss of life and so, a year later, we can gather in safety and in gratitude to remember.

A first anniversary is always an important milestone. In marriage it recalls the happiness and blessings of a newly established home. In childhood it celebrates the amazing gift of life, which comes from God and is given to a baby and its family. In death it marks a new departure, when the intense grief of parting is replaced by a growing appreciation of the goodness of the life that has ended and the blessings we received by having been part of that life. For us this first anniversary of 9/19 allows us to reflect on what happened on that awful night and what we have experienced since then.

At the outset we must acknowledge and name what has happened. The security and the routine of daily life in this area were shattered for many individuals and families. Their homes were surrounded by debris, damaged and had to be abandoned; some for a while and a few forever. Livestock were lost and with them livelihoods were reduced and the economy and infrastructure of the area seriously damaged. The scenic mountainside was scarred. The resting place of the dead was engulfed and what seemed sacred and secure could no longer be seen as such. There is the tension too of why it happened and how it is to be prevented from happening in the future. And, probably worst of all, the fear of the unknown and the unexpected became an intense, everyday aspect of your lives from then onwards.

And then the blessings also came. The concern, friendship and support of neighbours, family and friends became a concrete reality. The encouragement and sympathy of the priests and the rest of this parish, and

the wider community in Erris, also became obvious. Mayo County Council, the Churches, the Red Cross and the Government came to the rescue. And while some of the promised support has yet to materialize there is the hope that promises publically given will be fulfilled.

All of this has been named and acknowledged in the days and weeks leading up to this first anniversary celebration. But if you asked me to single out the greatest blessing that has come to this community in the wake of nine nineteen, I would say that this disaster proved the existence of and then activated an amazing spirit in Erris. It is a spirit of courage, defiance and resilliance. It is a spirit which has supported this area for centuries past. Margaret Lannon lost her home of seventy years, full of memories and part of the fabric of her life. Her courage did not allow her to give in to what many said was inevitable and she is now back at home once more, preparing to celebrate a significant birthday in 2005, please God. Martin Moran, having spent the past year living between hostels, hotels and friends is also back where he belongs. And what is true of them is true of many others.

Looking to the future the geologists tell us that the risk of landslides, flooding and other what they call "geohazards" are on the increase in our world. According to the Institute of Geologists of Ireland, for example, the continued expansion of the Irish economy, major infrastructural developments and climate change may contribute to an increased occurrence of geohazards such as you experienced last September. In the face of this we call on Government and all the State agencies to take heed of this warning and to secure the safety of the people who live in areas such as this.

As our economy continues to remain strong and as our system of education offers new opportunities to our young people we need to remember that the quality of life in areas such as this such needs to be safeguarded and secured also. Otherwise it is danger of being lost forever. To secure this will also call for major investment in this area; an investment which will attract young people and new opportunities back to Erris.

Fear of future could foster a defeatist attitude in us. Your example during the past twelve months proves otherwise. You have shown courage and determination in the face of disaster. You have also shown commitment to a better future in Erris. This evening we gather to recognize this, to compliment you on it and to assure you of our continued support.

The following is a brief statement in response to a request by Maura Harrington for an informed critique on the proposed Transport Management Plan which forms part of the Appeal in respect of grant of Planning Permission to P03/3343 by Mayo Co. Council currently under consideration by An Bord Pleanála.

From 1989 to 1990 I held the position of Transport Co-Ordinator for Tarmac Construction Special Projects.

This company dealt with construction of new motorways and upgrading and resurfacing of existing motorways at various locations in the British Midlands.

As Transport Co-Ordinator my job was to ensure the timely arrival of the correct materials on-site, their correct placement with minimal delay and the safe and smooth flow of lorries on- and off-site. This involved controlling the movements of a fleet of up to 45 lorries ranging in payload size from 10 tonnes to 32 tonnes over the course of a 12 hr. shift.

Under optimum working conditions, with no breakdowns to either transport or resurfacing equipment, approx. 250 tonnes of material could be safely handled on-site per hour. However, these conditions rarely occurred, as the movements of large amounts of large vehicles in confined areas in a short space of time can generate short tempers, frayed nerves, carelessness and a dangerous working environment. Consequently, 1200 to 1500 tonnes delivered and laid safely was a good day; 1500 to 2000 tonnes was a great day and anything over 2000 tonnes was practically a miracle.

I have read the Transport Management Plan in respect of the proposed transportation of peat from Ballinaboy to Srahmore.

Having had first-hand experience of what is involved in controlling a fleet of lorries I can therefore say that the proposal by Shell E&P Ireland Ltd. to move approx. 450,000 tonnes of peat over narrow, twisting country roads with 40 lorries each carrying a maximum of 10-11 tonnes in a six month period is ill-conceived, dangerous, ludicrous lunacy and is obviously the product of a deranged and desperate mind.

Martin Harrington 4-10-04

Martin Harrington

BizRate shopping search

Log in to my account
October 04, 2004

Home | Computers | Electronics | Travel | Clothing | Sports | Appliances | Home & Garden | Jewelry | Special Offers

I'm shopping for [ ] in [Global Positioning System (GPS)] Find it!

Home > Electronics > Global Positioning System (GPS) > Magellan GPS 315 Handheld GPS

Magellan GPS 315 Handheld GPS

500 Waypoints - 2 20 in X 1 15 in - B & W Screen

Overall Product Rating:—

Price Range: **$147.99** to **$169.99** at 6 stores

Compare Prices
See Product De
Write a Review

Details

The GPS 315 is a differential-ready, 12 parallel channel unit. It is equipped with a basemap of 15,000 cities world-v still has enough memory to store 72 map datums and 500 waypoints. Magellan provides an interface cable with the allows it to download information from your PC and Magellan's DataSend CD-ROM, which offers details about vari of interest throughout the Americas, Australia or Europe. The receiver also includes a database of worldwide cities. 315 has the ability to show nine different graphic navigation screens on its high-resolution, backlit display.This rece BackTrack technology, which can reverse the route you have taken, and Northfinder, which displays the position of and moon so that you know you are pointing in the correct direction. The GPS 315 features a monitor that keeps ta speed, the distance you've traveled and your bearing or heading. The user can store 11 coordinates and one user-grid, as well as 20 separate routes.

Key Features

Manufacturer Sku:	GPS 315
Brand:	Magellan
Model:	GPS 315
Style:	Handheld
parallel channels: (what's this?)	12
Differential ready (DGPS): (what's this?)	Yes
GPS Position Accuracy:	15 Meters
Color:	Black
BizRate Product ID:	5005342

Features

layouts/waypoints: (what's this?)	500
Points of Interest (POI): (what's this?)	Yes
Points of Interest (POI) Categories:	Yes
External antenna:	Yes
Water-Resistant:	Yes
Carry case:	Yes
Average Battery Life: (what's this?)	15 Hrs

Display

develop the field or the infrastructure necessary to bring the hydrocarbons to market. As discussed below, the most significant frontier proved reserves recorded and maintained as a result was the giant Gorgon natural gas field in Australia, originally booked in 1997.

23. Though realizing by year-end 2001 that these aspects of its guidelines sell short of SEC requirements, Shell did not remedy these shortcomings until its September 2003 guideline revisions. The 2003 guidelines for the first time required certainty of an existing market (e.g., a sales agreement for proved natural gas reserves) and a "Final Investment Decision" on significant projects before reserves associated with the project could be deemed proved.

Shell's Guidelines Were Excessively Permissive Regarding Government and Regulatory Approvals

24. The Commission issued staff guidance in 2000 and 2001 stating that reserves subject to significant government and regulatory approvals (e.g., production license extensions) required "a long and clear track record which supports the conclusion that such approvals and renewal are a matter of course." Despite this explicit guidance, Shell's guidelines through 2002 failed to require sufficient assurance of such approvals and, as a result, Shell booked proved reserves for certain projects for which governmental or regulatory approvals were not sufficiently assured for there to be "reasonable certainty" of the recovery of those reserves in future years. These deficiencies impacted reserves bookings in Kazakhstan (Kashagan field), Ireland (Corrib field), Italy (Tempa Rossa field) and the Netherlands (Waddenzee fields).

Shell's Guidelines Failed to Comply With Technical Requirements

25. Shell's guidelines failed in several respects to comply with the technical engineering standards embodied in Rule 4-10 for the estimation of oil and natural gas reserve volumes. These technical requirements include restrictions on estimates of the depth and lateral extent of reserves –

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

SECURITIES AND EXCHANGE COMMISSION, Plaintiff, v. ROYAL DUTCH PETROLEUM COMPANY and THE "SHELL" TRANSPORT AND TRADING COMPANY, P.L.C., Defendants.	COMPLAINT H-04-3359

Plaintiff Securities and Exchange Commission alleges as follows:

SUMMARY

1. This case concerns the overstatement of proved oil and gas reserves by Royal Dutch Petroleum Company ("Royal Dutch") and The "Shell" Transport and Trading Company ("Shell Transport") (collectively, "Shell").

2. Between January 9 and May 24, 2004, Shell announced the reclassification of 4.47 billion barrels of oil equivalent, or approximately 23% of previously reported "proved reserves," because they were not proved reserves as defined by applicable law. Shell also announced a reduction in its Reserves Replacement Ratio. Shell's overstatement of proved reserves, and its delay in correcting the overstatement, resulted from (i) its desire to create and maintain the appearance of a strong RRR, a key performance indicator in the oil and gas industry, (ii) the failure of its internal reserves estimation and reporting guidelines to conform to applicable regulations, and (iii) the lack of effective internal controls over the reserves estimation and reporting processes.

3. In the interest of protecting the public against misleading financial disclosures by public companies, the Commission brings this action seeking civil money penalties of $120 million against the defendants.

JURISDICTION AND VENUE

4. This Court has jurisdiction over this action pursuant to Section 27 of the Securities Exchange Act of 1934 ("Exchange Act") [15 U.S.C. § 78aa].

5. Defendants have, directly and indirectly, made use of the means or instrumentalities of interstate commerce and/or the mails in connection with the transactions described in this Complaint.

6. Venue lies in this Court pursuant to Section 27 of the Exchange Act [15 U.S.C. § 78aa] because one or more of the acts and transactions described herein took place in this district.

DEFENDANTS

7. Royal Dutch Petroleum Company is incorporated under the laws of The Netherlands and headquartered in The Hague, The Netherlands. Its stock is registered with the Commission pursuant to Section 12(b) of the Exchange Act and trades on the New York Stock Exchange ("NYSE"). The principal trading markets for Royal Dutch's shares are the NYSE and the Euronext Exchange in Amsterdam, The Netherlands.

8. The "Shell" Transport and Trading Company, p.l.c., is incorporated under the laws of England and headquartered in London, England. Its Ordinary shares, as well as shares of an aggregate nominal amount of £1.50 and evidenced by Depositary Receipts ("New York Shares"), are registered with the Commission pursuant to Section 12(b) of the Exchange Act. The primary market for Shell Transport's Ordinary shares is the London Stock Exchange; the New York Shares trade on the NYSE.

9. Royal Dutch and Shell Transport do not engage in operational activities. They derive their respective incomes, except interest income on cash balances or short-term investments, from interests in the collection of companies known as the Royal Dutch/Shell Group of Companies, which is referred to as the "Group." The Group is organized under two holding companies that, directly or indirectly, own all of the Group companies. The parent companies, Royal Dutch and Shell Transport, own all of the shares of the two holding companies. Royal Dutch and Shell Transport are entitled to have their respective nominees elected as the members of the boards of directors of the holding companies. The managing directors of the holding companies are, in turn, appointed to the Joint Committee of Managing Directors ("CMD") that is responsible for considering and developing the Group's objectives and long-term plans.

FACTS

Shell's Recategorization of Proved Reserves and Reduction of Reserves Replacement Ratio

10. In a series of announcements between January 9 and May 24, 2004, Shell disclosed that it had recategorized 4.47 billion barrels of oil equivalent ("boe"), or approximately 23%, of the proved reserves it reported as of year-end 2002, because they were not proved reserves at defined in Commission Rule 4-10 of Regulation S-X [17 C.F.R. §210.4-10]. For reporting purposes, "proved reserves" are "the estimated quantities of crude oil, natural gas, and natural gas liquids which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions, i.e., prices and costs as of the date the estimate is made."

11. This recategorization reduced the standard measure of future cash flows by approximately $6.6 billion as reported in Shell's original 2002 Form 20-F, Supplemental Information under Statement of Financial Accounting Standard No. 69 ("FAS 69").

12. On July 2, 2004, Shell filed an amended 2002 Form 20-F reflecting the restatement of its proved reserves and standard measure of future cash flows for the years 1999 to 2002 as follows:

Year	Reduction in "Proved" Reserves	% Reduction	Reduction in Standardized Measure	% Reduction
1997	3.13 boe	16%	N/A	N/A
1998	3.78 boe	18%	N/A	N/A
1999	4.58 boe	23%	$7.0 billion	11%
2000	4.84 boe	25%	$7.2 billion	10%
2001	4.53 boe	24%	$6.5 billion	13%
2002	4.47 boe	23%	$6.6 billion	9%

13. Although Shell estimated the effects of the reserve recategorization on its proved reserves through 1997, its restatement of its FAS 69 standard measure of future cash flows extended only through 1999.

14. As a result of the overstatement of proved reserves, Shell also announced a reduction in its Reserves Replacement Ratio ("RRR") for 1998 through 2002, from the previously reported 100% to approximately 80%. Had Shell reported proved reserves properly, its annual and three-year RRR over this span would have been as follows:

Year	1-Year RRR		3-Year RRR	
	Original	Restated	Original	Restated
1998	182%	134%	n/a	n/a
1999	56%	-5%	n/a	n/a
2000	69%	50%	102%	60%
2001	74%	97%	66%	48%
2002	117%	121%	87%	90%
2003	n/a	63%	n/a	94%

15. These failures led Shell to record and maintain proved reserves it knew, or was reckless in not knowing, did not satisfy applicable regulations and to report for certain years a stronger RRR than it actually had achieved. Indeed, Shell was warned on several occasions prior to the fall of 2003 that reported proved reserves potentially were overstated and, in such critical operating areas as Nigeria and Oman, depended upon unrealistic production forecasts. In each case, Shell either rejected the warnings as immaterial or unduly pessimistic, or attempted to manage the potential exposure by, for example, delaying de-booking of improperly recorded proved reserves until new, offsetting proved reserves bookings materialized.

Shell's Guidelines Failed to Conform to Securities Rules

16. Royal Dutch and Shell Transport are required to include supplemental information regarding their proved oil and natural gas reserves in their annual reports to the Commission. Issuers may not disclose in Commission filings estimates of oil and gas reserves other than proved reserves, except in circumstances not applicable in this case.

17. Since at least the 1970's, Shell has utilized a series of comprehensive internal guidelines for the estimation and reporting of oil and gas resources, including its proved reserves. However, Shell's guidelines failed to conform to the requirements of Rule 4-10, as supplemented by the Commission staff's interpretative guidance issued in June 2000 and March 2001, in a number of significant ways.

18. In 1998 Shell revised its internal guidelines under which it maintained its existing probabilistic methods for estimating proved reserves in "immature" fields, but applied more deterministic methods in "mature" fields, and directed operating units to increase proved reserves in such fields to equal "expectation" volumes.

19. An oil and gas reserves estimation methodology is considered "probabilistic" when the known geological, engineering and economic data are used to generate a range of estimates and their associated probabilities; it is considered "deterministic" if a single best estimate of reserves is made based on known geological, engineering and economic data. As used by Shell, "expectation reserves" are the most likely estimate of hydrocarbon volumes remaining to be recovered from a project that is technically and commercially mature, or from a producing asset. If probabilistic techniques are used in reserve estimation, the expectation reserves are the probability weighted average of all possible outcomes (commonly referred to as the "P50" outcome). If deterministic techniques are used, expectation reserves correspond to the most likely estimate of future recovery. Generally, a field was "mature" under the revised guidelines if total production was greater than 30% of expectation reserves.

20. This guideline revision added substantial volumes to Shell's reported proved reserves. For instance, nearly 40% of the total proved reserves Shell added in 1998 resulted from this guideline revision. From 1998 through 2001, this guideline revision resulted in more than 1.2 billion boe being added to reported proved reserves. In implementing this change, however, certain of Shell's operating units failed to perform the detailed analysis required to support the resulting increase in proved reserves.

21. Further, Shell's only public disclosure of its material change to its guidelines was a single sentence accompanying the supplemental oil and gas information in its 1998 annual report, which provided only that "[e]stimation methods have been refined during 1998."

Shell's Guidelines Failed To Require Market Existence or Project Commitment

22. Before September 2003, with respect to frontier developments, Shell's guidelines required neither a currently existing market for a field's hydrocarbons nor a commitment by Shell to

develop the field or the infrastructure necessary to bring the hydrocarbons to market. As discussed below, the most significant frontier proved reserves recorded and maintained as a result was the giant Gorgon natural gas field in Australia, originally booked in 1997.

23. Though realizing by year-end 2001 that these aspects of its guidelines sell short of SEC requirements, Shell did not remedy these shortcomings until its September 2003 guideline revisions. The 2003 guidelines for the first time required certainty of an existing market (e.g., a sales agreement for proved natural gas reserves) and a "Final Investment Decision" on significant projects before reserves associated with the project could be deemed proved.

Shell's Guidelines Were Excessively Permissive Regarding Government and Regulatory Approvals

24. The Commission issued staff guidance in 2000 and 2001 stating that reserves subject to significant government and regulatory approvals (e.g., production license extensions) required "a long and clear track record which supports the conclusion that such approvals and renewal are a matter of course." Despite this explicit guidance, Shell's guidelines through 2002 failed to require sufficient assurance of such approvals and, as a result, Shell booked proved reserves for certain projects for which governmental or regulatory approvals were not sufficiently assured for there to be "reasonable certainty" of the recovery of those reserves in future years. These deficiencies impacted reserves bookings in Kazakhstan (Kashagan field), Ireland (Corrib field), Italy (Tempa Rossa field) and the Netherlands (Waddenzee fields).

Shell's Guidelines Failed to Comply With Technical Requirements

25. Shell's guidelines failed in several respects to comply with the technical engineering standards embodied in Rule 4-10 for the estimation of oil and natural gas reserve volumes. These technical requirements include restrictions on estimates of the depth and lateral extent of reserves –

known in the engineering field as "lowest known hydrocarbon" and "lateral extent of proved area" requirements. The technical requirements also include standards governing the use of year-end prices, improved oil and gas recovery techniques and advanced computer reserve modeling, which require that such methods be supported by sufficient reservoir analogies and/or actual performance information.

Shell's Guidelines Failed to Require De-Booking of Non-Compliant Reserves

26. When previously reported proved reserves no longer satisfy the requirements of Rule 4-10, they can no longer be included in proved reserves disclosures. Shell's guidelines, however, did not require the de-booking of reserves that no longer qualified as "proved" under Rule 4-10. Instead, the guidelines urged Shell personnel to "exert caution" in de-booking reserves to "minimize fluctuations [in proved reserves] over time." As a result, questionable proved reserves were effectively shielded from de-booking in all but the most extreme circumstances, which contributed to Shell's failure to de-book significant volumes that, by year-end 2001, had been identified as potentially inconsistent with Rule 4-10.

Shell Failed to Maintain Adequate Internal Controls

27. Shell failed in several respects to implement and maintain internal controls sufficient to provide reasonable assurance that it was estimating and reporting proved reserves accurately and in compliance with applicable requirements. These failures arose from (i) inadequate training and supervision of the operating unit personnel responsible for estimating and reporting proved reserves in the first instance, and (ii) deficiencies in the internal reserves audit function.

Inadequate Operating Unit Controls

28. Shell's reserve estimation and reporting practices were largely decentralized in that they required operating unit personnel initially to determine resource volume categorization,

including estimating volumes of proved reserves for Shell's Commission filings and other public reports. Shell, however, failed to ensure that its personnel were adequately trained with respect to the Commission's reporting requirements. Indeed, Shell's Group Reserves Auditor observed in January 2003 that operating unit comprehension of both Group guidelines and Commission rules regarding proved reserves was generally lacking.

Deficiencies in Group Reserve Auditing Function

29. Shell's decentralized system required an effective internal reserves audit function. To perform this function, Shell historically had engaged as Group Reserves Auditor a retired Shell petroleum engineer – who worked only part-time and was provided limited resources and no staff – to audit its vast worldwide operations. Although the Group Reserves Auditor was an experienced reservoir engineer, he received scant, if any, training on such critical matters as how he should conduct his work and the rules and standards on which his opinions should be based. He also lacked authority to require operating unit compliance with either Commission rules or Group reserves guidelines. Moreover, he reported to the management of Shell's exploration and production division ("EP"), which were the same people he audited.

30. The Group Reserves Auditor visited each operating unit only once every four or more years. Subsequent to his visits, he issued reports rating the operating unit's systems, compliance with Group guidelines and audit response as "good," "satisfactory" or "unsatisfactory," opining whether the operating unit's reported reserves met Group guidelines. From the start of his tenure in January 1999 until September 2003, the Group Reserves Auditor did not issue a single "unsatisfactory" rating.

31. The Group Reserves Auditor also issued an annual report on the reasonableness of Shell's year-end total reserves summary. Until his February 2004 report on Shell's 2003 proved

reserves, the Group Reserve Auditor focused as much on whether Group proved reserves complied with Group guidelines as he did on whether they complied with Commission requirements.

32. Further, the Group Reserves Auditor failed to act independently in several respects. At times, he allowed proved reserves associated with a project to remain booked because he was more "bullish" on its prospects than the local management responsible for the project. At other times, solely to support booking proved reserves for otherwise uneconomic projects, he advised local management to submit development plans that were unlikely ever to be executed.

33. This lack of independence facilitated the booking of questionable reserves (such as approximately 75 million boe booked in 2001 in connection with the Block 18 project in Angola) and contributed to Shell's maintenance of increasingly questionable bookings (such as Gorgon and certain legacy bookings in Brunei) well after they should have been de-booked.

Shell Improperly Booked Reserves

34. Shell's improper proved reserves bookings or maintenance in three of the largest affected countries – Australia's Gorgon project, the Shell's onshore operations in Nigeria and Shell's Omani interests (which, collectively, account for between approximately 50% and 90% of the recategorization in the years 1997 through 2002) – exemplify the faults in Shell's reserves estimation and reporting practices.

Australia: Gorgon

35. Gorgon, an undeveloped frontier gas field off the northwest coast of Australia, was discovered in 1980. No gas from Gorgon has ever been sold or firmly contracted for and Shell has yet to make a final investment decision to develop Gorgon's hydrocarbons.

36. Nonetheless, in 1997, under its guidelines, Shell booked over 550 million boe of proved reserves in Gorgon based on mere indications of interest from a prospective purchaser.

At that time, Shell did not have a contract to sell Gorgon gas, had no firm development plan and had not made a final investment decision.

37. By 1999, the Asian economic crisis had, at least, significantly delayed whatever market interest there had been in Gorgon gas, and Shell still had not firmly committed to develop the field. Yet, Shell maintained Gorgon as proved reserves.

38. On several occasions from 1999 through 2003, Shell reevaluated whether to maintain Gorgon's "proved" status. During this time, Shell learned that none of its partners in Gorgon had booked proved reserves in the field. In March 2000, Shell's Australian affiliate was instructed by regional Shell management to review options for gradually de-booking Gorgon proved reserves. However, Shell determined to maintain Gorgon as proved reserves unless, as Shell's then-Group Reserves Coordinator concluded in September 2002, it became "absolutely clear that development will not proceed in a reasonable time frame."

39. By December 2002, Shell's EP personnel recognized that Gorgon was a "dodgy" booking whose status as proved reserves was not supportable even under Shell's lenient 2002 internal reserves guidelines. Yet, Shell did not de-book Gorgon from proved reserves until the 2004 reclassification.

Nigeria: Shell Petroleum Development Company ("SPDC")

40. Nigeria represents one of Shell's largest worldwide concentrations of reserves and production. Shell's Nigerian operations generally are divided into on-shore and shallow-water (run by Shell Petroleum Development Company ("SPDC")) and deep-water operations.

41. By the end of 1999, SPDC's existing proved reserves – which had increased significantly because of the 1998 revised Shell reserves guidelines – had grown increasingly dependent on production forecasts that gave the appearance that the proved portion of the reserves

could be produced within the remaining license period. These projections, in turn, depended on a number of assumptions concerning improved economic and operating conditions, such as improvements in the country's economic stability, increases in Shell's production quota from the Nigerian authorities and increases in Nigeria's production quota from OPEC.

42. These assumptions were not based upon "existing conditions" as required by Rule 4-10, and were not reasonable in light of the fact that SPDC's operations performed well below the projected levels throughout the period.

43. In fact, Shell EP management was advised in January 2000 that a substantial part of SPDC's reported proved reserves (perhaps more than 600 million boe) was constrained by license expiration and depended on unrealistic production forecasts that appeared to have been "reverse engineered" solely to support the reserve figures. Despite being advised that Shell's 1999 RRR was 37%, EP management forcefully rejected this conclusion and instead caused Shell to report a 56% RRR for that year.

44. EP management declined to de-book any of the potentially exposed reserves and instead agreed only to impose a freeze on the booking of additional reserves in SPDC. The very next month, however, the Group Reserves Auditor's report on Shell's 1999 proved reserves repeated these concerns, noting that SPDC faced license expiration problems and could support its proved reserves figures only through "significant aspirational upturns in future offtake levels in order to justify their proved reserves levels." The Group Reserves Auditor repeated these concerns in each of his next two annual reports, yet EP took no steps to de-book non-compliant reserves

45. By early 2002, other Shell reserves personnel, including the Group Reserves Coordinator, had raised concerns within EP that SPDC's reported proved reserves could not be produced within existing license constraints.

46. Thereafter, EP continued to review the technical and commercial maturity of SPDC's reserves. After completing the initial phase of its work in September 2003, the EP review team concluded that there was an approximately 750 million boe "gap" between the reported proved reserves and those supported by projects in the business plans. That same month, the Group Reserves Auditor reported the results of his just-completed audit of SPDC's proved reserves, rating SPDC's proved reserves reporting as "unsatisfactory" and concluding that "there can be no doubt that the portfolio of proved oil reserves per [January 1, 2003] has been overstated due to insufficient maturity in the underlying future projects." The Group Reserves Auditor noted that the "precise" amount of de-booking required was dependent on additional reviews already underway by EP.

47. By November 2003, the second phase of the EP review team's work was complete. It confirmed the earlier findings of a 750 million boe "gap" and added another 800 million boe of proved reserves that were not sufficiently mature under Shell guidelines. This information, combined with the unsatisfactory SPDC audit report and contemporaneous negative information and audit reports on Shell's Omani operations, ultimately led Shell to comprehensively review all of its proved reserves exposures and, eventually, to issue its recategorization announcement in January 2004.

Oman

48. Shell's interests in Oman derive from its indirect 34% ownership of Petroleum Development of Oman ("PDO"), an Omani company 60% owned by the Omani government. Shell is the largest private shareholder in PDO and serves as PDO's technical adviser.

49. At year-end 2000, Shell and PDO determined to raise PDO's proved reserves estimates by assuming that, for fields of certain maturity, both proved developed and proved undeveloped reserves would be increased to equal the expectation developed and undeveloped

volumes. This upward revision was based on the 1998 revisions to Shell's guidelines and added 251 million boe to Shell's reported proved reserves at December 31, 2000.

50. In mid-2001, PDO began experiencing a steep production decline. Within a few months, the situation had grown sufficiently dire that PDO took the highly unusual step of withdrawing its long-term business plan for 2002. The production decline also prompted the Omani government to question the volume of expectation reserves PDO was carrying, as a result of which Shell agreed to a $30 million "down payment" to the Omani government on what was expected to be an eventual refund of expectation reserve booking fees it previously had received. By the end of 2001, as its production continued to drop, PDO had no reliable or realistic long-term plan on which to base its proved reserves reporting. With Shell's encouragement, PDO instead adopted an "aspirational" production forecast to support its reported proved reserves figures.

51. During 2002, Shell was advised that PDO's proved reserves figures depended upon sustaining current production rates, without any declines, throughout the remaining lifetime of the production license, which was to expire in 2012. In view of the production declines already being experienced, this was not realistic. Shell nevertheless continued to report its share of PDO's reserves as proved at year-end 2002.

52. Further reviews of PDO reserves in 2003 and 2004 ultimately concluded that 393 million boe of the Shell share of proved reserves associated with PDO had to be de-booked as non-compliant with Rule 4-10. Of this amount, 144 million boe were found non-compliant because they were "associated with projects … not sufficiently mature to qualify as proved undeveloped reserves." The remaining 249 million boe were non-compliant because they were not supported by any identified projects.

Shell's Failure to Timely and Effectively Ensure Compliance with Rule 4-10

53. Until January 2004, Shell failed to timely and appropriately act to ensure that its reported proved reserves complied with Rule 4-10, but instead sought to ascertain the extent to which the differences could be either reconciled without impacting Shell's existing proved reserves or rationalized as immaterial.

54. Further, the non-executive directors of Royal Dutch and Shell Transport, including the members of the Group Audit Committee ("GAC"), were not provided with the information necessary for the boards of the two companies to ensure that timely and appropriate action was taken with respect to the proved reserves estimation and reporting practices.

55. In January 2002, the Group Reserves Auditor's report on Shell's 2001 proved reserves stated that "recent clarifications of FASB reserves guidelines by the US Security [sic] and Exchange Commission (SEC) have shown that current Group reserves practice regarding the first-time booking of Proved reserves in new fields is in some cases too lenient." The Group Reserves Auditor recommended that the "Group guidelines should be reviewed [and] [f]irst-time bookings should be aligned closer with SEC guidance and industry practice and they should be allowed only for firm projects with technical maturity and full economic viability."

56. On February 11, 2002, an EP Note for Information to the CMD addressed the divergence between Shell's guidelines and the Commission's rules and estimated the possible impact of this divergence on Shell's reported proved reserves. The note explicitly stated that "[r]ecently the SEC issued clarifications that make it apparent that the Group guidelines for booking Proved Reserves are no longer fully aligned with the SEC rules."

57. Potential exposures identified in the note included approximately 1 billion boe of proved reserves relating to projects, including Gorgon, where potential environmental, political or

commercial factors might prevent development, and 1.3 billion boe relating to reserves associated with projects, including certain projects in Nigeria and Oman, that might not be producible within existing license constraints. The note failed to recommend de-bookings, and Shell did not take action to de-book any of these proved reserves at that time.

58. On February 25, 2002, the EP CEO provided a note to the CMD regarding EP's 2001 performance, asking his colleagues to "keep a balanced perspective on EP performance in 2001 and not have it overshadowed by the high profile issues around production growth and reserves replacement." As one of the "Main Issues," the note stated:

> In 2001, SEC issued clarifications of the rules for reserves reporting that made it clear that the probabilistic approach still advocated in the Shell guidelines is, in many cases too aggressive. This will likely impact future bookings in new fields (e.g., Nigeria SNEPCo and Brazil) and possibly existing booked volumes (e.g., Gorgon, Angola Block 18, Ormen Lange and Waddenzee representing some 1.0 bln boe).
>
> SPDC, PDO and Abu Dhabi represent 18% of EP's production, where reserves can no longer be booked due to license expiry issues and production limitations. The reserves exposures in these OUs is over 1 bln bbls.

The note failed to recommend de-bookings, and Shell did not take action to de-book any of these proved reserves at that time.

59. In a July 2002 meeting, EP again reported to CMD that the SEC was tightening its requirements regarding proved reserves. EP, however, reported that "[i]t is considered unlikely that potential over-bookings would need to be de-booked in the short term, but the reserves that are exposed to project risk or license expiry cannot remain on the books indefinitely if little progress is made to convert them to production in a timely manner."

60. The minutes of the above-referenced meeting, however, also reflect that the executives were advised of the concerns that had arisen within EP "that some booking practices had been too aggressive in the past." A Note for Discussion prepared for this meeting repeats the

observation that "[w]ith the benefit of hindsight, some of the organic revisions made in recent years now appear somewhat aggressive," principally in Gorgon and SPDC. The Note observes that without Gorgon and SPDC bookings, "total Proved RRR over the last 10 years would be reduced from 102% to 88%."

61. By September 2002, the CEO of EP internally spoke in blunt terms of his perception of the operational and performance problems facing EP, noting to his CMD colleagues that "[w]e are struggling on all key criteria" and that "RRR remains below 100% mainly due to aggressive booking in 1997-2000." He further observed that "we have tried to adhere to a bunch of criteria that can only be managed successfully for so long" and admonished that "[g]iven the external visibility of our issues (lean organic development portfolio funnel, RRR low, F&D unit costs rising), the market can only be 'fooled' if 1) credibility of the company is high, 2) medium and long-term portfolio refreshment is real and/or 3) positive trends can be shown on key indicators."

62. A month later, the Group Chairman emailed the EP CEO that he was "not contemplating a change in the external promise . . ." The next day, the EP CEO responded, stating "I must admit that I become sick and tired about arguing about the hard facts and also can not perform miracles given where we are today. If I was interpreting the disclosure requirements literally (Sorbanes-Oxley Act etc.)[sic] we would have a real problem."

63. None of these events prompted Shell to de-book significant volumes. To the contrary, Shell continued to make large, questionable proved reserves bookings during this period, such as the September 2002 booking of 380 million boe in the Kashagan field offshore Kazakhstan, where Shell did not expect to make a final investment decision until 2003 at the earliest. This booking alone increased Shell's 2002 RRR by approximately 26%.

64. By the summer of 2003, Shell's analysis of reserves exposures had progressed, but still no de-bookings were recommended to the CMD. A July 22, 2003 CMD Note for Information reported that "some 1040 million boe (5%) is considered to be potentially at risk." The note concluded, however, that "at this stage, no action in relation to entries in the [Proved Reserves Exposure] Catalogue is recommended . . . . It should be noted that the total potential exposure listed in Appendix C is broadly offset by the potential to include gas fuel and flare volumes in external reserves disclosures." The Proved Reserves Exposure Catalogue in Appendix C quantifies "exposures" at approximately 1 billion boe and "threats" at approximately 1.6 billion boe, or a total of approximately 2.6 billion boe known to be or potentially noncompliant with Rule 4-10.

65. In late August 2003, EP completed a Note for Information to the GAC on Shell's reserves practices. The final version, dated August 26, 2003, was included in materials circulated to the GAC for its October 21, 2003 meeting. The note apprised the committee of steps taken to address possible non-compliance with the Commission's regulations. The GAC, however, was advised that "[m]uch, if not all, of the potential exposure arising from interpretation of factors listed above ["Possible areas of non-compliance with SEC regulations"] is offset by Shell's practice of not disclosing reserves in relation to gas production that is consumed on site as fuel or (incidental) flaring and venting."

66. Notwithstanding the disclosure of "potential exposures," in the October 21 meeting with the GAC, EP personnel failed to update the Committee with several critical facts that had emerged since the note was prepared, including the unsatisfactory audit report on Nigeria, the initial conclusions of the SPDC review that there was a significant "gap" between proved reserves carried and those that could be supported, and a substantially reduced estimate of the potential offset from "fuel and flare" gas.

67. Shell has undertaken substantial remedial efforts in connection with the reserves recategorization and has cooperated with the Commission in its investigation.

FIRST CLAIM
Violations of Section 10(b) of the Exchange Act and Rule 10b-5

68. Paragraphs 1 through 67 are realleged and incorporated by reference.

69. As a result of the Defendants' knowing or reckless overstatement of their oil and gas reserves in their financial statements, the Defendants' Commission filings, specified above, as well as other public statements, contained materially false and misleading statements and disclosures. These filings contained untrue statements of material fact concerning the company's reported proved reserves and omitted to state facts necessary to make the statements made, in light of the circumstances under which they were made, not misleading.

70. By reason of the foregoing, the defendants have violated Section 10(b) of the Exchange Act [15 U.S.C. § 78j(b)] and Rule 10b-5 thereunder [17 C.F.R. § 240.10b-5].

SECOND CLAIM
Violations of Section 13(a) of the Exchange Act and Rules 12b-20 and 13a-1

71. Paragraphs 1 through 67 are realleged and incorporated by reference.

72. Section 13(a) of the Exchange Act [15 U.S.C. § 78m(a)] requires issuers to file such annual and quarterly reports as the Commission may prescribe and in conformity with such rules as the Commission may promulgate. Rule 13a-1 [17 C.F.R. §§ 240.13a-1] requires the filing of accurate annual reports that comply with the Commission's Regulation S-X. Rule 12b-20 [17 C.F.R. § 240.12b-20] requires an issuer to include material information as may be necessary to make the required statements, in light of the circumstances under which they were made, not misleading.

73. The following periodic reports that Royal Dutch and Shell Transport filed with the Commission were not prepared in accordance with Rules promulgated by the Commission:

(a) Form 20-F for fiscal 1997;

(b) Form 20-F for fiscal 1998;

(c) Form 20-F for fiscal 1999;

(d) Form 20-F for fiscal 2000;

(e) Form 20-F for fiscal 2001; and

(f) Form 20-F for fiscal 2002.

74. By reason of the foregoing, the defendants violated Section 13(a) of the Exchange Act [15 U.S.C. § 78m(a)] and Rules 12b-20 and 13a-1thereunder. [17 C.F.R. §§ 240.12b-20, and 240.13a-1].

THIRD CLAIM

Violations of Sections 13(b)(2)(A) and 13b(2)(B) of the Exchange Act

75. Paragraphs 1 through 67 are realleged and incorporated by reference.

76. Defendants, each having a class of securities registered pursuant to Section 12 of the Exchange Act, in the manner set forth above, failed to:

(a) make and keep books, records, and accounts, which, in reasonable detail, accurately and fairly reflect the transactions and dispositions of its assets;

(b) devise and maintain a system of internal accounting controls sufficient to provide reasonable assurances that —

(i) transactions are executed in accordance with management's general or specific authorization;

(ii) transactions are recorded as necessary (I) to permit preparation of financial statements in conformity with generally accepted accounting principles or any other criteria applicable to such statements, and (II) to maintain accountability for assets;

(iii) access to assets is permitted only in accordance with management's general or specific authorization; and

(iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

77. By reason of the foregoing, Defendants violated Sections 13(b)(2)(A) and 13(b)(2)(B) of the Exchange Act. [15 U.S.C. §§78m(b)(2)(A) and 78m(b)(2)(B)].

FOURTH CLAIM
Violations of Rule 13b2-1

78. Paragraphs 1 through 67 are realleged and incorporated by reference.

79. Defendants, each having a class of securities registered pursuant to Section 12 of the Exchange Act, in the manner set forth above, directly or indirectly, falsified or caused to be falsified, their books, records and accounts.

80. By reason of the foregoing, Defendants violated Exchange Act Rule 13b2-1[17 C.F.R. § 240.13b2-1].

PRAYER FOR RELIEF

The Commission respectfully requests that the Court:

I.

Find that the Defendants committed the alleged violations.

II.

Enter a final judgment ordering each defendant to pay disgorgement of $1; and ordering the Defendants to pay, jointly and severally, a civil money penalty in the amount of $120,000,000 pursuant to Section 21(d)(3) of the Exchange Act [15 U.S.C. § 78u(d)(3)].

Respectfully submitted,

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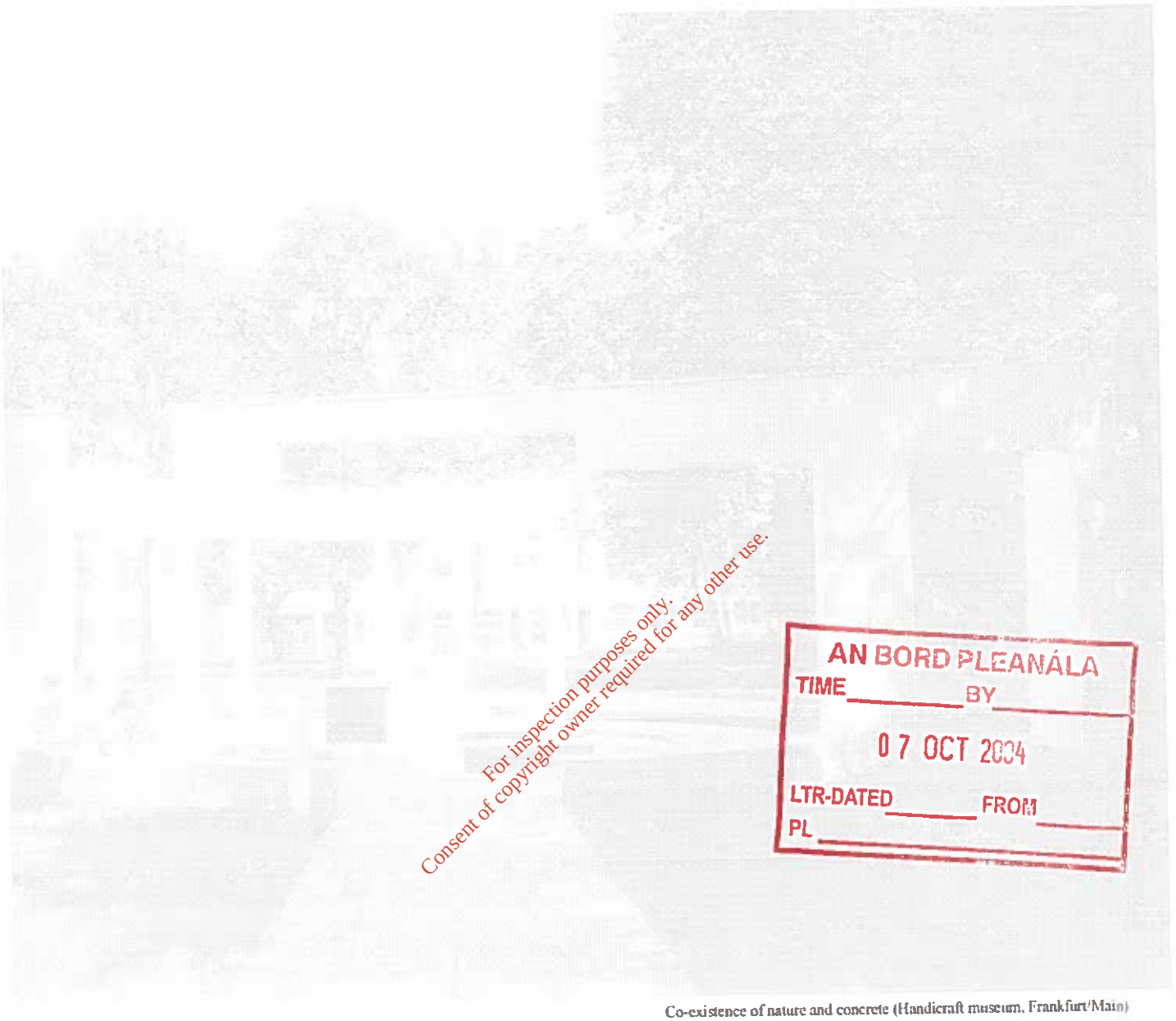
Environmental compatibility of cement and concrete

The Federal Republic of Germany is a populous industrial country having more than 82 million inhabitants and an average population density of more than 230 persons per square kilometre. These figures illustrate that extensive constructive measures are required to establish the necessary places of work and residence and the infrastructure for transport, utilities and sewage disposal, for example. Cementitious materials play the paramount role in the construction of reliable and durable elements and structures. Every constructional measure invariably implies encroachment on surfaces and consumption of raw materials. This interference in nature requires that a diligent balance be struck between the demands of modern industrial society on the one hand and environmental concerns on the other hand. Concrete elements and structures, which have as little environmental impact as possible during manufacture and subsequent use, contribute to the preservation of nature. Concrete structures, such as receiver tanks, sewage systems and waste water treatment plants, contribute to environmental protection, and the use of secondary materials in cement and concrete manufacture directly reduces environmental pollution.

The German cement industry has always been aware of its responsibility for the environment. It has been working on the environmental compatibility of cementitious building materials throughout their life cycle – starting from cement manufacture and processing, via the utilisation of mortar and concrete, and up to their disposal – for many years. At first, the main focus was placed on environmentally sustainable cement manufacture – emissions and ambient pollution – and the environmentally safe binding of residues. With the increasing use of secondary materials in cement manufacture, focus has shifted towards the environmental compatibility of the product. All of the extensive investigations conducted by the Research Institute so far, which were continued on a wide scope during the period under review, substantiate that emission concentrations in cement works were significantly below the permissible limit values in nearly all cases even though the utilisation of secondary raw materials and fuels had continued to rise. The measurements further corroborated yet again that the impact of a cement works on the ambient pollution level at the site is very low. Given the framework conditions common today, the use of secondary materials does not compromise the environmental compatibility of cement either.

The essential results of these investigations have been summarised in a brochure entitled "Environmental data of the German cement industry", the fourth issue of which has now been published. VDZ's "Trace elements" working group further compiled a comprehensive status report which documents the state of knowledge on the environmental sustainability of cementitious materials. The report deals with the production process, cement application, and the expert taking, preparation and analysis of samples. Completion and publication are scheduled for 2003. The report is to inform the public and authorities on the environmental compatibility of cementitious materials and counter possible reservations by furnishing comments based on scientifically founded findings. It further forms a valuable basis for future standardisation work.



Co-existence of nature and concrete (Handicraft museum, Frankfurt/Main)

The increasing importance of environmental legislation for construction has resulted in environmental requirements for the handling of building materials being laid down in standards. For example, the "Hygiene, health and environmental protection" coordination committee of the standards committee for construction (NABau) compiled a technical report that summarises the regulations for evaluating construction products under hygiene, health and environmental aspects that exist in Germany. The Research Institute was involved in this work. This report is to assist those involved in standardisation in establishing respective starting positions. The NABau bodies refer to the report on the preparation of specific proposals for European standardisation efforts.

Apart from requiring the traditional establishment of suitability in terms of construction technology, the European Construction Products Directive explicitly stipulates that the structures made from the construction products comply with the hygiene, health and environmental protection requirements effective at the place of use. By cooperating in the corresponding bodies, the Research Institute pursues the aim of existing favourable experiences with the environmental compatibility of cementitious building materials being included in regulations and limiting the scope of testing to a degree that is actually necessary.

Environmental data of the German cement industry

The German cement industry has concerned itself with the environmental compatibility of cement-bound building materials starting from the manufacture and processing of cement, via the utilisation of mortar and concrete, and up to possible disposal for many years (**Fig. VII-1**). The public has been informed by corresponding publications. For example, the brochure "Environmental data of the German cement industry" that the VDZ presented in September 2000 was the first comprehensive documentation of environmentally relevant data. This included a record of the raw materials and fuels used in cement manufacture also listing secondary materials. The "Environmental data" brochure further summarised the results of some 500 emission measurements conducted at rotary kilns and over 7000 individual analyses of trace elements in cements.

Favourable reactions from the cement industry, authorities and the general public, as well as the continued high demand testified to the unabated interest in environmentally relevant data. The documentation has been updated annually since then and extended with regard to European legislation. This chiefly relates to data on releases, i.e. the quantities of certain substances that an operational facility emits annually (kg/year). These are calculated on the basis of the clean gas volume flow (m^3/year) and the concentration of substances it contains (kg/m^3).

If an exhaust gas component in the clean gas can be detected by measurement, the annual emission mass flow can be calculated exactly. The accuracy of the data is determined by the measuring uncertainty. If, however, an exhaust gas component is not determinable because its concentration is below the determination limit of the measuring method, only a theoretical upper limit for the quantity emitted can be indicated. It is calculated on the basis of the assumption that the concentration of the substance in the clean gas reaches the detection limit.

These kinds of estimates using theoretical upper limits are currently often inevitable in the determination of trace element emissions from rotary kilns in the cement industry. The reason for this is that concentrations are on a low overall level due to the behaviour of trace elements during the clinker burning process and the high precipitation efficiency of dedusting equipment. For example, the average values of the trace elements cited in the 17th Federal Immission Control Ordinance (17. BImSchV) measured in the year 2001 exceed the detection limit in only about 20 % of all cases.

By way of example, **Fig. VII-2** shows the annual cadmium releases of 34 rotary kilns. Measurement values were below the detection limit in the vast majority of cases, which means the releases could only be estimated. The broken line indicates the range of possible emissions for this kiln plant, the upper limit of which was calculated to be a concentration of 0.002 mg/m^3. Actual releases correspond to the upper limit in a worst-case scenario only, which has to be taken into account accordingly in the evaluation of these figures under environmental aspects as well.

The evaluation of the environmental data published shows that emissions from rotary kiln systems in the cement industry are very low, sometimes falling significantly short of the threshold values for mandatory reporting laid down in the European Pollutant Emission Register (EPER). Given the low emission mass flows, the influence of a cement works on ambient pollution levels at the site is only marginal.

Use of secondary materials

The clinker burning process is a material conversion process that is very well suited for utilising the material and energy content of secondary materials owing to its process-specific conditions. In the year 2001, secondary fuels accounted for some 30 % of the fuel energy consumption of the German cement industry. Processed fractions of industrial and commercial waste, meat and bone meal, animal fat, used tyres and waste oil made up a major proportion of these materials. **Fig. VII-3** shows the development of secondary fuel use in the German cement industry.

Depending on their chemical composition, secondary raw materials replace raw material components, or lend themselves as

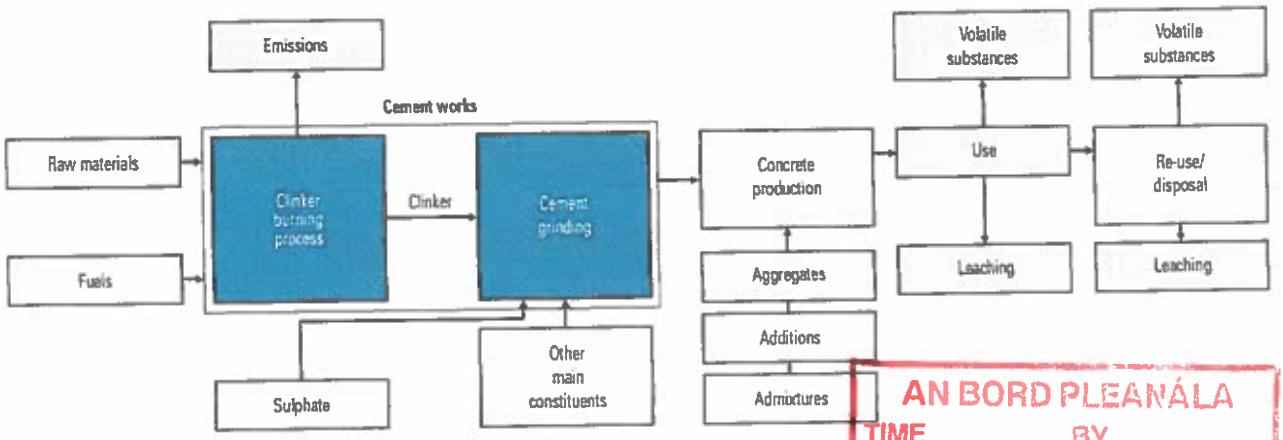


Fig. VII-1: Life cycle of cement and concrete

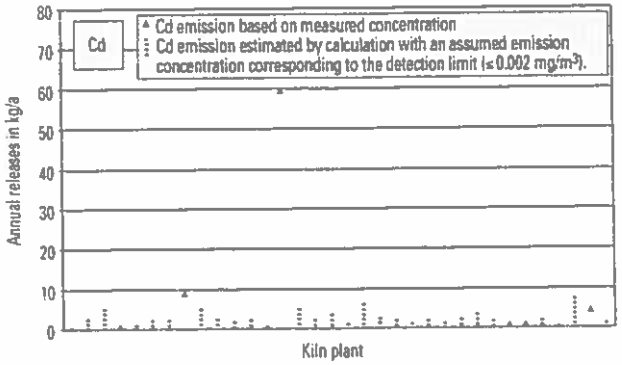


Fig. VII-2: Cadmium emissions (annual releases in 2001) of 34 rotary kiln plants

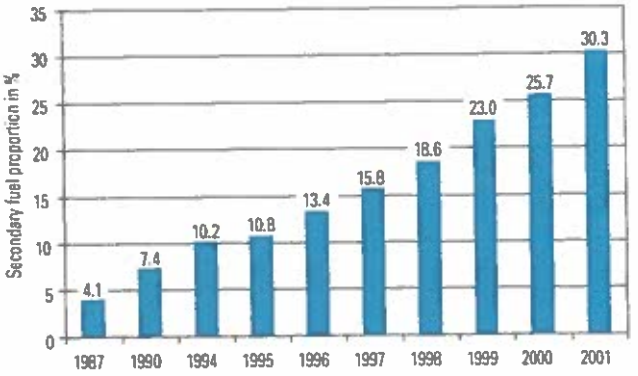


Fig. VII-3: Trend of secondary fuel use in the German cement industry

Table VII-1: Overview of the most important individual topics of the status report by the VDZ's "Trace elements" working group

Production process	Cement application
• Origin of trace elements (raw materials, fuels, etc.) • Relevance of trace elements • Process engineering and operational influencing factors • Material mass balances • Binding of trace elements in clinker and dusts (Emission factors and transfer coefficients) • Evaluation of ambient pollution	• Origin of trace elements (clinker, sulphate agent, etc.) • Factors influencing the binding of trace elements (hydration products, microstructure development) • Evaluation of trace elements under cement application aspects (drinking water domain, groundwater, etc.) • Influence of trace elements on cement and concrete quality • Safety at work • Concrete and mortar recycling
Sampling	**Analysis**
• Sampling methods for solids • Sampling methods for liquids • Sampling methods for gases • Sampling methods for trace elements in the clean gas, the raw gas and the process • Preparation methods for solid and liquid substances • Material-specific aspects of sampling and preparation • Emissions measurement • Practical experience and implementation • Quality assurance concept • Costs • Evaluation of the methods • Evaluation of specifications, guidelines and provisions laid down in permits	• Sample preparation for analysis • Disintegration methods • Analysis methods • Detection limits • Evaluation of older data • Rapid methods • Costs • Evaluation of the methods

corrective materials for the raw mix. They can be subdivided into calcium, silicon, iron, aluminium, sulphur or fluorine agents in correspondence with their main constituent. The materials chiefly used in cement grinding were granulated blast-furnace slag and gypsum from flue gas desulphurisation. In clinker production, fly ash, used foundry sand, lime residues and waste from the iron and steel industries were primarily utilised.

The use of secondary materials in cement manufacture makes it possible to save valuable primary materials. The utilisation of the thermal content of waste materials containing energy simultaneously contributes to a reduction in CO_2 emissions without any further residues being generated. All the experience gathered to date further shows that the use of secondary materials in the clinker burning process does not imply a significant increase in emissions. Most of the trace elements are combined in the clinker or deposited with the exhaust gas dusts. Organic constituents contained in the input materials are destroyed virtually completely at the very high temperatures prevailing in the firing unit of the rotary kiln. Diligent choice and monitoring of the secondary materials guarantees that the utilisation of secondary materials does not have any adverse effects on product quality.

VDZ's "Trace elements" working group compiled a comprehensive status report to create a basis for the adequate evaluation of trace elements with regard to their relevance during cement manufacture and application. This report, which is to be completed and published in 2003, is a documentation of present-day knowledge on trace element behaviour during the production process and the application of cement as a binder. It further comprises the essential aspects of the representative sampling of input materials and gas, as well as the corresponding analysis methods. **Table VII-1** gives an overview of the most important individual topics dealt with in the report.

Table VII-2: Average trace element contents in German standard cements

Element	Content in g/t (ppm)
Arsenic (As)	7.0
Beryllium (Be)	1.3
Cadmium (Cd)	0.4
Cobalt (Co)	8.7
Chromium (Cr)	41
Copper (Cu)	31
Mercury (Hg)	0.06
Manganese (Mn)	759
Nickel (Ni)	23
Lead (Pb)	17
Antimony (Sb)	2,9
Selenium (Se)	< 1.0[1]
Tellurium (Te)	< 0.25
Thallium (Tl)	0.4
Vanadium (V)	50
Zinc (Zn)	192
Tin (Sn)	3.6

[1] Detection limit

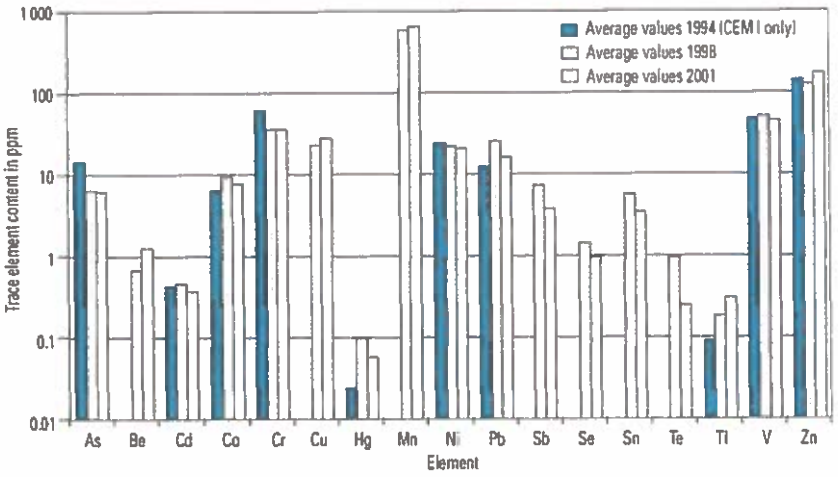


Fig. VII-4: Comparison of the average trace element contents in German standard cements

Environmentally compatible application of cement

Trace element contents

All the input materials used in cement manufacture contain main, secondary and trace elements in accordance with their geochemical distribution, which varies depending on the respective deposits. The concentration of traces of heavy metals is generally below 100 ppm. Trace constituents introduced into the clinker production process via the feed materials are combined in the clinker more or less completely depending on their volatility and the process conditions. For that reason, the trace element contents in the raw materials used for clinker production substantially determine the trace element content of cement.

Apart from an economic benefit, the utilisation of secondary raw materials and/or fuels in the clinker burning process presupposes that the constructional properties of the product and its environmental compatibility are not impaired. One important criterion for assessing the environmentally sustainable utilisation of secondary materials is their input of trace elements into the combustion process. It must be taken into account in this context, however, that secondary materials replace a corresponding proportion of primary feed materials containing trace elements as well. The utilisation of secondary materials in the German cement industry common today, which is characterised by suitability in terms of process engineering, demands on product quality and economic considerations, only entails slight changes in the trace element content of cements, which are additionally overlaid by the natural concentration variations in primary input materials in most cases.

In the year 1995, the Research Institute investigated some 100 Portland cements from the 1994 inspection period for their content of 10 trace elements. In 1999, all the cements from an inspection period in the year 1998 that were manufactured and inspected in accordance with DIN 1164 in Germany were analysed for the 15 elements cited in the German Technical Instructions on Air Quality Control (TA Luft) and the 17th Federal Immission Control Ordinance (17. BImSchV) plus beryllium and zinc for the first time. In order to further extend and update this database, all German cements from an inspection period in the year 2001 were investigated with regard to the 17 above-mentioned elements again during the period under review. The results of these investigations are summarised in Table VII-2, which lists the average trace element contents. They range in the same order of magnitude as the contents in natural rock, soil and clays. The average trace element contents of the standard cements investigated in the three inspection periods are plotted in Fig. VII-4. It becomes apparent from the Figure that these trace element contents have not changed significantly although secondary material utilisation nearly tripled during the period from 1994 to 2001 covered by the investigations (see Fig. VII-3). The fact that the content of the volatile trace element mercury in cements rose slightly from 1994 to 1998 is attributable to the purposeful and optimised removal of kiln meal from the external recirculating system of the clinker burning process. This measure is necessary to reduce mercury emissions. On the whole, the mercury contents in cement are still very low.

Release of trace elements

Just like all building materials derived from natural raw material sources, cementitious materials contain low concentrations of trace elements that are input via the cement, the aggregate and possibly also via concrete additions. Experience shows that the trace element content of the mixing water and of concrete admixtures is very low and can be disregarded. Possible environmental impacts caused by cementitious building materials consist of ingredients that can be mobilised, such as trace elements, salts or volatile compounds, being released to the environ-

mental media water, soil or air. All the investigations carried out to date have shown that there is almost never a direct relationship between the content of a trace element in a building material and its release. It is therefore necessary to resort to investigating the leaching behaviour in order to assess the environmental impact of mortar and concrete. The test conditions chosen in this process must mirror the actual conditions to which a structural element or structure is exposed as accurately as possible.

Fresh concrete

During the fresh concrete phase, environmentally relevant substances contained in the concrete constituents can still be released to the environment fairly easily if they are present in mobile form. This particularly applies to construction methods that may lead to direct contact with the groundwater, such as the pouring of bore piles, or to soil injections during which part of the mixing water is pressed out of the suspension. Substances that might find their way into the groundwater include soluble alkalis and trace element compounds as well as constituents of concrete additions or concrete admixtures.

All the investigations carried out by the Research Institute and other research institutions to date corroborate the fact that most trace elements in cement suspensions are predominantly insoluble and are hardly released at all. Trials conducted on a large variety of basic admixture materials for plasticisers, super-plasticisers, set retarders and set accelerators also demonstrated that a vast proportion of the active ingredients is rapidly sorbed by the cement or precipitated in the pore solution if they are used as intended, and thus can not be mobilised either.

In contrast to the substances described above, larger portions of alkali and chromium compounds can be present in cement suspensions in dissolved form. For example, 10 to 20 % of the total chromium contained in the cement is dissolved as chromate Cr(VI) during the time of working. As hydration progresses, the dissolved chromate is combined in the hydration phases, thus assuming a virtually insoluble state in the hardened concrete.

Intensive research efforts on leaching from fresh concrete undertaken at the Institute for Construction Research (ibac) have substantiated the research results obtained

Fig. VII-5: $FeSO_4$ grain 300 µm in size consisting of cement with a passivating capsule of reaction products and the intact core of reactive $FeSO_4 \cdot 7H_2O$

by the Research Institute, which suggest that chromium is the only trace element that can be released from fresh concrete at concentrations that might be environmentally relevant. They further confirmed that increased pH values and chromate contents occur in the immediate contact zone and for a very limited period of time only. As soon as the concrete has set – which takes between several hours and two days at the most – the progressing fixation of trace elements and the formation of the dense, solid hardened cement paste significantly reduce the release of substances. Increased concentrations in very thin boundary layers and for short periods are not environmentally relevant. Given the very slight releases, they do not cause any lasting or significant adverse impact on the groundwater.

Investigations on the injection of ultra-fine binders by "inverse column elution" have revealed that the groundwater quality is affected only preliminarily, i.e. substantially during the first 4 hours following the input of the ultra-fine binder suspension into groundwater bearing layers. As early as 24 hours after the trial was started, the chemical condition of the test waters no longer deviated sizeably from that of the drinking water originally used; all environmentally relevant substances are already combined in the hardened cement paste matrix at a very early stage already.

Low-chromate cements and products

Fresh mortar and fresh concrete may contain small quantities of water-soluble chromate. In case of frequent skin contact, the chromate can lead to sensitisation and, depending on a person's physical condition and the duration and intensity of exposure, cause a chromate allergy. As fresh mortar and concrete are produced and processed by machines for the most part nowadays, the risk of chromate dermatitis is only low. The manual processing of cementitious building materials, e.g. by masons, plasterers or floor pavers, implies a higher risk unless skin contact is avoided by wearing appropriate gloves and protective clothing.

In the wake of the adoption of the industry-wide regulation "Low-chromate cements and products" in the year 2000, all bagged cements produced and distributed by the German cement industry in Germany are "low-chromate pursuant to TRGS 613". In this way, the industry makes an effective contribution to the prevention of chromate allergies. The way in which ferrous sulphate is metered ensures that the product is "low-chromate" when cement users process it. The doubts regarding the sufficient content and adequate addition of the reducing agent that employers' liability insurance associations harboured initially were allayed by investigations conducted at the Research Institute and corresponding interlaboratory trials. The analysis specification pursuant to the Technical Rules on Hazardous Substances (TRGS 613) previously applicable (see also Chapter IX, section: Chemico-mineralogical tests) was revised accordingly. All in all, the metering of $FeSO_4$ granules (Fig. VII-5) immediately prior to bagging which is common practice at the works turned out to enhance the storage stability of the reducing agent and allow safe reduction even after several

Table VII-3: Average values of trace element quantities leached relative to the respective total content, as obtained by three different leaching methods

Element	Trace element quantity leached in % of total content		
	Avaiability test Particle size < 125 µm pH-Wert = 4 and 7	Batch method Particle size < 2 mm pH = 8	Trough method*) Mortar prisms 16 x 4 x 4 cm³
Arsenic (As)	12	0.5	0.0010
Barium (Ba)	64	10.5	0.0192
Cadmium (Cd)	54	1.8	0.0035
Cobalt (Co)	93	4.4	0.0021
Chromium (Cr)	53	9.9	0.0024
Copper (Cu)	72	0.3	0.0024
Manganese (Mn)	79	3.5	0.00003
Molybdenum (Mo)	34	8.8	0.0025
Lead (Pb)	30	0.8	0.0003
Antimony (Sb)	16	3.0	0.0008
Vanadium (V)	11	0.9	0.0031
Zinc (Zn)	74	0.9	0.45
Tin (Sn)	3	0.3	0.0034

*) calculated values for 100 years livetime

months of storage if a 20-to-30-fold overdose is added (average addition quantity approx. 0.35 wt.%).

The statistical figures of the Main Association of Industrial Employers' Liability Insurance Associations show that skin conditions caused by cement/chromate declined in 2001. Accordingly, the number of employees acknowledged to suffer from chromate dermatitis dropped by about 40 % in the field of the building trade employers' liability insurance associations. The decline recorded for the industrial employers' liability insurance associations on the whole totalled about 30 %. Even though this decline can be regarded as a success attributable to the measures adopted in the industry-wide regulation and also testifies to their implementation, the statistics of the next years will have to show whether this trend will continue. As these figures can only be evaluated reliably after a period of several years, the industry-wide regulation was projected for a five-year period and, upon being extended, extrapolated at the beginning of 2002.

Hardened concrete

Numerous results are available on the leaching behaviour of environmentally relevant constituents from hardened concrete. All investigations reach the conclusion that only the environmentally relevant constituents dissolved in the pore water are washed out from the zones close to the surface or leached out from the interior of the concrete, respectively. The concentration of these constituents in the pore water depends on their dissolution behaviour and is usually very low under the highly alkaline conditions prevailing in the pore water. After the initial washing out from accessible surfaces, the further leaching of constituents dissolved in the pore water is largely controlled by diffusion due to the impermeability of the hardened cement paste matrix. Given the low concentration of constituents in the pore water, the rate of diffusion is slow and the quantities released decrease rapidly. However, it is often impossible to compare the various leaching tests directly as different framework conditions underlying the test methods applied in the individual countries may lead to significant discrepancies in test results and thus also in evaluation.

In order to enhance the fundamental understanding of trace element release from cementitious building materials and to derive criteria for assessing the environmental compatibility of cement-based products, a European consortium initiated the research project "Environmental Criteria for Cement Based Products (ECRICEM)". The parties involved in this consortium are the Energy Research Centre for the Netherlands, Holcim Group Support Ltd., Ciments d'Obourg, Norcem A.S and the German Cement Works Association.

The work mainly focused on investigating the leaching behaviour of trace elements from cementitious building materials. To that end, 17 ordinary Portland cements were purchased world-wide and investigated for their content of trace elements first. Furthermore, two clinkers with deliberately increased trace element contents were burnt in a semi-industrial rotary kiln system. The laboratory cements made from these clinkers contained up to 340 ppm arsenic, 1,400 ppm chromium, 200 ppm molybdenum and 2,000 ppm zinc. Mortars were made from ten of the ordinary Portland cements and the two laboratory cements and investigated for their physical parameters and their leaching behaviour. The test methods used in this process were those most frequently applied in Europe at present.

The leaching tests carried out revealed that the mortars made from the laboratory cements generally displayed similar leaching characteristics as the mortars made from the ordinary Portland cements. By way of example, Table VII-3 summarises the average quantities of trace elements leached relative to the respective total content in the twelve mortars investigated. The three following leaching methods were applied:

- The Dutch availability test (NEN 7341) carried out on ground samples with a particle size < 125 µm at a pH of 4 and 7 and a leaching time of three hours per pH value – as a disintegration method
- A batch process conducted on crushed samples with a particle size < 2 mm at a pH of 8 and a leaching time of 48 hours
- A trough test (following Dutch diffusion test NEN 7345) carried out on mortar prisms (16 x 4 x 4 cm³) without artificial pH adjustment for a total leaching time of 64 days – as a basis for calculating the quantity of substances leached in 100 years.

It becomes evident from Table VII-3 that the leached quantities determined by the three methods range in different orders of magnitude. It must be taken into consideration in this context that the quantities

of trace elements released in the trough test relate to a period of 100 years. On the one hand, these results illustrate that the release of trace elements from cementitious building materials is not environmentally relevant under common application conditions in which leaching behaviour is determined by the natural alkalinity and the impermeability of the hardened cement paste matrix. On the other hand, they show that test methods that involve the destruction of the purposefully produced, largely impermeable structure before and during the investigation are not suited for an assessment of cementitious materials that meets practical demands. A further factor to be taken into account in evaluating the test results is the surface/volume ratio of mortar prisms, which is substantially more unfavourable than that of actual structural elements.

The first part of the ECRICEM project, which substantially concentrated on trials involving Portland cements, was finished in late 2001. The second phase currently underway consists of conducting intensive investigations on cements having several main constituents.

Recycling in road construction

The road construction industry concerned itself with the reuse of building materials and the utilisation of industrial by-products very early. The residuals eligible for use must both be adequate under building technology aspects, and comply with the water management aspects specified in a number of technical terms of delivery.

In the technical terms of delivery for mineral materials in road construction (TL Min-StB, version of 2000), both mechanical requirements and requirements applying to the water management features of industrial by-products have been summarised for the first time. For example, this relates to scoria, melt furnace granules, coal fly ash, ash from domestic waste incineration and recycled building materials, such as crushed concrete. These residues are basically suited for reuse in road construction from a water protection point of view provided that specified contaminant concentrations, which are determined on the solids or in eluates, respectively, are not exceeded.

Furthermore, the guidelines for environmentally compatible application of industrial by-products and recycled building materials in road construction (RuA-StB 01) lay down the conditions under which residuals may be used and applied. The water impermeability of the construction method, the type of application and the place of application, for example, constitute important framework conditions in this context.

The reuse of road building materials containing tar or pitch is subject to the specifications of the guidelines on the environmentally compatible use of recycled materials containing constituents typical of tar/pitch, and for the utilisation of recycled asphalt in road construction (RuVA-StB 01). Tarry recycled asphalt contains harmful substances, such as polycyclical aromatic hydrocarbons (PAH) and phenols which must not be released to the environment. Re-utilisation by means of the hot mix method is problematic under industrial health aspects since contaminants (PAH) may be released in the form of vapour during the mixing and application process. For that reason, the reuse of recycled materials containing tar is restricted to cold mix methods, such as compaction in hydraulically bound road bases. By means of processing with cement, the contaminants are safely incorporated into a dense sub-base structure. In addition to that, the leaching of harmful substances is prevented by an impermeable top layer and a capillary-breaking base course.

The composition of the building material mix is specified in accordance with a suitability test. This test is described in the "Code of practice for the use of recycled asphalt and pitch-containing broken road material in road bases with hydraulic binders", which was revised in cooperation with the Research Institute and published in its version of 2002. Accordingly, test pieces are made from the building material mix specified in the suitability test, and leached using the trough method. The PAH content and the phenol index in the eluate have to be determined. PAH analysis is conducted pursuant to the regulations of the "Environmental Protection Agency (EPA)" for water investigations. Binding is considered safe when the total PAH content is < 0.03 mg/l and the phenol index is < 0.1 mg/l. Special recycling binders, which immobilise these contaminants even more effectively than common binders, are used in special cases.

European and German regulations

As regards the environmental compatibility of building materials and construction products, regulations and standards distinguish between local, regional and global impacts. Local impacts include the environmental impact a structure or structural element has on its immediate vicinity. This affects the indoors climate, e.g. in housing or working space, or the soil and the groundwater in the area of structural foundations. Regional impacts comprise environmental impacts on the regional ecosystem caused by construction measures or the manufacture and transport of construction products. These include, for example, soil acidification and eutrophication, or near-earth ozone formation caused by photo-oxidants. Global environmental impacts of building contribute to the global warming potential or to ozone depletion in the atmosphere.

German building regulations stipulate that structural facilities be erected and maintained in such a way to exclude any hazards to public safety or public order, and to life, health and the natural foundations of life in particular. For that reason, public authorities chiefly need to take action by specifying requirements for environmental compatibility with regard to local environmental impacts.

The European Construction Products Directive provided a decisive impetus for the integration of environmental protection interests in standards. It stipulates that only construction products that are suited for their intended use be traded in the European single market. Apart from requiring the traditional establishment of suitability in terms of construction technology, it explicitly demands that the structures to be made from the construction products meet the hygiene, health and environmental protection requirements effective in their place of use. The harmonised European standards and approvals comply with these demands by including corresponding specifications on conformity attestation. They have been approved as the basis for CE marking by the European Union (EU).

German regulations

General attestation requirements for determining the environmental compatibility of traditionally proven cements and

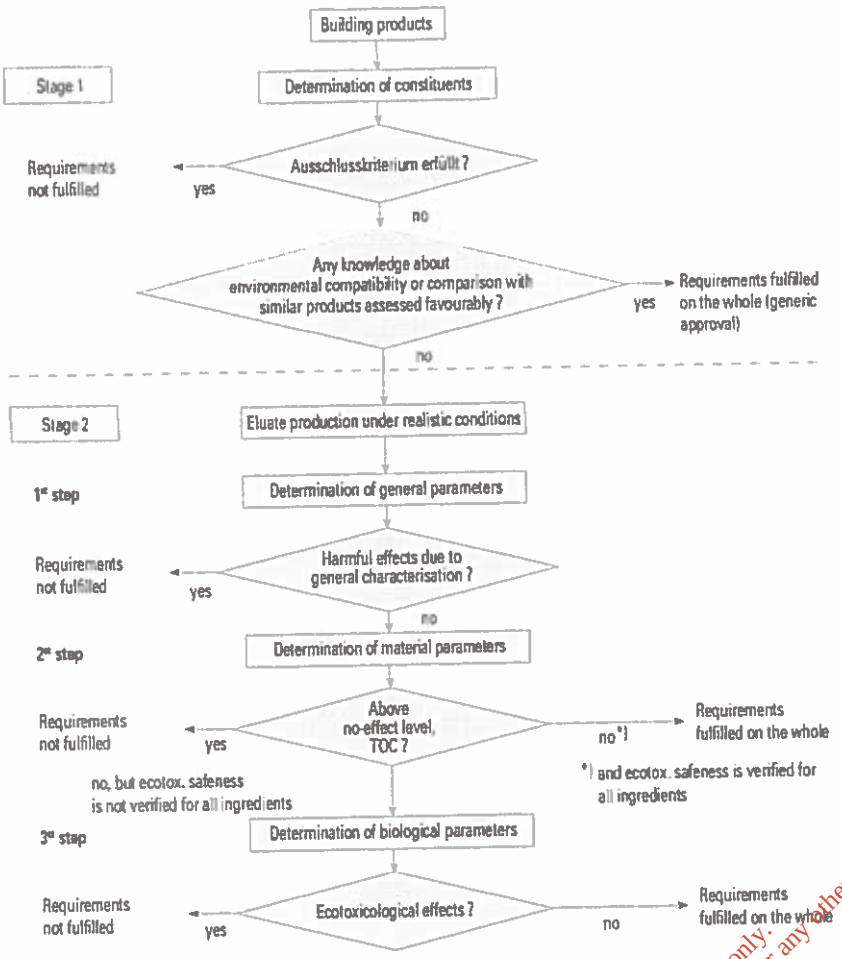


Fig. VII-6: Schematic sequence for evaluating building products in terms of soil and groundwater protection

cementitious building materials are not provided for in Germany. Regulations on a case-by-case basis are imposed whenever applications require extraordinary protection of the environmental media water, soil and air. Accordingly, the German Institute for Building Technology (DIBt) laid down requirements for construction products that are in direct contact with the groundwater and the soil. These must be complied with for building authority approval for corresponding construction products to be granted.

The Committee for the Evaluation of Health Impacts Caused by Construction Products (AgBB) of the Association of Supreme State Health Authorities (AOLG) compiled a draft for the "Course of action in evaluating the health impact of volatile organic compound (VOC and SVOC) emissions from construction products" and submitted it to the parties concerned for appraisal. Worksheet W 347 "Hygiene requirements applying to cementitious materials in the drinking water sector" by the German Gas and Water Engineering Association (DVGW) was revised during the period under review.

In intense cooperation with the Research Institute, the "Hygiene, health and environmental protection" coordination committee of the standards committee for construction (DIN-NABau) compiled a DIN technical report on the assessment of construction products under hygiene, health and environmental aspects. This report summarises the three regulations cited above and further sets of rules that exist on organic and metallic materials in contact with drinking water, and will be published shortly. It is to assist those involved in standardisation in establishing respective starting positions of their own. On this basis, the NABau bodies can prepare specific proposals for European standardisation efforts.

A DIN working group is currently drawing up a strategy paper on how the impacts of construction products on the soil and the groundwater are to be taken into consideration in standards. The Research Institute is involved in this project. The work is based on the evaluation scheme of the DIBt code of practice "Evaluation of the impacts of construction products on the soil and the groundwater" and on other regulations applicable in Germany. The DIBt code of practice cannot be converted to a standard directly as this evaluation scheme resorts to assessment by the competent expert committees in many cases. The strategy group will analyse the evaluation scheme in order to identify those procedures/tests which can and those which cannot be standardised, and what procedures/tests could be included instead in a standard or set of standards.

DIBt code of practice "Evaluation of impacts of construction products on soil and groundwater"

The DIBt code of practice "Evaluation of impacts of construction products on soil and groundwater" was published in the version of November 2000. The contents were already dealt with in detail in the two preceding VDZ Activity Reports. The code of practice summarises the scientific, technical and legal fundamental principles that must be applied in evaluating possible dangers to the soil and the groundwater when building authority approvals for new construction products are to be granted.

The general evaluation concept encompasses several stages, which are shown schematically in **Fig. VII-6**. In the first stage, experts assess the ingredients on the basis of information by the manufacturer or corresponding analyses. For example, the use of statutorily banned substances is excluded. If no exclusion criterion is found, the next step consists of checking whether favourable experience in comparable cases allows approval without further testing and evaluation (generic approval) to be granted. If the corresponding preconditions are not met, general parameters and ingredients that can be mobilised are determined and evaluated by leaching investigations simulating practical conditions in the second stage. After successful testing for certain material parameters – no-effect levels and total organic carbon (TOC) – the approval can be granted if the eco-toxicological harmlessness of all ingredients has been proved. The no-effect levels correspond to the test values for rating the soil-groundwater impact as defined in the Federal Soil Protection and Hazardous Waste Ordinance. If the ecotoxicological

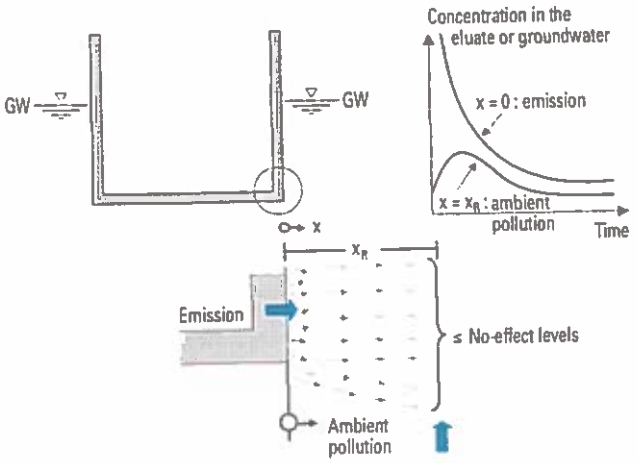


Fig. VII-7: Chart for the evaluation of leaching from building materials on the basis of mathematical models

Table VII-4: Conditions underlying the prediction of substance concentrations in the contact groundwater

Parameter	Symbol	Unit	Value
Surface of structural element	–	m^2	400
Permeability factor and effective porosity of the soil	k_f n_e	m/s –	10^{-4} 0,1
Hydraulic gradient	i	–	10^{-3}
Small-scale averaging in the contact groundwater	–	m	0 bis 0,3
Period of time for wich average is established	–	Months	6
Temperature	T	°C	10
Retardation, chemical or physical decomposition	–	–	No retardation, no erosion

harmlessness cannot be verified for all ingredients, additional biological tests become necessary.

When the investigation results are evaluated, a distinction is made between water-permeable and water-impermeable construction, and between installation above or below the groundwater table. Water-impermeable construction above the groundwater table is usually regarded as unproblematic in terms of both soil and groundwater protection. Contact groundwater serves to assess water-impermeable construction methods in the groundwater.

The no-effect levels in the boundary layer may be exceeded significantly shortly after a construction has been immersed into the groundwater. Substance concentrations decrease quite markedly with time and with increasing distance from the material surface. Increased concentrations in very thin boundary layers and for short periods, however, are irrelevant in legal terms. Depending on the individual case, it is therefore generally permissible to establish both a small-scale and a time mean when assessing the input of substances.

The general evaluation scheme applies to all construction products that come into contact with groundwater and soil. To take account of the material-specific properties of the different construction products, the evaluation principles for different construction products are defined more precisely in Part II. To that purpose, the DIBt set up the task forces

- concrete and cementitious building materials,
- soil injection agents
- and sanitation agents for sewer pipes

in which the cement industry and the concrete admixtures industry are represented. During the period under review the "Concrete and cementitious building materials" task force, in which the Research Institute is involved, compiled the evaluation concept for "Concrete and concrete constituents", which is to be adopted shortly.

The evaluation concept applies to the concrete constituents cement, concrete additions, concrete admixtures and aggregates – including the input materials for construction mortar- and to concrete itself – which may be subject to approval in their function as construction products. The ingredients to be investigated are determined on the basis of the documents to be submitted by the applicant, which cover type, origin, manufacturing process and chemical data on the construction product. Different elution methods have been provided for to determine the elution of substances.

No elution method for fresh concrete has been specified presently. If necessary, these methods will be worked out when the results of the corresponding research work are available. The test methods required to determine the environmental relevance of hardened concrete in water-permeable construction methods are specified by experts on a case-by-case basis. As regards water-impermeable construction above the groundwater level, tests pursuant to the trough test method are to be carried out in exceptional cases only; the ingredients in the eluates are required to comply with the no-effect levels or the values of the drinking water ordinance or comparable values straight away.

To evaluate water-impermeable construction methods in the groundwater, the release from real structural elements is assessed on the basis of the contact groundwater. Model calculations serve to determine the release from the building material by means of a diffusion model and the dispersion of the substances in the groundwater by means of a geological flow and transport model. The calculation of release by means of the diffusion model can be performed based on the results of trough tests. To that end, a working group of the German Committee for Reinforced Concrete (DAfStb) is preparing the standardisation of a long-term trough test for hardened concrete in cooperation with the Research Institute. It includes leaching tests on concrete cubes (10 x 10 x 10 cm^3) and the extraction of six eluates obtained after different testing times (total test duration: 56 days). This draft standard will presumably be adopted shortly.

The combination of the diffusion and transport models makes it possible to forecast substance concentrations in the soil/groundwater in relation to time for defined boundary conditions (**Fig. VII-7**). The evaluation concept for "Concrete and concrete constituents" stipulates the stringent boundary conditions listed in **Table VII-4** in order to create as vast as possible a scope of use for building materials thus evaluated. The model allows calculation of the maximum permissible release quantities that must not be exceeded during the 56-day long-term creep test on the basis of these boundary conditions by means of the respective no-effect levels of the various substances. **Table VII-5** summarises the present proposal for the trace elements to be investigated in cementitious building materials, and the associated release quantities.

The extent to which the evaluation concept for "Concrete and concrete constituents" will be influenced by the current work of the German Federal State working group on water (LAWA) is not yet foreseeable. For instance, the LAWA working group "Groundwater protection in waste recovery and product utilisation" and

Table VII-5: Maximum permissible release from cement-bound building materials in long-term trough test after 56 days

Element	Maximum permissible release in long-term trough test after 56 d [mg/m²]
Arsenic (As)	5
Lead (Pb)	12
Cadmium (Cd)	2.4
Chromium (Cr ges.)	24
Chromium (Cr (VI))	4
Cobalt (Co)	24
Copper (Cu)	24
Nickel (Ni)	24
Zinc (Zn)	150

the LAWA permanent committee "Groundwater and water supply" compiled and published the paper "Fundamental principles of precautionary groundwater protection in waste recovery and product utilisation (GAP paper)".

Essential requirements of the GAP paper are already included in the DIBt code of practice described above, which was drawn up with the involvement of the LAWA. The fact that the GAP paper was extended to include building materials in general, such as asphalt, concrete and injection materials, resulted in significant modifications as against the DIBt code of practice. Furthermore, it is stipulated that construction products that – like concrete - are applied at an unpredictable distance to the groundwater must generally comply with the requirements for use in groundwater.

Moreover, a LAWA subcommittee is currently revising the no-effect levels (test values) for the assessment of groundwater contamination. It is becoming apparent that the existing values will be lowered for some elements. Furthermore, no-effect levels are to be derived for additional elements, such as barium and vanadium.

The VDZ is pursuing the above activities with the aim of the existing favourable experience on the environmental compatibility of cementitious building materials being incorporated in the regulations and the scope of testing being restricted to a measure that is actually necessary.

Evaluation scheme for VOC and SVOC emissions from construction products

The health and well-being of people staying indoors is influenced by the climatic conditions prevailing indoors, such as temperature and relative air humidity, and also by possible contamination of the interior air. This kind of contamination can originate from a large number of sources. Construction products are often viewed critically because of the fact that the decision on their utilisation has not been made by the user of the room in most cases and because many of them take up large-surface areas in the interior space. Although some manufacturers and associations try to provide users and consumers with information on the quality of construction products by affixing quality markings under private law, an officially recognised way of proceeding in the evaluation of construction products under health aspects is still lacking in many cases.

The Committee for the Evaluation of Health Impacts Caused by Construction Products (AgBB) prepared a draft for the "Course of action in evaluating the health impact of volatile organic compound (VOC and SVOC) emissions from construction products", which was published in 2001. After publication, the proposed scheme was discussed with representatives of manufacturers and the specialist public in a DIBt technical debate and parts of it were modified. The evaluation scheme is based on standardised testing chamber investigations and the comparison of the quantities of substance released with the so-called NIK values (lowest concentration of interest) for the respective substances. The AgBB body officially specifies the NIK values on the basis of corresponding MAC values (maximum allowable concentration at place of work) in cooperation with the industry and manufacturer associations, and publishes them in a list.

The AgBB proceeds on the assumption that the minimum requirements for health protection with regard to VOC emissions that are laid down in the state building regulations and the construction products directive will be met if the test values specified in the evaluation scheme are complied with. Furthermore, comprehensible product evaluation to which objective yardsticks can be applied is to become possible. For an introductory phase of two years, the scheme is to be initially applied in corresponding approval tests of the DIBt, for example. After that, the experience gathered is scheduled to be evaluated and reported on by the committee. In the longer run, the evaluation scheme is projected to be incorporated in the conformity attestation of general building authority approvals and standards.

Extensive research work of the Research Institute and the Fraunhofer Institute for Construction Physics in Holzkirchen has shown that the VOC release from inorganic cementitious building materials has only slight significance in construction practice according to present-day understanding. The VDZ will, however, critically monitor the state of discussions on the VOC concept in coordination with the German Industry Association for Construction Chemicals.

DVGW worksheet W 347

DVGW worksheet W 347 „Hygiene requirements applying to cementitious materials in the drinking water sector – testing and evaluation" was already dealt with in detail in the two preceding Activity Reports. It specifies the hygiene requirements to be met by consumer articles made from cementitious materials in the drinking water sector that come into direct or indirect contact with drinking water or raw water to be used in the procurement of drinking water. It further serves to verify whether cementitious materials are suitable under hygiene aspects for producing consumer

Table VII-6: National and European responsibilities for material requirements and methods of attestation

Materiel requirements		Method of attestation	
NATIONAL RESPONSIBILITY		EUROPEAN RESPONSOBILITY	
		Specifications not relating to products (horizontal)	Specifications relating to products in harmonised European construction relating products standards (vertical)
Building legislation	BauPG LBO	**Attestation concept** Applicability without individual attestation [Approved Materials] Applicability following individual attestation – Permissible release rates [e.g. performance classes to take into account different national material requirements] – Additional toxicological attestations, if applicable **Release scenarios** Correlation ambient pollution/emission Environmental media – Soil/groundwater (possibly also surface water) – Drinking water – Indoor air incl. radioactivity **Attestation tools** Sampling Test methods Release (leaching, liberation of gases) Chemical analysis	**Product definition** – Constituents – Composition **Requirements** – Physical – Chemical – Mechanical – Hygienic **Attestation of conformity** – Factory production control – Attestation without testing – Attestation by conformity testing (autocontrol testing and possibly also third-party inspection)
Water legislation	WHG		
Soil protection legislation	BBodSchG		
Waste disposal legislation	KrW-AbfG		
Immission control legislation	BImSchG		

articles for the purposes of Art. 5, Par. 1, Sec. 1 of the Foodstuffs and Consumer Articles Act (LMBG) to be employed in the domain of drinking water treatment, storage and supply.

At the instigation of the DVGW, the revision of Worksheet W 374 dating from 1999 was begun during the period under review. One of the reasons why this revision became necessary was the fact that the harmonised European cement standard EN 197 had been adopted in the meantime. Furthermore, European activities, e.g. regarding the methods for testing the influence of factory-made cementitious products on organoleptic parameters, are to be incorporated to a larger extent.

One major change that the revised draft of Worksheet W 347 (version: October 2002) provides for is a restriction in the contents of the trace elements arsenic, cadmium, chromium, copper, nickel and lead in cements. Discussions held in this context focus on the question as to whether corresponding leaching tests are required only if the trace element contents specified are exceeded. The specification of the individual values has not yet been concluded and will involve intense discussions between the cement industry and drinking water hygienists.

European regulations

The European Union has not yet reached a consensus on the requirements that construction products have to meet with regard to hygiene, health and environmental protection, and on the resulting conformity attestations. For one thing, this is due to the fact that the material requirements for the protection of the immediate surroundings of a structure have not been harmonised at European level so far. The corresponding, very divergent provisions are merely specified in national ordinances or standards at present, if at all. Given the traditional discrepancies in the protection level and the great differences in terms of geography, climate and ways of life, these specifications lack an underlying systematism transferable to European regulations.

Structural elements in contact with drinking water form an exception: prompted by an EU mandate making reference to the European Drinking Water and Construction Products Directive, the harmonisation process of both conformity attestations and specific material requirements was initiated in this domain. In all the other areas of environmental impacts induced by construction products, the European Union will presumably restrict to harmonising conformity attestation procedures or declaration models for environmental information for the time being, with different national requirement standards being maintained (**Table VII-6**). This presupposes a uniform concept specifying the course of action and the processes and criteria required for determining and attesting environmental impacts.

Local environmental impacts

In cooperation with the Research Institute, the European Building Materials Association (CEPMC) compiled and adopted a position paper that is to contribute to the preparation of standard specifications on environmentally relevant substances in construction products and further the dialogue between the building materials industry and the EU Commission. It comprises the following fundamental principles:

- The criterion to be applied to assess the impact of construction measures on the immediate surroundings of structures is the release of pollutants from building materials and their ensuing input into the environmental media water, soil and air.
- Assessment is to be based on the usual service condition of structures.
- The instruments necessary for the practical implementation of this assessment and the resulting attestation of environmental compatibility are to be specified in standards in modular form and, as far as possible, uniformly for all building products.
- Attestation instruments must make it possible to take into account the national differences still existing in the standard of requirements.

Table VII-7 explains these fundamental principles for the environmental media under review – water, soil and air. A working group set up by the EU Commission, in which the Research Insti-

Table VII-7: Basic principles for taking account of hazardous substances in harmonised standards

Environmental medium to be protected	Construction product	Relevant ingredients	Release limit	Method of attestation		
				Sampling	Testing	Chemical analysis
Indoor air	e.g. flooring	e.g. volatile organic compounds (VTOC)	...	acc. to DIN EN...	Exhalation acc. to DIN EN... Radioactivity acc. to DIN EN...	acc. to DIN EN...
Groundwater	e.g. building materials injected into the soil	e.g. heavy metals	e.g. acc. to DIBt code of practice*)	acc. to DIN EN...	Leaching acc. to DIN EN...	acc. to DIN EN...
Surface water	e.g. concrete well pits	e.g. heavy metals	e.g. acc. to DIBt code of practice*)	acc. to DIN EN...	Leaching acc. to DIN EN...	acc. to DIN EN...
Soil	e.g. uncased concrete piles	e.g. heavy metals	e.g. acc. to DIBt code of practice*)	acc. to DIN EN...	Leaching acc. to DIN EN....	acc. to DIN EN...

*) Evaluation of the effects of construction products on soil and groundwater: Code of practice version of November 2000. German Institute for Building Technology, DIBt (editor). – Berlin: DIBt, 2000 – (Publications by the Institute for Building Technolgy, M1 series)

tute is involved, will work out a mandate in 2003 that is to present a more precise description of the standardisation mandates for the European Standardisation Committee (CEN) that result from these deliberations.

EU database

The European Union is collecting existing national requirements applying to the environmental compatibility of construction products, which are effective by act of laws or ordinances, and making them available to interested parties via a database accessible via the Internet. Trade barriers are imposed in particular when individual EU member states ban the active use of hazardous ingredients, such as asbestos or pentachlorophenol, in construction products, and corresponding bans do not have uniform Europe-wide applicability. The European Cement Association (CEMBUREAU) will analyse the database to find out whether cement or cementitious building materials are subject to trade barriers at present. Due to the market entries orchestrated, this is expected to be the case only with regard to the content of water-soluble chromate (Cr VI).

Integrated product policy of the European Union

The integrated product policy pursued by the EU Commission is aimed at improving and advancing product-related environmental protection. Several workshops initiated by the EU, in which the Research Institute participated, served to develop a strategy regarding the provisions and, possibly, the mandates for European standardisation to be elaborated in order to reach this target. Two focal issues have been extracted from the EU Commission's previous deliberations:

- Ecological evaluations of construction measures by means of life cycle analyses constitute an important instrument for advancing the standard of environmental precautions and environmental protection reached so far.
- Environmentally relevant information is to be made transparent to users and consumers of construction products by presenting it in the form of environmental product declarations.

These focal issues are emphasised by consumer organisation and non-governmental organisations (NGOs) in particular. The industry is worried that trade barriers might result if EU member states act on their own, imposing non-harmonised provisions on ecological evaluation and information. For that reason, all those involved have advocated that the preconditions and processes required for life cycle analysis should be harmonised Europe-wide and enacted in the form of standards. The standards are to further include specific provisions on uniform environmental product declarations (see Chapter VIII). The European Cement Association (CEMBUREAU) has advocated active involvement in the forthcoming standardisation activities and the provision of environmental information. To that end, four focal points of work were established:

- elaboration of a status on the leaching behaviour of cementitious building materials,
- harmonisation of safety datasheets for cement,
- establishment of a format for collecting data required for performing life cycle analyses,
- elaboration of a uniform format for environmental information on cement.

The objective the VDZ pursues by cooperating in the European bodies is the incorporation of simple and appropriate conformity requirements in the standards in the case of mandated provisions on environmental matters, and of simple and target-oriented information in the case of voluntary provisions, in order to take account of the increasing importance of environmental aspects in standards. In this process, the regulations governing the evaluation of impacts to soil, groundwater, interior air and drinking water caused by building materials, which were elaborated in cooperation with all the parties involved in Germany, will be proposed also for the European regulations to be established.

THE SELF-PERCEIVED GREAT BUT NOT-SO-GOOD FIRST PARTY PARTICIPANTS

(or will Corrib be included on up-dated CV's of all those listed below?)

November 2000 Planning Application [Defunct]

Onshore/Offshore EIS. Prepared by RSK Environment Ltd.
(Included Dispersion Modelling for Broadhaven Bay conducted by Kirk McClure)

April 2001 Planning Application [Deficient]

EIS Prepared by RSK Environment Ltd.
in association with

Kvaerner E&C UK Ltd.
Frank L. Benson & Partners (to include Mr. Phillips)
Ecological Advisory and Consultancy Services
Brian Meehan Associates
Margaret Gowan Associates
Alan Saunders Associates
Minarex Environment Ltd.
Virtual Planit Ltd.
Oscar Faber Ltd.

DINGLE PHOTOMONTAGES

RSK Environment Ltd.
in association with
Kvaerner E&C UK Ltd.
Virtual Planit Ltd.

December 2003 Planning Application [Demented?]

EIS Vol. 1 plus Technical Appendices
Prepared by RSKENSR Environment Ltd./Shell
Vol. 2 TES Consulting Engineers/Shell

11th March 2004

TPA
TES Consulting Engineers
RSKENSR
Shell

31st August 2004

TPA
ARUP
AGEC
RSKENSR
SGI
Shell

15th September 2004

TPA
TOBIN
RSKENSR
S/HELL

Please note that Kirk McClure Dispersion Modelling for Broadhaven Bay, transposed from defunct to deficient planning application was acceptable to Local Authority in August 2001. This is no longer the case since the Local Authority decision to place the outfall pipe for proposed sewage treatment plant at Belmullet into Blacksod Bay due 'to poor dispersion ability of Broadhaven Bay'.

Following consideration of two submissions - by Mr. David Phillips on behalf of the applicant and by Mr. Padraig Campbell on behalf of Friends of the Irish Environment - I determined that these submissions should not be admitted in evidence to the Board. No dispute arose as a consequence of my determinations on these submissions. I recommend that the Board should not take these submissions into consideration.

Notwithstanding Mr. Jim Moore of Duchas being unavailable for cross-examination on the last day of the hearing , it is my recommendation to the Board that his submission given on 21st February, 2002 forms clarification and elaboration of the third party appeal by Duchas and should not be disregarded by the Board.

The following is a complete Schedule of Submissions to the Oral Hearing:

SUBMISSIONS AT ORAL HEARING

1. John Easey, First Party - "The Bellanaboy Terminal"
2. Brian O'Cathain, First Party - "Bringing New Energy To The West Of Ireland: The Need For The Development"
3. John Easey, First Party - "Consideration of Alternatives: Concept Selection"
4. David Taylor, First Party - "Brief of Evidence concerning the Selection of the Terminal Location, Alternatives Considered and Site Description"
5. John Easey, First Party - "Terminal Overview"
6. David Bate, First Party - "Legal Interest in the Site and Adjoining Lands"
7. Mary Kelly, Observer: IBEC - Submission in support of project
8. Louise Quinn, Observer: Ballina Chamber of Commerce - Submission in support of project
9. Fergus B. Cahill, Observer: Irish Offshore Operators Association - Submission in support of project
10. Sean Hannick, Observer: Council For The West - Submission in support of project
11. Tom Gaughan, Observer: Teach Iorrais Teoranta - Submission in support of project
12. Breda Gannon, Planning Authority - "The Need for the Development"
13. Breda Gannon, Planning Authority - "Provisions of the Mayo County Development Plan, 1992"
14. Tom Phillips, First Party - "Strategic and Local Planning Context"
15. Leenamore/Bellanaboy Concerned Citizens, Third Party - "Proper Planning and Development of the Area, in which the development is proposed, in accordance with the Planning Acts 1963-2000"
16. Peter Sweetman, FIE, Third Party - Submission on Development Plan
17. Cecil Shine, First Party - "Site Preparation/Development Works Hydrology & Hydrogeology Overview Brief of Evidence"
18. Conor Byrne, First Party - "Site Preparation and Earthworks"
19. First Party - Illustration of Terminal Site showing cross sections
20. Sean Finlay, First Party - Brief of Evidence
21. Cecil Shine, First Party - Site Preparation/Development Works Concern: Groundwater Contamination"

22. Sean Finlay, First Party - Drawing of Existing Ground Levels requested by Inspector
23. Sean Finlay, First Party - Drawing of Proposed Finished Ground Levels requested by Inspector
24. Sean Finlay, First Party - Drawing of Interpreted Subsurface Contours requested by Inspector
25. Cecil Shine, First Party - Document Compilation on Hydrology and Hydrogeology requested by Inspector
26. Sean Finlay, First Party - Additional information on Site Development Works requested by Inspector
27. First Party - Appendix G1: Hydrological Data on CD.
28. Ray Norton, Planning Authority - "Site Preparation and Development"
29. Jacinta Healy, Roderic O'Connor & Others, Third Party - Copy of Submission to Planning Authority on Silt Traps and Flooding.
30. Leenamore/Bellanaboy Concerned Citizens, Third Party - "Proper Planning and Development of the Area, in which the development is proposed, in accordance with the Planning Acts 1963-2000", relating to site development works, ecology, cultural heritage and the adequacy of the EIS.
31. Jim Moore, Duchas The Heritage Service, Third Party - Submission on impact on conservation areas.
32. Eamon O'Duibhir, Erris Inshore Fishermen's Association, Third Party - Submission on impact on Broadhaven Bay.
33. Breda Gannon, Planning Authority - "Ecological Impacts"
34. Jenny Neff, First Party - "Terrestrial Flora and Fauna"
35. Dr. Christopher Smal, First Party - "Statement of Evidence in respect of Terrestrial Fauna"
36. Leslie J. Finnegan, First Party - "Suspended Solids Discharge and the Possible Impacts on Salmonid Waters"
37. Professor John Joseph Bracken, First Party - "Electrofishing Operations in the Northern Region of the Ballina Fishery Area, Co. Mayo"
38. Jennefer Wilson, First Party - "Landscape & Visual Impact"
39. Michael Cullinan, First Party - Ballanaboy Bridge Terminal Building Architects Report
40. Breda Gannon, Planning Authority - "Land Use and Visual Impact"
41. Peter Gill, Planning Authority - Proposed Bellanaboy Bridge Terminal Landscape Development Approach
42. Jacinta Healy, Roderic O'Connor & Others, Third Party - "Visual Impact"
43. FIE, Third Party - Copy of Letter from Dept. of Marine and Natural Resources relating to an application for forestry grant aid.
44. First Party - Explanation of what is seen from view across site from Meenanark Bridge.
45. First Party - Explanation on visibility of industrial plant from Meenanark Bridge.
46. First Party - Route of pipeline into terminal demarcated on aerial photo requested by Inspector.
47. First Party - Illumination Levels requested by Inspector
48. Brian O'Reilly, Planning Authority - Submission on Water Supply
49. John Easey, First Party - "Impact on Material Assets - Public Water Supply"

50. Michael Mongan, Planning Authority - Submission on Roads
51. Planning Authority - "Bridge Assessments North Mayo"
52. Planning Authority - Map of Road Network in the Area
53. Planning Authority - "Pavement Condition Survey on North Mayo Roads"
54. Cormac O'Brien, First Party - "Traffic Impact Assessment"
55. Lisa Courtney, First Party - "Archaeology"
56. Breda Gannon, Planning Authority - "Impacts on Cultural Heritage"
57. Micheal O Seighin, FIE, Third Party - "Cultural Heritage Context"
58. Maura Harrington, FIE, Third Party - Submission of Questions posed for consideration.
59. Maura Harrington, FIE, Third Party - Compact Disc "Dun Chaochain"
60. Maura Harrington, FIE, Third Party - 8 no. Drawings referring to Logainmneacha in the area.
61. Breda Gannon, Planning Authority - "Impact on Residential Amenity", etc.
62. Edward Clarke, First Party - Submission on Noise and Vibration
63. Emma Spence, First Party - "Air Quality Issues"
64. Michael Bohan, Ballinaboy/Leenamore Concerned Citizens, Third Party - "Effects on property values in the area"
65. Gavin Lawlor, First Party - "Socio-Economic Impacts of the proposed Bellanaboy Bridge Gas Terminal"
66. Brid Mc Garry, FIE, Third Party - Submission relating to farmland impact
67. Dermod Dwyer, First Party - Copy of Overheads relating to Tourism submission. NOT FORGOTTEN
68. David Dendy, FIE, Third Party - Copy of Article entitled "From Porturlin to Portacloy" & guides on walking routes in the area.
69. Patrick Flannery, Observer - Petition of Secondary School students opposed to the development
70. Patrick Flannery, Observer - Copy of Overheads of presentation on Tourism.
71. Patrick Flannery, Observer - Extract from Farmers Journal on his concerns for the area.
72. John Easey, First Party - "Public Safety: Safety through Design"
73. Mark Carrigy, First Party - "Operational Safety"
74. Aileen O'Connell, Planning Authority - Submission on Fire Safety
75 John J. Connolly, FIE, Third Party - Submission on Safety
76. Addendum to John Connolly Submission - Reports from Planning Authority
77. Addendum to John Connolly Submission - Dept. Circular Letter BC 17/2000
78. Addendum to John Connolly Submission - S.I. No. 441 of 2000
79. John Downey, First Party - "Decommissioning of the proposed Bellanaboy Bridge Terminal"
80. Eamon Galligan, First Party - Legal Submissions
81. Ray Norton, Planning Authority - "Adequacy of the EIS"
82. Jenny Neff, First Party - Details of Designated Sites in North Mayo
83. Jenny Neff, First Party - "Coillte Felling Programme & Tree Ages & Landscape Strategy"
84. Jenny Wilson, First Party - "Photomontage Viewpoints Supplementary Data"
85. First Party - Aerial Photo of Pipelines in and out of Terminal

86. Jenny Wilson, First Party - Original Photos used for Photomontages & Copy of Photomontages
87. First Party - CD showing simulation of control buildings
88. John Downey, First Party - Estimated cost of abandoning the existing Corrib wells, requested by Inspector.
89. First Party - Maps of Exploration around Ireland requested by Inspector
90. First Party - Copy of Environmental Impact Statement "Corrib Field Development (Offshore Field to Terminal)" and "Appendices"
91. Planning Authority - Copy of Erris District Plan
92. Edward Moran, FIE, Third Party - Overview Submission to Hearing
93. Gerard Muller, FIE - CD containing details on Roads and Bridges
94. FIE, Third Party - 3 no. photos of existing well north-east of proposed site (re: site development works)
95. Peter Sweetman, FIE, Third Party - Copy of Letter from Mayo County Council on attached further information.
96. Peter Sweetman, FIE, Third Party - Copy of Commission of European Communities Reasoned Opinion dated 23-10-2001
97. Erris Inshore Fishermen's Association, Third Party- Map entitled "Preferred Offshore and Onshore Pipeline Routes"
98. Roderic O'Connor, Third Party - List of Information requested
99. Roderic O'Connor, Third Party - List of Documents requested.
100. Roderic O'Connor, Third Party - Submission to Inspector on Proceedings.
101. James Healy, Roderic O'Connor & Others, Third Party - Copy of Planning Application Photomontages.
102. James Healy, Roderic O'Connor & Others, Third Party - Plastic piping submitted as being from proposed peat repository site.
103. James Healy, Roderic O'Connor & Others, Third Party - Piece of tree trunk from tree blown over immediately west of proposed site.
104. Greg Casey, An Taisce/Sean McDonnell & Others, Third Party - Copy of Letter to Mayo County Council's Solicitors relating to procurement of information from the planning authority.
105. Michael Bohan, Ballinaboy/Leenamore Concerned Citizens - Closing Submission
106. Gavin Lawlor, First Party- Closing Submission

SUBMISSIONS TO RE-OPENED ORAL HEARING

1. Tom Phillips, First Party - Introduction to First Party Presentation.
2. Tom Phillips, First Party - Consideration of Alternatives: Introduction.
3. David Taylor, First Party - Consideration of Alternatives, Environmental Comparison between the development solution proposed and a scheme using a shallow water platform.
4. John Easey, First Party - Consideration of Alternatives: Shallow Water Platform vs Subsea Tieback.
5. First Party - Shallow Water Platform Cost Comparison.
6. Tom Phillips, First Party - Visual Impact: Introduction.
7. Declan Hayes, First Party - Visual Impact - Videomontage.
8. John Kelly, First Party - Visual Impact: Construction of Photomontages.
9. Thomas Burns, First Party - Visual Impact: Independent Assessment.
10. First Party - CD: Bellanaboy Powerpoint Presentation.
11. First Party - Extract from Coillte Forestry Inventory Report.
12. First Party - Base Map showing locations of viewpoints.
13. Ballinaboy/Lenamore Concerned Citizens - Photo of An Foras Taluntais signage at site.
14. Planning Authority - Copy of letter from the Health and Safety Authority.
15. Imelda Moran, FIE & Others - Map of Consultation Distance derived from the slugcatcher.
16. Greg Casey, An Taisce - Corrib Gas Pipeline Project Report: "Report on Evaluation of Onshore Pipeline Design Code" by Andrew Johnston.
17. Greg Casey, An Taisce - Office of Pipeline Safety Regulations.
18. John Colreavy, NAOSH - Copy of BS 6656 "Prevention of inadvertent ignition of flammable atmospheres by radio-frequency radiation" Design conditions.
19. John Colreavy, NAOSH - Document by EEIL "Production Pipeline System Depressurisation Summary Report".
20. John Colreavy, NAOSH - Submission of data from EEIL to the Health and Safety Authority, September, 2002.
21. John Easey, First Party - Safety.
22. First Party - Layout Plan showing location of Firewater Retention Pond.
23. Ballinaboy/Lenamore Concerned Citizens - Health and Safety.
24. Monica Muller, FIE - Letter from Marine Licence Vetting Committee.
25. John Colreavy, NAOSH - Map from EEIL showing residential properties within close proximity to the Terminal.
26. John Connolly, FIE & Others - Presentation on Health and Safety.
27(a). Ballinaboy/Lenamore Concerned Citizens - Visual impact of proposed development.
27(b). Ballinaboy/Lenamore Concerned Citizens - Photographs from in general vicinity of site.
27(c). Ballinaboy/Lenamore Concerned Citizens - Extract from Ordnance Survey Sheet 11.
27(d). Ballinaboy/Lenamore Concerned Citizens - Extract from Ordnance Survey Sheet 18.

28. Ballinaboy/Lenamore Concerned Citizens - Peat extraction and its potential affect on the drainage capacity and material discharge into local receiving waters.
29. First Party - Aerial photos showing details of static overpressures.
30. First Party - Composite Landscape, Drainage and Pipeline Layout Plan and covering note.
31. First Party - Views of vicinity of track adjacent to Plantations K and C.
32. First Party - Revised aerial photo showing existing and proposed plantations.
33. First Party - Explanation of plantations affecting Viewpoint 4.
34. First Party - Explanation of plantations affecting Viewpoint 6 and Cross Section.
35. First Party - Errata relating to submissions on Alternative and Visual Impact.
36. Micheal O'Seighin, Sean Mc Donnell & Others - Document on Inch Terminal.
37. John Healy, Roderic O'Connor & Others - Photo of Site's road frontage to west of terminal footprint location.
38. First Party - Explanation of use of Ordnance Datum.
39. John Easey, First Party - Requirements for trees relating to the issue of health and safety.
40. John Easey, First Party - Paved areas in the terminal footprint area.
41. John Easey, First Party - Details of corrosion inhibitors.
42. Turlough Johnston, First Party - Impact of pressure wave emanating from an explosion at the slugcatcher.
43. Turlough Johnston, First Party - Effect of vibrations induced by pressure wave emanating from an explosion at the slugcatcher.
44. John Colreavy, NAOSH - Document entitled "Guidelines for Evaluating the Effects of Vapor Cloud Explosions using a TNT Equivalency Method".
45. First Party - Extract from Composite Layout Plan.
46. First Party - Errata in Earthworks Response of 20th September, 2002.
47. Tom Phillips, First Party - Peat Excavation and Placement: Introduction.
48. Turlough Johnston, First Party - Earthworks - Geotechnical Interpretative & Design Reports.
49. Cecil Shine, First Party - Earthworks: Hydrology and Hydrogeology Overview.
50. Micheal O'Seighin, Sean Mc Donnell & Others - Submission on Peer Review.
51. Jim Moore, Duchas - Submission on Earthworks.
52. Tracey Murray, Roderic O'Connor & Others - Peat Excavation and Deposition.
53. Martin Healy, Roderic O'Connor & Others - Submission on Peat Excavation.
54. Roderic O'Connor - Website news extract on Bacton gas terminal.
55. Martin Healy, Roderic O'Connor & Others - Photos on piping in the main peat repository area.
56. Tom Farrell, Council for the West - Submission.
57. Patrick G. O'Malley, IBEC - Observation.
58. Cecil Shine, First Party - Drawing of Till in Base of Drain 22.
59. First Party - Drawing "Contour showing final ground level after anticipated settlement due to peat placement".
60. John Kelly, First Party - Original photos used in the new montages submitted in September, 2002.
61. Sean Finlay, First Party - Site Investigation Map.
62. Michael O'Seighin, Sean Mc Donnell & Others - Submission on Visual Impact.

63. Michael O'Seighin, Sean Mc Donnell & Others - Section drawings.
64. Michael O'Seighin, Sean Mc Donnell & Others - Photo in direction of site.
65. Michael O'Seighin, Sean Mc Donnell & Others - Letter from Dept. of Marine and Natural Resources on forestry application.
66. Michael O'Seighin, Sean Mc Donnell & Others - Extract from Erris Development Plan.
67. Eamon O'Duibhir, Erris Inshore Fishermen's Association - Onshore vs. offshore processing option.
68. Tracy Murray, Roderic O'Connor & Others - Submission on visual impact.
69. Joanna O'Brien, First Party - Borehole logs, June 2001.
70. Gerry Costello, First Party - Safety - examples from the onshore Ntherlands of existing facilities broadly similar to the proposed Corrib gas terminal.
71. J. Downey, J. Easey, G. Hall, D. Bennett and D. Taylor, First Party - Answers to Inspectors questions on alternatives raised on 25th November, 2002.
72. Maura Harrington, FIE & Others - Submission on visual impact and addendum on Alternatives.
73. John Easey, First Party - Statements on safety issues.
74. First Party - Borehole logs and table of nodal points.
75. Conor Byrne, First Party - Peat repository surface drainage.
76. John Downey, First Party - Composition of Corrib gas.
77. Micheal O'Seighin, Sean Mc Donnell & Others - Apologia.
78. Edward Moran, FIE &Others - Alternatives
79. Edward Moran, FIE & Others - 'Twister'.
80. Edward Moran, FIE & Others - Online magazine extract.
81. Edward Moran, FIE & Others - Paper on supersonic gas conditioning.
82. Thomas Burns, First Party - Response to Michael O'Seighin.
83. Eoghan Lynch, First Party - Visual Impact: Statement on construction of BGE export pipeline within Corrib terminal.
84. Cecil Shine, First Party - Minerex CD and chart on response to rainfall in D22 during storm event.
85. Cecil Shine, First Party - Drawings on phreatic water table and hydrogeological transects.
86. Cecil Shine, First Party - Response to Duchas.
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88. Cormac O'Brien, First Party - Traffic.
89. Michael Bohan, Ballinaboy/Lenamore Concerned Citizens - Closing submission.
90. John Connolly, FIE & Others - Letter from Health and Safety Authority to Cork County Council.
91. John Healy, Roderic O'Connor & Others - Video on visual impact.
92. Michael O'Seighin, Sean Mc Donnell & Others - Photo of plate test site at proposed repository.
93. First Party - Balloon co-ordinates for video camera crew.
94. Cecil Shine, First Party - Schematic section of drainage in vicinity of D22.
95. Cecil Shine, First Party - Schematic NE-SW cross-section showing actual water levels in the vicinity of D22.
96. FIE - Response from European Commission to complaint from Monica Muller.

97. FIE - Irish Authority's response to letter from European Commission.
98. FIE - Details on Pipeline Corridor Widths: Statement of evidence by Ria Lyden at Mayo to Galway Gas Pipeline hearing, Statement of evidence by Robin Knott at Mayo to Galway Gas Pipeline hearing, extract from Ballinaboy Bridge Terminal EIS Rev03.
99. FIE - Book of Reference, Application for Acquisition Order relating to G. Muller.
100. FIE - Letter from An Bord Pleanala to Monica Muller.
101. FIE - Photo Wych Farm.
102. Roderic O'Connor & Others - Photos of trailer on bog.
103. Michael O'Seighin, Sean McDonnell & Others - Photo in direction of site.
104. Michael O'Seighin, Sean Mc Donnell & Others - Details on application of 'Twister'.
105. Michael O'Seighin, Sean Mc Donnell & Others - Details on Snohvit.
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Kevin Moore
Senior Planning Inspector
April, 2003.

19. An oil and gas reserves estimation methodology is considered "probabilistic" when the known geological, engineering and economic data are used to generate a range of estimates and their associated probabilities; it is considered "deterministic" if a single best estimate of reserves is made based on known geological, engineering and economic data. As used by Shell, "expectation reserves" are the most likely estimate of hydrocarbon volumes remaining to be recovered from a project that is technically and commercially mature, or from a producing asset. If probabilistic techniques are used in reserve estimation, the expectation reserves are the probability weighted average of all possible outcomes (commonly referred to as the "P50" outcome). If deterministic techniques are used, expectation reserves correspond to the most likely estimate of future recovery. Generally, a field was "mature" under the revised guidelines if total production was greater than 30% of expectation reserves.

20. This guideline revision added substantial volumes to Shell's reported proved reserves. For instance, nearly 40% of the total proved reserves Shell added in 1998 resulted from this guideline revision. From 1998 through 2001, this guideline revision resulted in more than 1.2 billion boe being added to reported proved reserves. In implementing this change, however, certain of Shell's operating units failed to perform the detailed analysis required to support the resulting increase in proved reserves.

21. Further, Shell's only public disclosure of its material change to its guidelines was a single sentence accompanying the supplemental oil and gas information in its 1998 annual report, which provided only that "[e]stimation methods have been refined during 1998."

Shell's Guidelines Failed To Require Market Existence or Project Commitment

22. Before September 2003, with respect to frontier developments, Shell's guidelines required neither a currently existing market for a field's hydrocarbons nor a commitment by Shell to

Irish Digest - Bog Slides, Bog Bodies and More

Text and photos:
Valentina Trodd

Peat harvest 2003

Irish peat harvesting records show that 2003 was the best peat production year since 1995. Indeed the long spells of dry weather this year seemed to suggest that perhaps 2003 would top all years in relation to peat harvesting success, but that wasn't the case. In 1975 (the best year on record) 180% of Bord na Móna's production target was achieved; in 1995 - 150%; in 1984 - 142%; in 1959-141% and in 1988 - 138% (those being the top 5 years on record). In 2003 Bord na Móna achieved 119.9% of its target, compared with 68.5% in 2002, which had been a very wet year.

Moving bogs

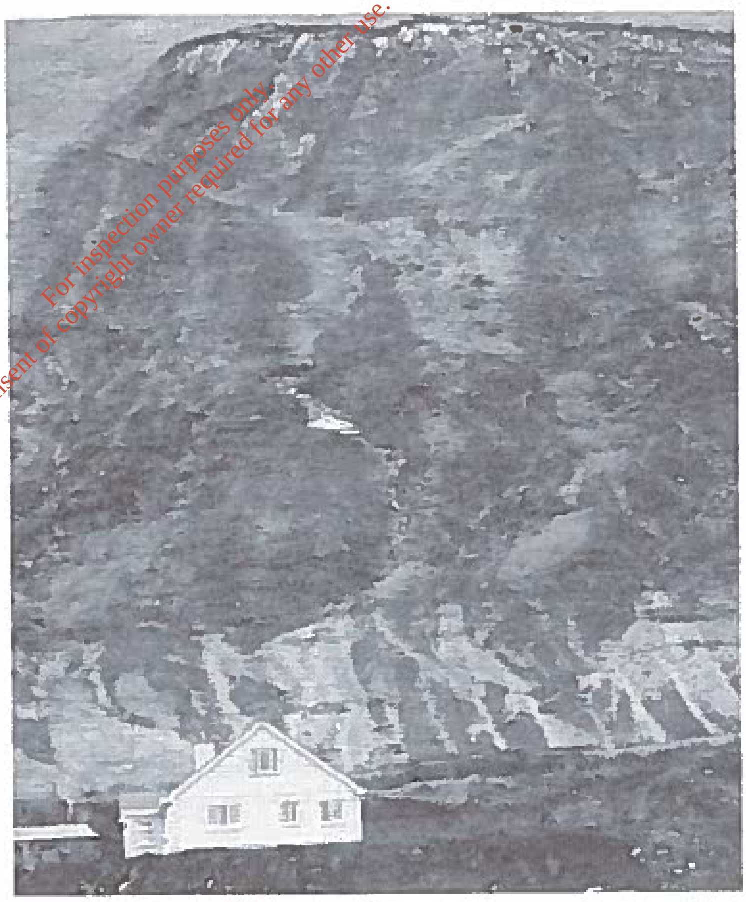
By autumn however the year's dry weather had also probably contributed to two other nationally newsworthy occurrences. Following periods of very heavy autumnal rain, two major bog slides (see photos) occurred at Pullathomas in the blanket bogs of Mayo in the North East of the country and at Derrybrien (and the Slieve Aughty Mountains) in the south Co Galway midlands. What is referred to in Ireland as a "moving bog" (also called bogslides or bog bursts) is generally weather associated, as happened in 1896 outside Killarney in Co Kerry, when the only Irish fatal incident associated with such shifting bogs occurred. Robert Lloyd Praeger, the famous Irish botanist who died in 1953, explained in his monumental book, "The Way That I followed":

"It was on peat-covered hills near Gneevegullia, out to the north-east of Killarney, that there occurred, three days after the Christmas of 1896, an extensive bog-burst that attracted much attention on account of the tragic circumstances accompanying it, a family of eight persons [who were asleep at the time], their home and their livestock, having been carried away and buried... A vast mass of peat and water precipitated itself down the valley, the flood ceasing only when it entered the Lower Lake of Killarney, fourteen miles distant".

Praeger, who had been sent by the Royal Dublin Society to investigate the incident, explains how bog bursts generally occur, " In certain conditions, the lower layers of a bog may become so highly charged with water that under the pressure of the superincumbent mass they gush out at the lowest point of the floor, dragging the wreck of the more solid upper levels after them. If the bog be large and deep, a great flood of semi-liquid matter may be ejected; and should the slope below the point of ejection be steep, a devastating torrent may result".

It is believed however that this year's Irish bogslides were caused by the blanket bogs being desiccated by the unusually dry summer weather, to the extent that they were later vulnerable to the heavy rain which dislodged them. The "flood of semi-liquid matter" associated with the Derrybrien bogslide made excited television viewing since for the first time ever RTE Newsreels captured footage of an actual moving bog.

Thankfully there were no fatalities associated with the 2003 bog slides, but both will now result in massive compensation claims. The Derrybrien bogslide has been referred to in the media as an "own goal" for the Irish green lobby in that it has occurred on a mountain where a new windfarm is being constructed by Hibernian Wind Energy, a subsidiary of the Electricity Supply Board (ESB). The Government has stated that if the windfarm is found to be responsible for the bogslide the local resident will be compensated. The damage cost associated with the Pullathomas bogslide has been estimated to be in region of 3M euros, and locals in that region have been blam-



The Pullathomas mountainside after the bogslide. The house has been badly damaged.

The advancing Derrybrien bog creeps about the corner of a farmhouse. The fluid peat is capable of engulfing everything in its path, snapping trees and any barriers. According to Val Trodd, the black mass has the consistency of porridge, so that even he had to be pulled free by an onlooker after attempting to walk through it with rubber boots.

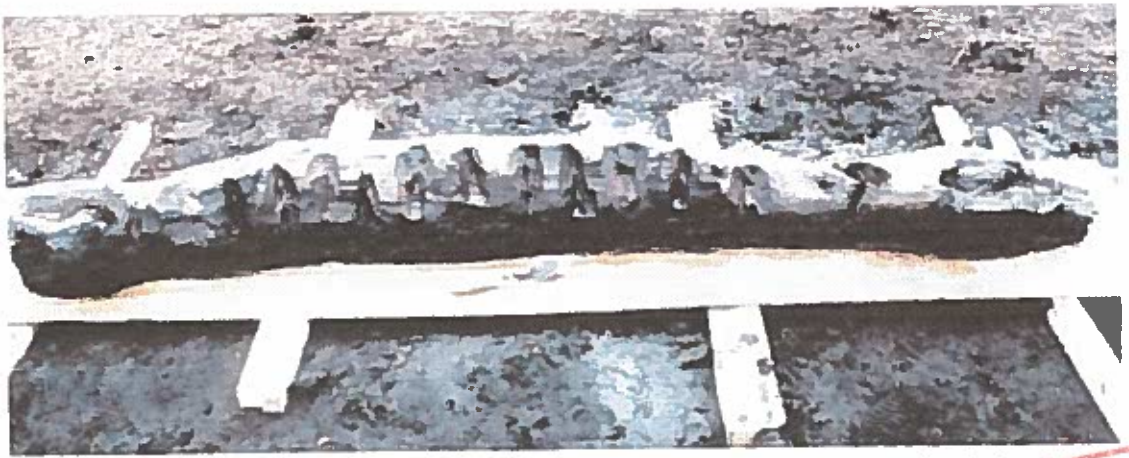
The Ballivor bog body just after being removed from the bog. It had obviously been flattened by the weight of the peat which had covered it. The eye sockets and teeth are clearly visible as are a few whiskers on the chin.

ing work associated with the Corrib Gas terminal site. Proposals to construct the terminal at Bellanaboy, some two miles from the site of the bogslide, had been turned down by An Bord Pleanála (the Irish planning authority) since peat removal from the site would cause environmental problems. Bord na Móna and Shell E&P Ireland Limited are presently investigating the option of removing 650,000 cubic metres of peat from the Bellanaboy 15-hectare site and spreading it over cutover bogland in the area as part of a rehabilitation process.

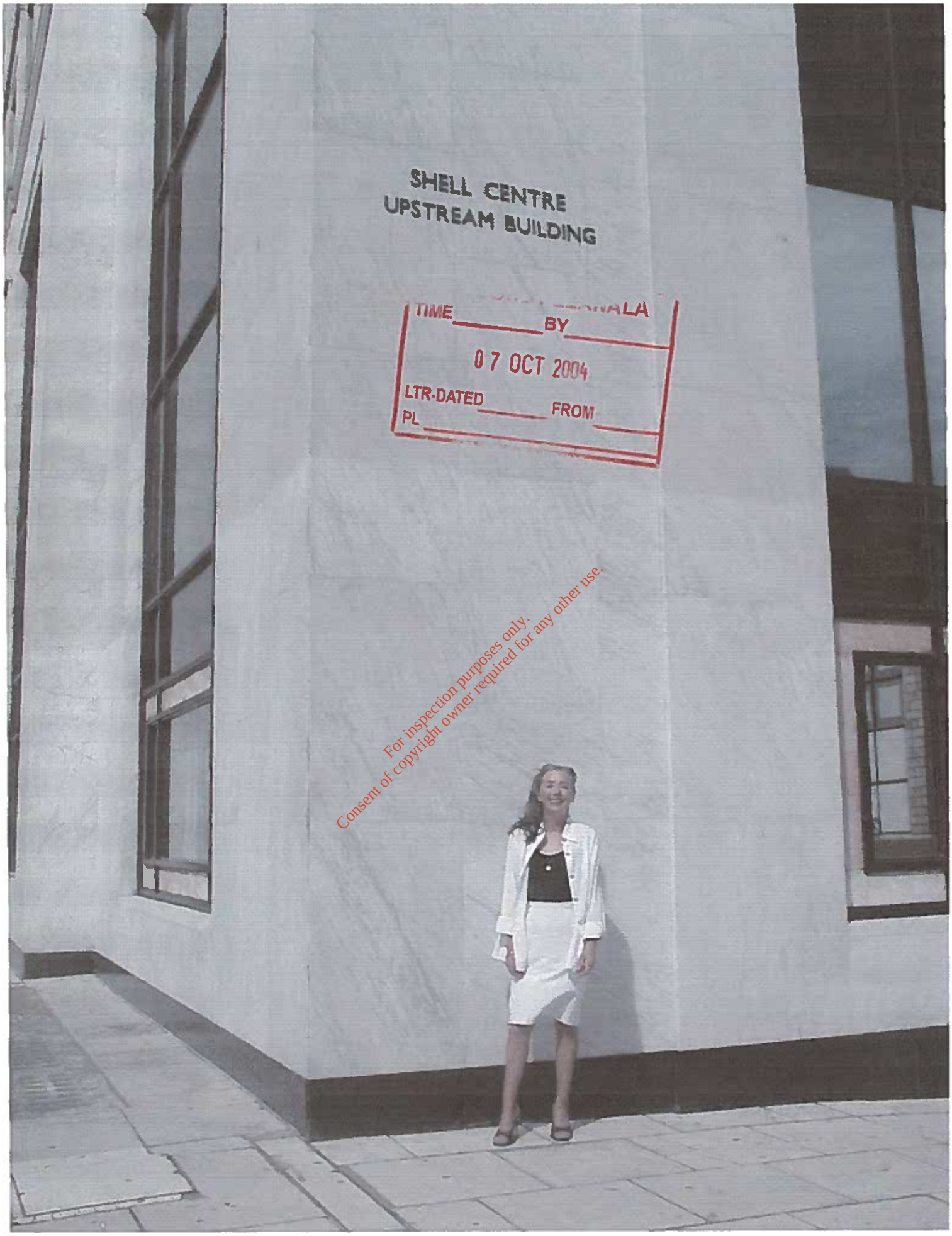
Todd Andrews as Nation Builder

In June, An Taoiseach (The Irish Prime Minister) Bertie Ahern, TD., launched a new T.V. three-part documentary series entitled "Nation Builders" as part of the ESB's 75th Anniversary Programme. One of the documentaries was on C.S. "Todd" Andrews, well known to veteran IPS members as the first Managing Director of Bord na Móna and "father" of the Irish peat industry. To encapsulate the life of Todd Andrews in a 40-minute film was no easy feat, but the film's director, Mary Brophy of ESRAS Films, managed admirably to do just that. John Bowman, the RTE television personality who wrote and presented the series tried to sum up the great man:

"Todd Andrews, controversial, irascible, authoritarian, as a public servant one of the power brokers of 20th century Ireland. Highly political but never elected. Yet in tourism, electricity, in railways, in broadcasting he was influential, but in the bogs he affected a revolution".



One of the anthropomorphic artifacts found at Derrygreenagh. Have similar objects been found in any other bogs in Europe?



Doohoma,
Ballina,
Co. Mayo.

Further to my telephone conversation with Captain Mulcahy, 18:09:2004, I now fax written Request to Her Excellency, Mrs. Mary McAleese for comment on the following:

During the course of her Presidential visit to Erris, Tuesday 6th. July 2004, which included calls to Ballyglass, Belmullet, Bangor Erris, Ballycroy (but not Ballinaboy) I handed a copy of 'Behind the Shine The other Shell Report 2003' to Her Excellency.
I now Request, and would welcome, Her Excellency's comments on this Report in the context of Royal Dutch Shell's proposal to build a gas Refinery at Ballinaboy served by an unprecedented upstream pipeline proposed to make landfall at the site of the Dooncarton Landslides, September 19th. 2003.

Le meas,

Maura Harrington.

MAURA HARRINGTON.

8th. September 2004.

OIFIG RÚNAÍ AN UACHTARÁIN
BAILE ÁTHA CLIATH 8
OFFICE OF THE SECRETARY TO THE PRESIDENT
DUBLIN 8

20 September, 2004

Mrs Maura Harrington
Doohoma
Ballina
Co Mayo

Dear Mrs Harrington,

Thank you for your recent letter to President McAleese.

The President has asked me to explain that she receives many requests to give her views on various topics however, having regard to the constitutional constraints on her role, it would not be appropriate for her to become involved in or comment upon matters such as this.

The President hopes that you understand her position and sends her good wishes.

Yours sincerely,

Orla Murray
Secretariat

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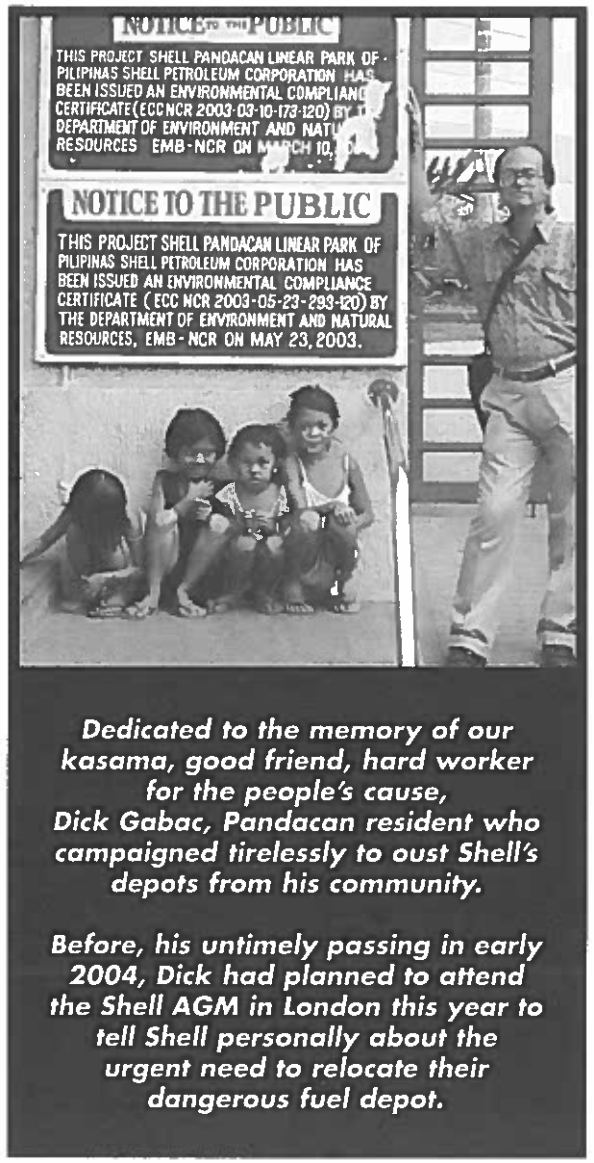

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Message from the Independent Auditors

As Shell's neighbours, we have been comparing—for decades—the information that Shell presents in glossy brochures against what's really happening on the ground.

We have aligned ourselves with standards of truth, accuracy and justice for all. We live in the hot spots that Shell has created by placing refineries, pipelines and wells in our communities. We do not represent a hand-picked external panel of so-called experts working in comfortable offices hundreds or even thousands of miles away. We are the true experts, and pay the price for our proximity to Shell's polluting activities.

We do not use complicated symbols to categorise data. We have no caveats, complicated disclaimers, limitations or aggregate numbers in our testimonies.

Our first-hand accounts are based on something far more reliable: our experience of having Shell as a neighbor.

—Shell's Fenceline Neighbors around the world

Assurance report

To: Friends of the Earth
From: Global Community Monitor
Re: the Other Shell Report 2003

Introduction

We have been asked to provide assurance over the community testimonies and first hand accounts detailed in this Report. This Report is the responsibility of Friends of the Earth. Our responsibility is to express an opinion on the information, testimonies and statements indicated, based on our experiences referred to above in "Message from the Independent Auditors."

In our opinion

The social and environmental performance of Shell, as indicated in this report, properly reflects reality. Personal statements are sufficiently supported by experience of living next to Shell's polluting activities.

Assurance work performed

In forming our opinion, we have studied this report in the context of our expertise and experiences as detailed above in "Message from the Independent Auditors". We used a multi-disciplinary team, comprising fenceline neighbors and environmental and social specialists.

Considerations and limitations

None

We believe our experiences provide a reasonable basis for our absolute opinion.

Global Community Monitor / A project of the Tides Center

Contents

This report highlights Shell's poor performance as a leading corporate social responsibility advocate. It also looks at Shell's failure to address the concerns of Shell fenceline communities raised at last year's AGM, and the link between Shell's exaggerated oil reserves fiasco and exaggerated claims about its social and environmental performance, in order to highlight the need for urgent reform of UK company law.

This report is based largely on evidence from people around the world who live in the shadow of Shell's various operations. This report is written on behalf of Friends of the Earth (FOE), Coletivo Alternative Verde (CAVE), Community In-power Development Association (CIDA), Concerned Citizens of Norco, Environmental Rights Action of Nigeria (FOE Nigeria), Global Community Monitor (GCM), groundWork (FOE South Africa) & groundWork USA, Louisiana Bucket Brigade, Sakhalin Environmental Watch, South Durban Community Environmental Alliance (SDCEA) and United Front to Oust Oil Depots (UFO-OD).

Report Coordinator: Denny Larson, *Global Community Monitor.*

Contributors: Anne Rolfes, *Louisiana Bucket Brigade*, Hilton Kelley, *Community In-power Development Association*, Karen Read, *South Durban Community Environmental Alliance*, Melissa Coffin, *Environmental Health Fund*, Norbert George, *Humane Care Foundation Curaçao*, Denny Larson, *Global Community Monitor*, Vanessa Stasse, *JED Collective Center*, Cesar Augusto Guimarães Pereira & Elson Maceió dos Santos, *Coletivo Alternative Verde*, Hope Tura, *UFO-OD*, Francesca Francia, *Global Community Monitor*, Monique Harden & Nathalie Walker, *Advocates for Environmental Human Rights (AEHR)*, Dmitry Lisityn, *Sakhalin Environmental Watch*, Ikuko Matsumoto, *Friends of the Earth (Japan)*, Peter Roderick, Doug Norden, *Pacific Environment*, Marc Pagani.

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Want to know more? Additional information on Shell can be found in *Riding the Dragon: Royal Dutch/Shell and the Fossil Fire* by Jack Doyle, published by the Environmental Health Fund, available at www.shellfacts.com.

Foreword

Dear Stakeholder

This is the second alternative Shell Corporate Social Responsibility (CSR) report that Friends of the Earth has been privileged to produce with, and for, the many communities that live on Shell's "fencelines".

For several years now, Shell has been overstating its social and environmental performance. Our report, *Failing the Challenge—The Other Shell Report 2002*, documented what it is like for the many communities living next to Shell's refineries, depots, and pipelines in different parts of the world. We were able to show that, despite making a public commitment to sustainable development eight years ago, Shell is still putting more effort into green spin than green delivery, and that little has changed on the ground.

Behind the Shine—The Other Shell Report 2003 provides an update on the main cases profiled in *Failing the Challenge* and chronicles Shell's inaction and procrastination over the last 12 months. In Texas, Durban, Manila and the Niger Delta, communities have been offered endless dialogue, projects, and pilot projects instead of the concrete action needed to stop the harm the refineries, depots, gas flares, and pipelines are causing. Together with these cases, we profile three new case studies. We also challenge the failure of CSR and the use of voluntary codes of practice to address the significant social and environmental impacts of corporations.

Since Shell's Annual General Meeting in April 2003, shareholders and institutional investors have discovered what fenceline communities have known for a long time: that what Shell says in its reports and what happens in reality are often not one and the same. The company's announcement in January 2004 that it had overstated its oil and gas reserves by 20% sent shockwaves through world energy markets and the corporate sector as a whole. But at least shareholders have rights established in law, through which they can hold Shell accountable when it fails to act in their interest.

The same cannot be said, unfortunately, for the people who live next door to Shell. These stakeholders have little or no rights of redress, and Shell is working to destroy what few rights they have by lobbying against an important UN standard, Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights. Existing laws governing companies are flawed because they focus on delivering short term profit rather than considering the wider social and environmental impacts of companies.

The time has come for laws governing corporations to protect the environment and the people who are most directly affected by Shell's poor performance: the fenceline communities. Friends of the Earth is campaigning as part of the Corporate Responsibility (CORE) Coalition to reform UK law so that companies are required to address their impacts on human rights and the environment, both here in the UK and wherever these companies operate overseas.

Justice and accountability should be rights for the stakeholder—not just for the shareholder.

Tony Juniper

Tony Juniper
Executive Director, Friends of the Earth (England, Wales and Northern Ireland)

Friends of the Earth tells Shell...

The UK is the fourth largest economy in the world, and the largest foreign direct investor. The way UK plc goes about its business directly affects the lives of hundreds of millions of people across the globe.

When the Labour Party came to power in 1997 it promised to implement an ethical foreign policy. In 1998 the Government announced a review of company law that would recognise the role of stakeholders in company law. Three years on, the Foreign Secretary Jack Straw stated *"we cannot leave companies to regulate themselves globally any more than we can in our national economies. Setting common standards at a global level requires legislation."*[66]

Unfortunately we don't have much to show after six years of broken promises. The Government-appointed Company Law Review Steering Group published a report in 2001 that marginalises the role of stakeholders and the consideration of wider social and environmental issues[67]. Rather than legislate in this area, the Government believes that companies can be made accountable through CSR, voluntary codes of conduct, and partnerships with civil society and government.

As this report shows, relying on CSR and the voluntary approach to make companies accountable for their social and environmental impacts is fundamentally flawed.

Friends of the Earth (England, Wales and N. Ireland) is working as part of the Corporate Responsibility (CORE) Coalition which includes trade unions, environment, human rights, development and faith organisations including Amicus, Amnesty International, Christian Aid, Transport & General Workers Union, New Economics Foundation, Save the Children, Traidcraft, the public service union UNISON, and the Unity Trust Bank to promote the reform of company law to take into account social and environmental impacts [68].

We call on the **UK Government** to support the reform of company law as promoted by the CORE coalition in order to:

- Place a **duty of care** on directors to take reasonable steps to reduce any significant social or environmental impacts.
- Require all UK companies to **report on the significant negative social or environmental impact** of their operations, polices, products, and procurement policies with independent verification.
- Create **foreign direct liability for companies so that affected communities can seek redress** in the UK for human rights, social and environmental abuses as a direct result of their operations or of their oversees subsidiaries.

We call on **Shell** to cease relying on CSR and voluntary codes of conduct to address corporate abuse of the environment and human rights, and instead to:

- support initiatives like CORE to reform company law to address social and environmental impacts, and
- stop lobbying against international corporate accountability initiatives like the **UN Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights**, and the US Alien Torts Claim Act.

Conclusions

The fenceline communities tell Shell...

Cultivation of its image as a responsible multinational corporation is a significant priority for Shell. It spends millions of dollars on glossy brochures and advertising to convince us all—and perhaps itself — that it is a leader in corporate social and environmental responsibility.

At conferences and international meetings, such as the 2001 UN World Summit on Sustainable Development in Johannesburg, Shell trumpets to governmental officials its commitment to sustainable development and human rights. But in trumpeting this commitment, Shell advocates for an entirely voluntary approach, which has not resulted in securing the vitally important changes that communities in the shadows of Shell facilities are demanding. The real-life stories in this report demonstrate the need for Shell's senior management to spend less time on the message and more on making a difference where it matters most—in the communities living next to Shell's operations.

Shell has not met the sustainability challenge it set for itself in 1995, and is still putting short-term profit before people and the environment. It is time for Shell to move beyond the PR. In order to do so, Shell CEO Jeroen van der Veer must:

- Stop wasting its resources on "feel good" social projects that do nothing to solve the serious health and environmental problems of its facility operations that plague communities around the world.
- Eliminate hazardous and life-threatening facility accidents by replacing antiquated and dilapidated pipelines and relocating them to non-residential areas.
- Significantly reduce pollution where Shell operates in communities of color, just as Shell has done at its facilities in Denmark and other locations that are predominantly populated by Caucasians.
- Comply with local legislation and relocate oil depots away from Manila, where the densely populated area is subjected to the depot's constant toxic emissions, as well as the threat of the depot being a terrorist target.
- Improve and enhance its identification and measurement of facility pollution by employing state-of-the-art real-time environmental monitoring, which thoroughly involves community participation.
- Cease any and all delays in terminating the odious practice of gas flaring in Nigeria.
- Take full responsibility for past environmental damage that continues to impact the health and environment of people in places like Sao Paulo, Brazil and Curaçao, Caribbean.
- Fully and accurately assess the significant impacts of massive projects like the Sakhalin II oil and gas drilling, processing, and export complex in Russia, which could ultimately subject Sakhalin Island to irreversible environmental disasters and devastating economic losses.

Each case documented in this report represents a potential and significant liability for Shell. It is important that Shell's shareholders and financial analysts recognize that for every case detailed here, there are many more around the world.

The year in review

"Our commitment to contribute to sustainable development is not a cosmetic public relations exercise. We believe that sustainable development is good for business and business is good for sustainable development. Last year's financial results were encouraging, in a very difficult business environment. However, the corporate scandals of the past year underlined that good financial performance must be accompanied by the highest standards of governance. Shell's Business Principles assurance process ensures we meet and maintain those standards."

Sir Philip Watts (then) Chairman of Shell's Committee of Managing Directors in his Foreword to the *Meeting the Challenge—The 2002 Shell CSR Report.*

In the year since Sir Philip Watts' statement, shareholders have come to realize the deep irony of his words. Rather than demonstrating "good financial performance . . . accompanied by the highest standard of governance", Shell has created an international corporate scandal by exaggerating its oil and gas reserves. Chief Executive Sir Philip Watts has been compelled to resign, and governmental entities in the United States and Europe have launched investigations of Shell's business practices.

Just as important, people living near the fencelines of Shell's facilities have witnessed the emptiness of Sir Philip Watt's statement pertaining to sustainable development and the commitment he made to them during Shell's Annual General Meeting "AGM" in April 2003. At the AGM, shareholders listened patiently while one fenceline community representative after another seized the opportunity to finally put their case directly to Shell's Board of Directors. Under the glare of the media and investor spotlight, Sir Philip Watts made numerous personal and corporate commitments to ensure action would be taken. However, Shell has failed to deliver any significant on-the-ground improvement in its operations.

The reality, as known all too well by Shell's many fenceline communities, is that Shell has been overstating its social and environmental performance for years. For many, the company has become synonymous with the word "greenwash", i.e. giving the impression of acting in an environmentally protective way while carrying on with unsustainable business as usual. It was in an effort to expose this gap between rhetoric and reality that Friends of the Earth and the Global Shell Fenceline Alliance last year published the first alternative Shell Corporate Responsibility (CR) report, *Failing the Challenge—The Other Shell Report 2002.*

Shell neighbors, Desmond D'Sa, Hope Tura, and Oronto Douglas engage Sir Philip Watts at last year's AGM meeting in London. (Denny Larson, Global Community Monitor)

The year in review

year in review continued...

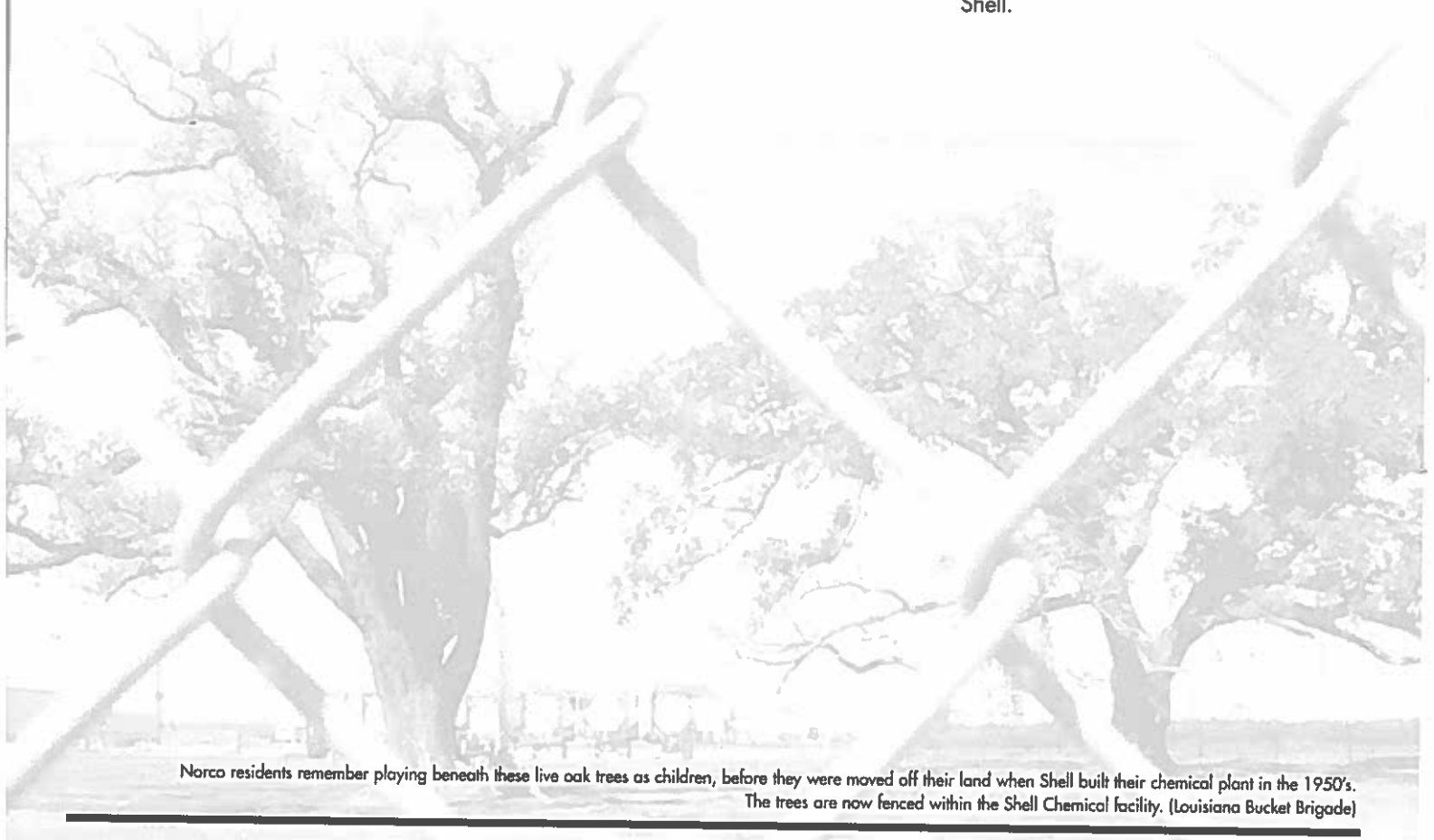
Shell has always been a big advocate of "corporate social responsibility" or CSR and voluntary codes of conduct, but there comes a time when this isn't enough. Friends of the Earth believes that companies like Shell should be required by law to consider a duty of care to the environmental and social impacts of its operations. Fenceline communities want Shell to stop polluting their environment and damaging their health.

This report provides an update on the main case studies profiled in *Failing the Challenge*, and chronicles a pattern of procrastination, inaction, and continuing poor social and environmental performance by Shell over the last 12 months. Little has changed.

Who knows the real Shell best—its fenceline neighbours

This report is a message from people around the world who are severely impacted by Shell's operations. It presents case studies from a few of the many countries, towns, and suburbs that have been damaged by Shell's environmental and social failures. People living near Shell refineries, pipelines, and petrochemical facilities from places as far apart as Texas in the USA and Nigeria in Africa want the world to know that this multinational corporation is jeopardising their families' health, destroying their quality of life, and threatening their lives. In all of these cases, ordinary people have had to put a great deal of personal time and energy into advocating that Shell take responsibility for the problems it causes and live up to its stated commitments to human rights and environmental standards. Unfortunately, Shell fails to respond to community concerns unless and until its bad practices are brought to public attention. And even when Shell comes under public scrutiny, such as in Nigeria, Durban, South Africa, and Port Arthur, Texas, it often fails to act, or does not act in good faith.

In response to Shell's 2003 annual report to shareholders, and its multi-million dollar public relations campaign to portray itself as being socially responsible, this report brings to the light of day the truth about Shell's harmful operations. The communities from around the world that are featured in this report share their inspiring and courageous stories about their daily struggle to defend their health and environment from Shell.



Norco residents remember playing beneath these live oak trees as children, before they were moved off their land when Shell built their chemical plant in the 1950's. The trees are now fenced within the Shell Chemical facility. (Louisiana Bucket Brigade)

Pitfalls of the voluntary approach

From a stakeholder perspective the voluntary approach is flawed because it provides little incentive for a company beyond its protecting its reputation to significantly improve its social and environmental performance, doesn't give affected stakeholders the right of redress, and fails to deal with companies that choose to ignore it.

Companies favour the voluntary approach as they want self regulation. They claim by using the voluntary approach they have more flexibility and freedom to implement various codes of conduct, such as the Global Compact, rather than comply with new legislation. More and more Governments in turn fearful of company threats to relocate or lay off workers are also encouraging this approach as it easier to implement and requires little if any governmental oversight.

The UN Global Compact is typical of many voluntary approaches to incorporate codes of conduct for addressing social and environmental issues. A motivating factor for many companies to join the Global Compact is to enhance their reputation in the areas of sustainability, international development and human rights. All companies have to do to comply with the lofty aims embedded in the nine general principles of the Global Compact is file an annual report. Effectively, companies monitor themselves while affected stakeholders are left on the outside.

The irony of the Global Compact is that the reputation most likely at risk is that of the United Nations itself by association with corporations with poor human rights and environmental records as well as the more sinister cultural impact of being overly influenced by the short-term profit driven ideology of major corporations."[65] The myth of CSR and the effectiveness of the voluntary approach need to be exposed to prevent inhumane and environmentally unsustainable business policies and practices continuing.

Need to reform UK company law

Currently, UK law governing companies does not consider the significant impact that companies have on human rights, communities, and the environment. What is clearly needed is a law that holds companies accountable for their social and environmental impacts, and affords redress to affected stakeholders.

As this report demonstrates, there is an urgent need to reform company law so that directors have a "duty of care" to consider the significant environmental and social impacts of their companies' policies and operations. This duty of care should apply not just in the UK but wherever a company operates in the world.

Why the voluntary approach just isn't good enough

Great expectations—corporate social responsibility (CSR)

"Our core values of honesty, integrity and respect for people define how we work. These values have been embodied for more than 25 years in our Business Principles, which since 1997, have included a commitment to support human rights and to contribute to sustainable development. We continue to make progress in translating our commitment to contribute to sustainable development into action."

— Shell, *How We Work*, report available on Shell website www.shell.com

Shell has been recognized by many as one of the pioneers of "corporate social responsibility" or CSR, based on its initial response to the international outcry over the execution of Ken Saro-Wiwa, and the proposed dumping of its Brent Spar oil platform in the North Sea. CSR was a promise that companies would go beyond their existing legal obligations to address issues of sustainability, development, and human rights.

In 1998, Shell produced its first CSR report, *Profits and Principles—Does There Have to Be a Choice?* Thereafter, Shell began withdrawing from anti-environmental lobby groups such as the Global Climate Change Coalition, an industry lobby group which had spent US$60 million denying the existence of climate change in the 1990s.

So where did it all go wrong?

CSR—what is it all about?

Corporate social responsibility implies that the values that drive multinational corporations are compatible with the values that drive society and our concern for the environment and human rights. The experience of many communities living in the shadow of companies operating in their backyard, as illustrated in this report, show that this is far from reality.

The corporate values that appear to drive Shells managers are exaggeration, greed and cover-up. An internal report commissioned by Shell after the fiasco related to its report of inflated reserves revealed a three-year plan to deceive investors regarding the level of reserves. Eventually the production manager responsible was forced to concede in an internal email to the CEO: *"I am sick and tired of lying about the extent of our reserves"* although he didn't subsequently inform investors."[64]

One of the obstacles to the implementation of CSR strategies is that company law promotes the pursuit of short term profit above all else. This focus on the short term means that important long term environmental and social issues are simply not addressed. The lack of real "on the ground" success in CSR also clearly demonstrates how it is driven largely by the PR and marketing departments rather than any genuine desire to change business policies and practices.

So the real reason for CSR appears to be to maintain and enhance a company's reputation locally, nationally and globally which in turn; enables companies to deflect bad PR with good PR, neutralise local opposition and watchdog NGOs, attract foreign investment and reduce regulatory pressures by arguing that the company is being a "socially responsible" corporation.

The concept of the socially responsible company is used to most effect by companies to support of the use of the voluntary approach rather than legally binding regulations and legislation. The hidden agenda of CSR, though, is to mask the private lobbying that company's do which often contradicts the position taken in their CSR reports (see "Corporate lobbying under scrutiny—the case of Shell").

Shell's neighbours tell Shell:

- To stop wasting its resources on "feel good" social projects that do nothing to solve the serious health and environmental problems of its facility operations that plague communities around the world.
- To eliminate hazardous and life-threatening facility accidents by replacing antiquated and dilapidated pipelines and relocating them to non-residential areas.
- To significantly reduce pollution where Shell operates in communities of color, just as Shell has done at its facilities in Denmark and other locations that are predominantly populated by Caucasians.
- To comply with local legislation and relocate oil depots away from Manila, where the densely populated area is subjected to the depot's constant toxic emissions, as well as the threat of the depot being a terrorist target.
- To improve and enhance its identification and measurement of facility pollution by employing state-of-the-art real-time environmental monitoring, which thoroughly involves community participation.
- To cease any and all delays in terminating the odious practice of gas flaring in Nigeria.
- To take full responsibility for past environmental damage that continues to impact the health and environment of people in places like Sao Paulo, Brazil and Curaçao, Caribbean.
- To fully and accurately assess the significant impacts of massive projects, like the Sakhalin II oil and gas drilling, processing, and export complex in Russia, which could ultimately subject Sakhalin Island to irreversible environmental disasters and devastating economic losses.

Global Delegation of Shell neighbors from Asia, Africa and North America in front of the Shell AGM meeting last year. (Nick Cobbing/Friends of the Earth).

Global recognition for people

The Goldman Environmental Prize, considered the "Nobel Prize for the Environment," is the world's largest prize program honouring grassroots environmentalists from the six continental regions of Africa, Asia, Islands and Island Nations, Europe, North America, and South and Central America. Over the last several years, the Goldman Environmental Prize has been awarded in three separate instances to community leaders for their inspiring work in combating Shell's destructive practices and related injustices in their countries. In 2004 the Goldman Prize was awarded to Margie Richard from Norco, Louisiana, USA; in 1998 Bobby Peek from Durban, South Africa won the prize; and in 1995 the late Ken Saro-Wiwa from Nigeria was posthumously awarded the prize These awards stand as a testament to both the profoundly negative global impacts that Shell has on communities around the world, and the exceptional courage, commitment, and personal sacrifice of the people living in these communities, who tirelessly fight for justice.

Margie Eugene Richard, Goldman Prize Winner 2004

"If a person does not live where people live who are impacted, they really, I think, have something missing in understanding the daily ills of not being able to enjoy where you live, where you work and where you play."

Margie Richard, Goldman Prize Winner, 2004

Margie Richard grew up in the community of Diamond and lived within 25 feet of the Shell chemical plant in Norco, Louisiana. Margie and her neighbours believe that the high rates of cancer, birth defects, and serious ailments such as asthma were caused by pollution from Shell's operations. The Shell plant at Norco dumps more than two million pounds of toxic chemicals into the environment each year.

Margie was first motivated to take on Shell in 1973 when a Shell pipeline exploded, killing an elderly woman and teenage boy only a block from her house. In 1988 there was another major accident at the plant which killed seven workers and resulted in over 150 million tonnes of toxins being spewed into the air. In 1989 Margie formed the Concerned Citizens of Norco to seek justice from Shell.

Margie has led the 13-year campaign of Concerned Citizens of Norco for a fair buy-out of their contaminated neighbourhood. Margie was awarded the Goldman Environmental Prize 2004 for persuading Shell to relocate residents who had grown up living next door to the chemical plant and to reduce its toxic emissions from their operations by 30%.

Margie Richard on the banks of the Mississippi River, Louisiana, along a 136 kilometer stretch known as "Cancer Alley", because of the high concentration of industrial chemical facilities. (Marc Pagani, Louisiana Bucket Brigade)

In opposing the UN Norms, Shell argues that human rights standards should be voluntary for businesses, and not mandated by law[58]. Shell further asserts that it is already implementing human rights standards, so that the UN Norms offer little value[59]. If Shell is truly committed to upholding human rights, then why is the company leading efforts to block human rights standards for businesses? Any impacts from Shell's supposed implementation of human rights standards are clearly not evidenced in any of the communities documented in this report, who suffer significant harms as a result of Shell's operations.

Attempting to minimise their accountability for the social and environmental impacts of their operations, Shell and other business associations have lobbied not only against the UN Norms, but also against recent lawsuits brought under the Alien Tort Claims Act (ATCA), which has become a vital channel for victims of human rights abuses that are committed abroad. ATCA enables any victim of an alleged violation of international law to use the US courts to sue the alleged violator, provided the alleged violator has assets in the US. In the case of *Wiwa v. Royal Dutch Petroleum*, Shell has been sued for violating human rights under ATCA and other laws[60]. Specifically, the lawsuit claims that Shell and its subsidiary colluded with Nigeria's military government to bring about the arrest and execution by hanging of Ken Saro-Wiwa and John Kpuinen, two of nine leaders of the Movement for the Survival of the Ogoni People (MOSOP), an organization that campaigned against Shell's operations in Nigeria[61]. The lawsuit further alleges that Shell and its subsidiary gave money and weapons to the Nigerian government to crush the protest movement, and bribed witnesses to give false testimony[62]. Shell and business groups are advocating that US courts dismiss human rights cases brought under ATCA, and the US Supreme Court is expected to decide this issue[63] within the next several months.

The enormous resources that Shell expends on attacking laws and standards that would make the company accountable for any human rights violations belies Shell's purported commitment to human rights, as stated by Shell's Vice President of External Relations, Robin Aram:

"Addressing human rights abuses calls for action at many levels from political will and high policy, to 'bearing witness' and practical actions by companies and others. Our job is to work out what realistically we can do to enhance human rights in the context of doing our business—and then do it."

It seems that human rights considerations are relegated to Shell's CSR and external relations functions—in other words, they are at the periphery of the organisation. Such fundamentally important considerations should be part and parcel of Shell's day-to-day business decisions and operations throughout the Shell Group.

In the words of the Financial Times editorial of 5 April 2004, *"There is a respectable body of opinion that believes social responsibility is a costly distraction from companies' one true purpose of making a profit."* Despite Shell's rhetoric to the contrary, it appears that Shell is part of that body of opinion.

Shell's opposition to legal protections for human rights is fast becoming the subject of growing public scrutiny and condemnation. Such public attention to the stance of corporations on human rights laws and standards may well become a new trend, similar to the public pressures that some energy companies have come under for opposing the Kyoto Protocol. In the future, the social responsibility of companies may be assessed not just on the basis of their policies and practices, but also on the positions they take regarding human rights and other critical issues pertaining to international laws and policies. Shell should take notice.

Black smoke from pipeline spill fire fills the sky in Rukpokwu, Nigeria, January 7, 2004. (Copyright Stakeholder Democracy Network 2004)

Corporate lobbying under scrutiny

The case of Shell

"From a Shell perspective we don't find the Norms helpful."

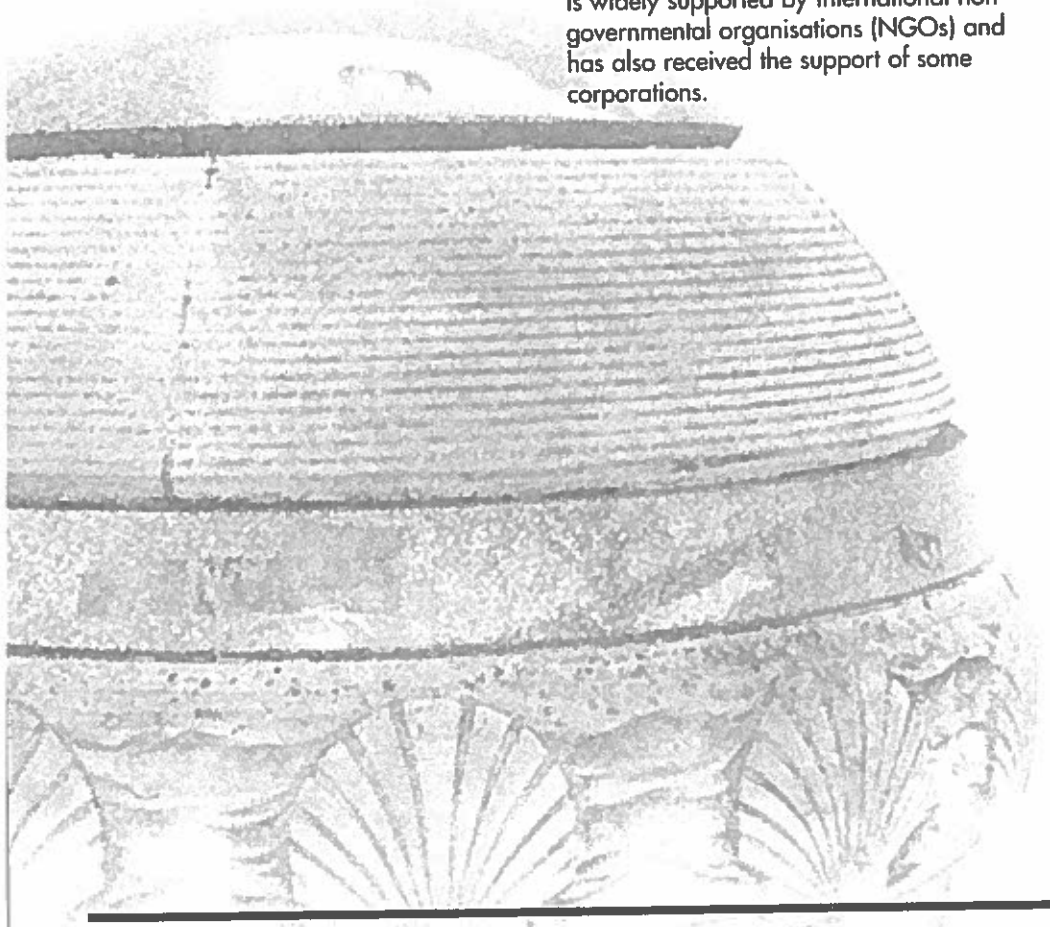
Robin Aram, Vice President of External Relations and Policy Development, Shell[57]

In response to the pressures that Shell found itself under in Nigeria during the mid 1990s, when it was being associated with human rights violations committed by the government of General Abacha against the Ogoni people, Shell changed its statement of business principles to recognise its responsibility for human rights. Shell was one of the first companies to recognise the relevance of international human rights standards, referring to the Universal Declaration of Human Rights in its policy documents and reports. Shell even produced a management primer on human rights in 1998, which remains one of the most advanced corporate statements on human rights in existence. Until this ground-breaking activity by Shell, the international business community had considered human rights to be a political issue beyond its sphere of influence. The tragic events in Nigeria signalled the start of a journey by Shell to convince the world that human rights are "at the heart of our business".

However, Shell's journey came to an abrupt end in 2003 when the company embarked on a lobbying campaign against unprecedented efforts by the United Nations (UN) to define the human rights responsibilities of companies.This initiative, known as the UN Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights, is widely supported by international non-governmental organisations (NGOs) and has also received the support of some corporations.

The UN Sub-Commission on the Promotion and Protection of Human Rights unanimously adopted the UN Norms in August 2003. This represented a major step forward in establishing a common global framework for defining the responsibilities of business enterprises with regard to human rights. The UN Norms set out in a single, succinct statement, a coherent and comprehensive list of the human rights obligations of companies. The UN Norms do not create new legal obligations, but simply codify existing obligations under international law that are applicable to business.

Shell is leading the opposition to the UN Norms, which includes the International Chamber of Commerce, the International Organisation of Employers, the US Council of International Business, and the UK Confederation of Business and Industry. Shell asserts that the UN Norms seek to impose responsibilities on businesses that are not appropriate for them. However, the entire thrust of the UN Norms is to encourage the development of stable environments for investment and business, regulated by the rule of law, in which contracts are honoured, corruption is reduced, and business enterprises, both foreign and domestic, have clearly defined rights and responsibilities.



Decorative sphere at Shell London headquarters depicts the corporate logo circling the earth. (Denny Larson, Global Community Monitor)

standing up to Shell

Previous winners of the Goldman Prize who stood up to Shell

Ken Sarowiwa, Goldman Prize Winner 1995

Ken Saro-Wiwa, a well-known Nigerian award-winning author and activist, was executed by the Nigerian government in 1995. Ken Saro-Wiwa was president of the Movement for the Survival of the Ogoni People (MOSOP), an organization fighting to defend the environmental and human rights of the Ogoni people.

Since the late 1950's, Shell has been operating in Nigeria, extracting more than US$30 billion of oil and contaminating the farmland and fisheries of the Ogoni. Many of the fish and wildlife in the area have vanished. Ken Saro-Wiwa mobilized his people to demand compensation from Shell for oil spills on Ogoni farmland and in the wetlands, rivers, and streams of the Niger Delta. In January 1993, Ken brought together 300,000 Ogoni who took to the streets in the largest demonstration against an oil company in history.

In May 1994, Ken was abducted from his home and arrested with other MOSOP leaders for the alleged murder of four Ogoni leaders. In October 1995, despite the protests of people around the world, including government officials from other countries and human rights organizations such as Amnesty International, Ken and eight co-defendants were convicted by a military tribunal and hanged. Many Ogoni believe that the only crime committed by Ken Saro-Wiwa was his daring to stand up to Shell.

Ken Saro-Wiwa

Bobby Peek addresses a rally of South Durban residents concerned with pollution from Shell's refinery. (South Durban Community Environmental Alliance)

Bobby Peek, Goldman Prize Winner 1998

Sven 'Bobby' Peek grew up in South Durban in South Africa next to one of the largest oil refineries in Africa, the South African Petroleum Refinery (SAPREF). The refinery, which is jointly-owned by Shell and BP, operates in communities where poor black, Indian, and mixed race people live. Every family on the block where Bobby lives has lost at least one member to cancer.

Bobby was awarded the Goldman Environmental Prize in 1998 for his vision and leadership in uniting multi-ethnic communities, in post-apartheid South Africa, to advocate for reductions in Shell's significant pollution levels.

Durban, South Africa

Social development schemes to ignore refinery hazards

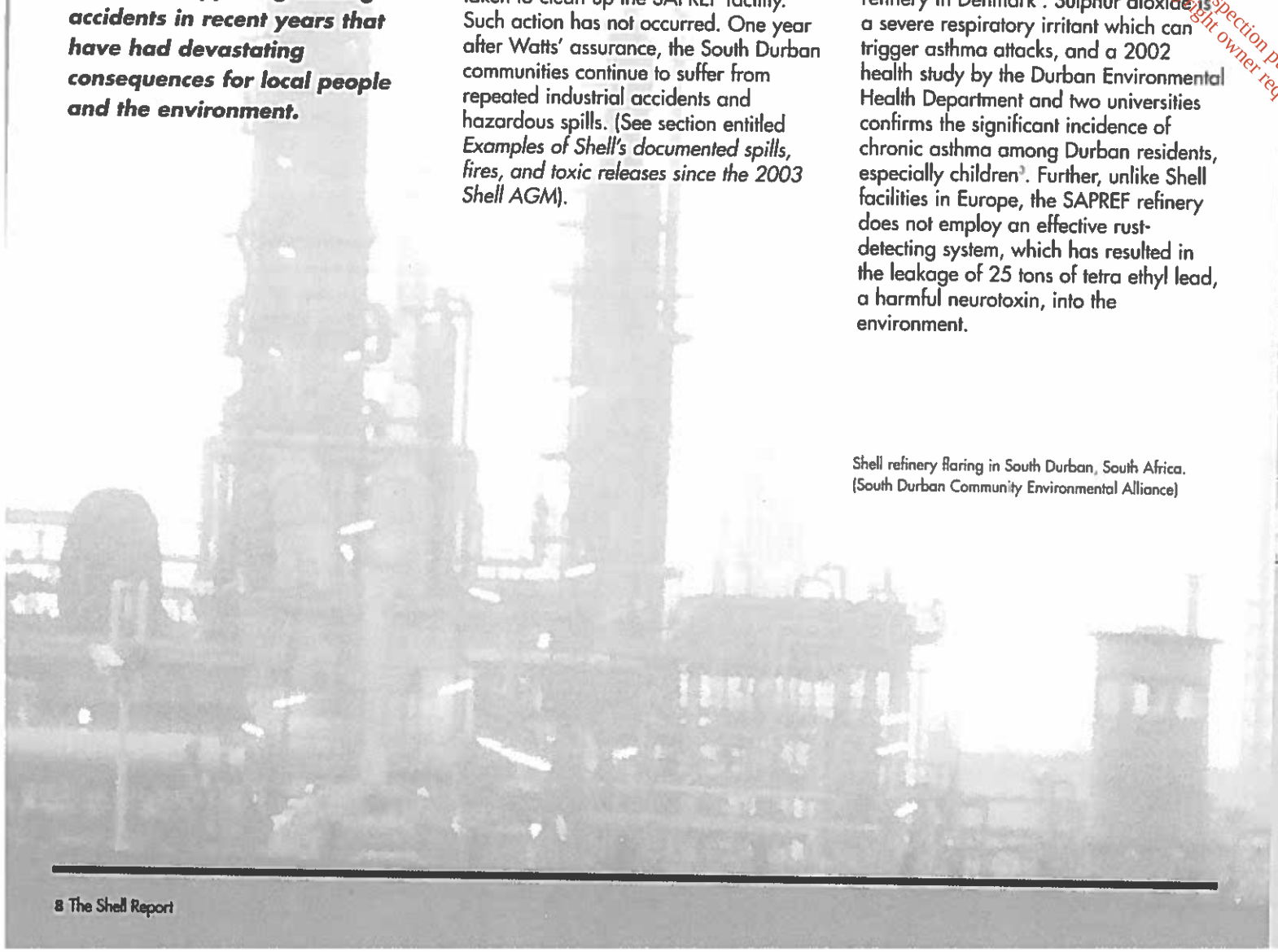
Durban is home to the massive South African Petroleum Refinery (SAPREF) which is the largest crude oil refinery in South Africa. Jointly owned by Shell and BP, the SAPREF refinery began operating in the 1960s and has the capacity to process more than 185,000 barrels of oil per day. The refinery complex is in an area of south Durban populated by poor black, Indian, and mixed-race communities. SAPREF's aging infrastructure has caused an appalling catalogue of accidents in recent years that have had devastating consequences for local people and the environment.

Shell's assurance to Durban at the 2003 AGM

Desmond D'Sa is a Durban resident and Chairperson of the South Durban Community Environmental Alliance (SDCEA), a coalition of community organisations from diverse racial, ethnic, and religious backgrounds that advocates for industrial pollution reduction and accident prevention. In 2003, Desmond travelled to the Shell AGM in London and eloquently spoke out against Shell's hazardous operations in Durban. During the AGM, Sir Philip Watts, then CEO of the Shell Group, gave Desmond his personal assurance that action would be taken to clean up the SAPREF facility. Such action has not occurred. One year after Watts' assurance, the South Durban communities continue to suffer from repeated industrial accidents and hazardous spills. (See section entitled *Examples of Shell's documented spills, fires, and toxic releases since the 2003 Shell AGM*).

Double standards

Shell asserts that it uses the best environmental standards at its facilities worldwide. In fact, however, Shell is guilty of using a double standard, one that often provides cleaner facilities in areas around the world with predominantly Caucasian populations as compared to dirtier and more hazardous facilities located in places where people of color live. For example, on a daily basis, the SAPREF refinery dumps 19 tons of sulphur dioxide into the air that people in the neighbouring communities breathe[1], which is more than six times the amount of sulphur dioxide released by Shell's refinery in Denmark[2]. Sulphur dioxide is a severe respiratory irritant which can trigger asthma attacks, and a 2002 health study by the Durban Environmental Health Department and two universities confirms the significant incidence of chronic asthma among Durban residents, especially children[3]. Further, unlike Shell facilities in Europe, the SAPREF refinery does not employ an effective rust-detecting system, which has resulted in the leakage of 25 tons of tetra ethyl lead, a harmful neurotoxin, into the environment.



Shell refinery flaring in South Durban, South Africa. (South Durban Community Environmental Alliance)

Smoke and mirrors

Social development and assessments, pay offs, and community advisory panels

Shell spends substantial resources on its so-called Sustainable Development Program. However, these resources are largely wasted, as they do not meaningfully address Shell's endemic problems.

Untold sums have been spent by Shell to portray itself as a good corporate citizen. It is not difficult to find media coverage, circulated in communities where Shell operates, that features beaming Shell officials standing beside an oversized check presented to a local school or civic program. The photographs suggest to the world—and emphasize to the local community—that Shell values and protects the communities where it operates.

However, as documented in this report, Shell operations severely threaten the health and environment of people around the world. Far from living up to its advertised image, Shell does little more than dismiss local community demands for safety and better environmental conditions—whether in the form of legislation, health reports, or citizen advocacy. The stronger the local demand for safety, health, and environmental protection, the harder Shell works to engineer public relations programs that it believes will placate the local community. If Shell hopes to make any progress, it must undertake actions that are responsive to the demands articulated by communities affected by Shell's pollution and facility hazards.

Shell should realise by now that its public relations tactics are completely transparent to affected communities around the world. In fact, the communities profiled in this report provided the following summation of the various tactics used by Shell to counter their fundamental demands for a healthy environment.

Financial donations

Money given by Shell to civic organisations and local governments.

- The recipients are those who do not complain about the harmful impacts of Shell's operations on human health and the environment.
- The recipients unwaveringly describe Shell as a "good neighbour", and deny all criticisms pertaining to the company's environmental record.
- The donations are used as "greenwash" to portray Shell as an environmental steward for contributing to non-controversial public events, such as litter pick-ups and maintenance of hiking trails. To create the impression that the event is widely embraced by the local community, Shell often directs numerous of its employees to participate.

Social assessments

A process initiated by Shell to determine what it believes to be the social factors related to community needs.

- The assessments often include geographic areas where people do not suffer from or do not acknowledge that they suffer from the impacts of Shell's operations, in order to avoid an accurate assessment of the impacts of the company's operations.
- The assessments usually take months, if not years, to design and implement, diverting resources away from and delaying solutions to the environmental and health problems related to Shell's operations.

Community Advisory Panel (CAP) or Community Liaison Forum

Members of local communities who regularly meet with industrial facility management. The CAP was conceived by the chemical industry as a form of damage control following the 1984 Dow/Union Carbide industrial disaster in Bhopal, India.

- CAP members are usually hand-picked by Shell from communities that are not affected by Shell operations because they are located miles away from Shell facilities or are not in the wind path of Shell's pollution. (This suggestion for member selection is found in the official CAP manual.)
- CAP meetings are not open to the public and meeting minutes are not readily available to the public.

Walking bridge in London leading to area where Shell headquarters is located. (Denny Larson Global Community Monitor)

Examples of Shell's documented spills, fires, and toxic releases since the 2003 Shell AGM

Durban, South Africa

Durban, South Africa

October 2003
SAPREF pipeline leaks 75,000 litres of diesel into Durban Harbour. Dead fish were found floating in the Harbour the next day[50]. Monitoring data from the Settlers Monitoring Station show that SAPREF is partly responsible for exceeding sulphur dioxide emission limits[51].

24 December 2003
SAPREF refinery engulfs the community in huge clouds of black smoke. Residents are exposed to toxic gases affecting their health[52].

28 December 2003
SAPREF pipeline leaks marine fuel oil into Durban Harbour[53].

12 January 2004
SAPREF pipeline leaks approximately 20,000 litres of marine fuel into Durban Harbour, once again affecting marine life[54].

21 April 2004
Power failure at SAPREF shuts down steam boilers, causing flare gases to be burnt off, forming thick black soot[55]. Local residents wake up to sirens at the refinery and a cloud of thick black smoke over their homes[56].

Port Arthur, Texas

Since February 2003, Shell's Motiva Refinery reported 18 toxic releases and spills to the Texas Commission on Environmental Quality.

13 September 2003
An underground line to Motiva tank no. 1475 ruptured and caused the spill of over 120,000 pounds of hexane, butane, and isopentane. Later that day, a loss of electrical power to certain units led to an hydrocracker shutdown resulting in the release of 2,100 pounds of sulphur dioxide. A plant-wide power outage due to poor electrical connections caused the fluid catalytic cracker unit (FFCU) to shutdown. The FCCU pressure relief valves depressured to the alkylation flare and the FCCU flare, due to temporary power failure. Over 1,000 pounds of sulphur dioxide are released.

14 October 2003
Power failure results in emergency shutdown because of lack of back-up power systems at the refinery, resulting in over 24,000 pounds of sulphur dioxide being released to the air.

27 October 2003
The FCCU shutdown when the combustion air blower tripped off, resulting in a flare off of over 5200 pounds of sulphur dioxide. The filter on the hydrocracking unit plugged, resulting in the unit depressuring to the flare. Over 1,100 pounds of sulphur dioxide were released to the air in just a 15 minute period.

6 December 2003
The refinery lost vacuum on the vacuum tower and vented gases to the flare for over 3 hours, resulting in over 3,000 pounds of toxic chemicals being released.

Deer Park, Texas

"The Deer Park plant has emitted substances into the air in such concentration and duration as to adversely affect human health or welfare. These activities are also in violation of air permits governing emissions."
—Harris County Attorney, Harris County, Texas

From 1 February to 31 December 2003 the refinery had 27 accidental releases, emitting more than 700,000 pounds of pollution, according to a Houston Chronicle news report.

3 April 2002
a tank that caught fire as it was being cleaned enveloped a local highway in dense black smoke, closing a highway and causing a nuisance in nearby communities.

13 May 2002
another fire ignited natural gas, in violation of open burning laws, and closed the freeway.

September 2003
a pungent odour from a holding pond generated complaints from Jacinto Port to Tomball.

December 2002
a storm snuffed out a flare, releasing thousands of pounds of hydrogen sulphide.

Flaring in Port Arthur, Texas. (Hilton Kelley, Community In-power Development Association)

South Durban residents protest pollution problems in front of Shell refinery. (South Durban Community Environmental Alliance)

Ignoring the problem

SDCEA and groundWork (Friends of the Earth South Africa), an environmental justice organisation, have repeatedly urged Shell to deal specifically with the environmental issues of its refinery that plague Durban residents. However, rather than taking action to remedy the excessive pollution and frequent accidents at its operations, SAPREF has gone to the expense of bringing international consultants from Shell's headquarters in London to spend their time and resources on what they believe are social issues affecting fenceline communities[4]. This is reflective of a strategy increasingly employed by Shell to offer "feel good" projects, such as academic scholarships and new playgrounds, in order to divert attention from the serious health and environmental impacts of its operations.

In those instances when SAPREF does attempt to address environmental issues, such attempts are woefully inadequate, fail to respond to community demands, and ignore the root of the problem. For example, although SAPREF brought Shell experts from its offices in the Hague and London to assist in cleaning up around leaking pipes that have spilled over 1.3 million litres of petrol under the homes of Durban residents, SAPREF and Shell experts refuse residents' demands for relocation of the faulty pipelines away from their homes, and the implementation of appropriate environmental improvements in SAPREF's refinery operations[5].

Dialogue without action

SAPREF has been holding Community Liaison Forum meetings for a number of years. However, people in the community are tired of "talkshops" that have achieved nothing. SAPREF managers say they that want to build trust and move beyond an adversarial role with the community, but these managers have completely ignored the community's repeated admonitions that trust cannot be bought with so-called "social projects".

How meaningful are Shell's voluntary environmental management standards?

In attempting to defend its indefensible operation of the SAPREF refinery, Shell points to its ISO 14001 certification as evidence that its environmental management of the SAPREF refinery is entirely appropriate. However, ISO 14001 is merely a body of voluntary environmental standards which pertain to on-site industrial activities. These standards do not require Shell to consider either the environmental sustainability of its operations, or the off-site impacts that these operations have on local communities. In short, the ISO 14001 certificate is meaningless to communities who bear the significant off-site health and environmental consequences of SAPREF's toxic pollution and frequent industrial accidents.

Desmond D'Sa of SDCEA (right) reads a list of environmental justice demands to South African government officials. (South Durban Community Environmental Alliance)

SAPREF's leaks waste money and disrupt the community

The community is outraged that SAPREF's routine response to its frequently leaking pipelines consists of nothing more than excavating some of the contaminated land in their neighbourhoods, and applying patches to corroded segments of the antiquated pipelines. SAPREF's leaks and attendant excavations are a continual nuisance that severely disrupt the lives of residents. Why isn't there a program to relocate and replace all the pipelines? Why doesn't Shell recognize that it is an injustice to jeopardize the health and lives of residents with faulty pipelines that leak dangerous substances? Why does Shell continue to waste shareholders' investments by failing to fully and finally stop the leakage of refinery materials into the ground of South Durban?

What has SAPREF done for South Durban residents since the Shell AGM in April 2003?

- Polluted the community with accidents and leaks
- Exceeded air quality guidelines
- Offered little other than excuses when the community complained about toxic emissions and flaring
- Withheld information from community groups by using old apartheid legislation known as the National Keypoint Act
- Turned away community leadership from Remediation Site Meetings pertaining to massive leakage of oil under their homes
- Locked out community leaders from a meeting when members of the South African Portfolio on the Environment Committee visited SAPREF

Cartoon depicting oil spill threat from drilling in Sakhalin (Sakhalin Environment Watch)

Damaging local fisheries

Traditionally, Sakhalin Island's employment has centered on the fishing industry, which in recent years has seen a steady decline in the number of fish caught. Now the rich salmon fishing grounds are under threat as Shell has refused to stop dumping one million tonnes of tailings into Aniva Bay to build piers for Sakhalin II, rather than dump it at an alternative site that would avoid damaging local fisheries. Local fishermen are angry as they believe this violates Russian environmental regulations that protect rich fisheries[42].

Flawed environmental impact assessment

Local environmental organisations have uncovered flaws in Shell's environmental impact assessment (EIA) of Sakhalin Island. A study of Steller's sea eagles by the Wildlife Preservation Bureau of Hokkaido/Moscow State University found 15 pairs of Steller's sea eagles, in addition to many other hatchlings and juveniles, while the Shell EIA indicated only five pairs[43]. The EIA information fails to correctly describe the current conditions and thus the potential impact of Sakhalin II on the rare Steller's sea eagles.[44]

Shell has also failed to carry out adequate consultation with Japanese governmental officials and citizens, in particular the fishermen, even though Hokkaido, the northern island of Japan, is just 40 km away from Sakhalin Island.

Earthquake risks

Shell proposes to bury on-shore oil and gas pipelines across 800 kms of Sakhalin, an area that includes 22 active faults. Further exacerbating this problem, these pipelines would traverse hundreds of wild salmon-bearing streams. These streams support fisheries vital to the island's communities and indigenous people. An independent report released 2 March 2004 by environmental organisations exposes flaws in the seismic risk analysis conducted by Shell for the Sakhalin II project, including understating the seismic risks[45].

Oil spill preparation is second best

In October 1999, environmental groups brought independent consultants from Alaska and the North Sea, who have expertise in oil spill prevention and response, to review Sakhalin's standards for spill prevention and response. The report, *Sakhalin's Oil: Doing It Right*, contains 78 recommendations, and notes that Shell's current Oil Spill Contingency Plan in Sakhalin falls far short of measures taken in Alaska and the North Sea[46]. Given the difficult climate and seismic conditions of the Sea of Okhotsk, along with the great value of marine resources, an oil spill anywhere along the coast of Sakhalin would be disastrous.

Not benefiting local people

Local Sakhalin residents feel betrayed, as promises to supply gas to the island have not been fulfilled. Ludmila Ponomaryova, a 61 year-old Sakhalin inhabitant, was quoted recently by the BBC, *"We don't see the oil and gas. We can't even buy coal to keep warm. So us mortals, we're not counting on it."*[47]

Shell claimed that the Sakhalin II project was supposed to bring significant economic benefits to the people of Sakhalin, while protecting the environment. However, a review by the Auditing Chamber of the Russian Federation on the Sakhalin II Production Sharing Agreement shows that *"...the interests of the State in issues of ecology, mineral use, tax and customs legislation, as well as government control, were not adequately taken into consideration, which has led to damaging the interests of the Russian Federation during the process of realization of the given projects".*[48] Further, the Chamber determined that inappropriate financial transfers pertaining to the Sakhalin II project amounting to US$19.7 million occurred[49].

Sakhalin Island, Russia

Shell's broken commitments

"Shell's policy to save money at the expense of Russia's environment and the health of local people is causing a reaction from Russian and international non-governmental organisations. Shell must finally take full responsibility for its Sakhalin II project and conduct appropriate studies of its impacts to society and the rich environment in Sakhalin. Shell has taken an enormous risk with its Sakhalin II project. In its haste to save money there is considerable evidence that Shell is violating Russian environmental laws. It is essential to ensure species are not put at risk." — Dmitry Lisitsyn, Chairman of Sakhalin Environmental Watch

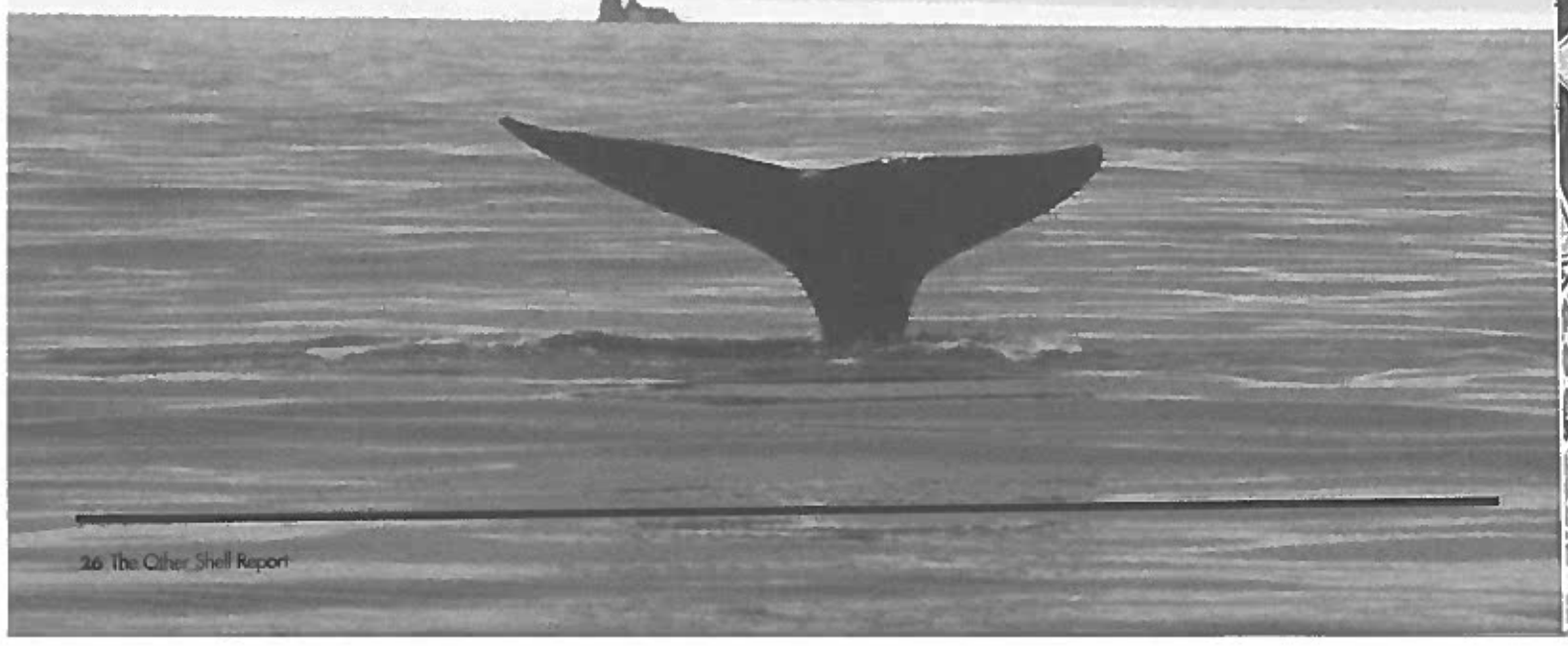
About Sakhalin Island and Sakhalin II

On Sakhalin Island in the Far East of Russia, Shell is proposing to build the world's largest single integrated oil and gas facility that is known as Sakhalin II. This massive facility would include off-shore oil and gas drilling platforms, an enormous liquefied natural gas processing and export facility, an oil export terminal, and over 800 kms of onshore pipelines. The off-shore waters of Sakhalin Island are some of the most species-rich marine environments on the Pacific Rim with crab, herring, cod, and salmon—including the unique masu cherry salmon—as well as the endangered Sakhalin taimen, the most ancient salmonid. The off-shore platforms will be adjacent to the Western Pacific gray whales' feeding and migrating habitat, and undersea pipelines will be trenched directly through that habitat.

Endangered gray whales under threat

The waters off Sakhalin Island are home to 25 marine mammal species, 11 of which are endangered, including the world's most critically endangered gray whale species, the Western Pacific gray whale. This whale has been identified by the International Union for Conservation of Nature and Natural Resources as "critically endangered" with only 100 whales estimated to remain, including just 23 reproductive females[40]. The Scientific Committee of the International Whaling Commission is concerned about Sakhalin II and noted that *"it is a matter of absolute urgency, . . . to reduce various types of anthropogenic disturbances to the lowest possible level"* [emphasis maintained][41].

Whales living in the shadow of oil drilling platforms in waters off shore of Sakhalin Island, Russia. (Gravilov/Greenpeace)



Port Arthur, Texas

Environmental injustice by Shell refinery plagues African-American neighbourhoods

The Motiva Refinery, a Shell joint venture in Port Arthur, Texas, is one of North America's busiest and most productive oil refineries, currently processing more than 235,000 barrels of oil per day. Shell profits financially from the refinery at the expense of the low-income community that lives in its shadow. Local residents call the area around West Port Arthur "Gasoline Alley" because of the high levels of toxic pollution.

Shell's assurance to Port Arthur, Texas at the 2003 AGM

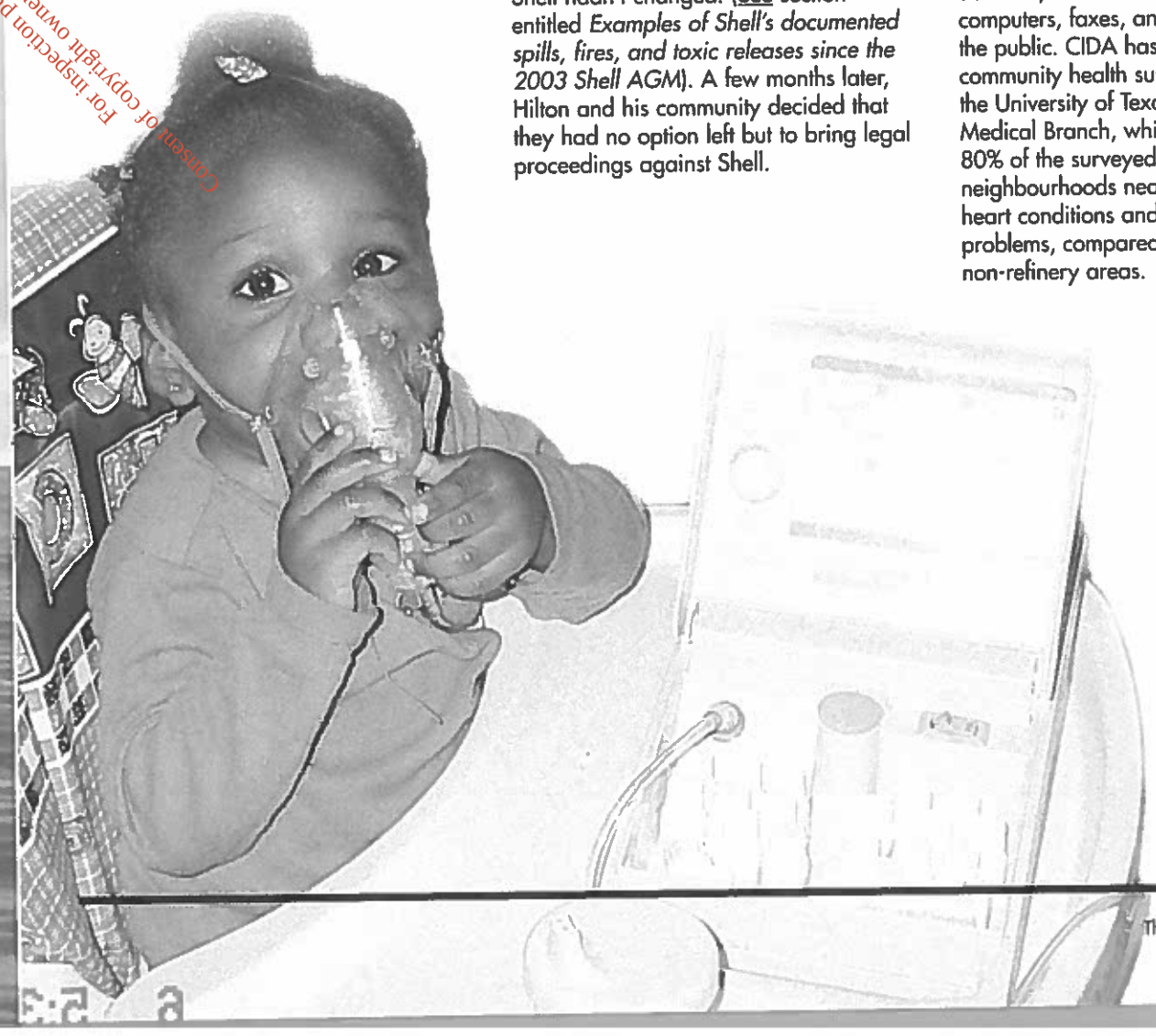
Hilton Kelley, Founding Director of Community In-power Development Association (CIDA), a community environmental justice organisation in Port Arthur, Texas, USA, travelled to the 2003 Shell AGM in London. At the AGM, Hilton confronted Sir Philip Watts regarding the health-damaging pollution from the Motiva Refinery. Speaking immediately after the AGM, Hilton said "I am hopeful that something will be done. Sir Philip looked me in the eye and promised. Things have to change. And if they do not, I will be here next year and in coming years."

After returning to Texas, Hilton found that Shell hadn't changed. (See section entitled *Examples of Shell's documented spills, fires, and toxic releases since the 2003 Shell AGM*). A few months later, Hilton and his community decided that they had no option left but to bring legal proceedings against Shell.

Global Delegation of Shell neighbors holds a press conference in Port Arthur, Texas, to highlight Shell's poor environmental performance. (Global Community Monitor)

Community mobilizes in defence of their health

In December 2003, CIDA opened the Center for Environmental Education and Health. The Center provides information on health and toxic exposure, offers youth activities, and in the future will make computers, faxes, and printers available to the public. CIDA has organized community health surveys conducted by the University of Texas at Galveston Medical Branch, which document that 80% of the surveyed residents in neighbourhoods near the refinery have heart conditions and respiratory problems, compared to 30% of people in non-refinery areas.



A young Port Arthur, Texas, child with acute asthma during breathing treatments. (Hilton Kelley, Community In-power Development Association).

Port Arthur

Hilton Kelley of Port Arthur explains the impact on Shell's neighbors of toxic releases on April 14, 2003, when the refinery lost power and sent all their product to the flare—see photo on page 13. (Denny Larson, Global Community Monitor)

Hilton Kelley's Story

"Last year I went to the Annual General Meeting in London, England, and I met with Sir Philip Watts, Chairman of the Shell Corporation. Upon meeting him and telling him about the pollution problems from the Shell facility that plague our community, he assured me that he would do everything in his power to rectify the situation. I left that meeting thinking that his word would hold true.

"Upon arriving back to the US, I thought that I would receive a call from the Shell facility informing me about the new way they would be dealing with our community but this did not happen. Nothing has changed [since last year's AGM]. Pollution-wise, emissions are still high and the plant manager is still ignoring our concerns from last year. Apparently Sir Philip Watts never talked with the plant manager at the Shell Facility in Port Arthur, Texas, so we had no choice but to file a lawsuit against the Shell facility.

Now we will let the courts decide who is dumping what."

Residents hold Shell liable for health-damaging refinery

For many, Texas and oil go together, but for the residents of the West-Side neighbourhoods of Port Arthur, such a mixture is a hazard to their health. As in many of the communities where Shell operates, community members in West-Side believe that their concerns about Shell's pollution have been ignored.

The West-Side of Port Arthur is an African-American community that is literally located "on the other side of the tracks". People living in the public housing developments and single-family homes on the West-Side suffer from high levels of asthma and cancers. They bear the brunt of Shell's pollution most directly. Residents believe that Shell has exploited them; if they were white and affluent, they reason, Shell's response would be different.

In the summer of 2003, representatives of CIDA met with Tom Purvis, the manager of the Shell facility. CIDA offered him and executives from Shell's corporate office in Houston, Texas the opportunity to negotiate steps for addressing the serious environmental and health problems in the community. When the managers refused to enter negotiations, the residents felt compelled to file a lawsuit against Shell.

Ignoring the problem

Shell refuses to address the significant health concerns of Port Arthur's West-Side residents, all of which are related to refinery pollution. Instead, Shell has funded a health clinic, which is located on the other side of town, and thus inaccessible to most of the residents in the West-Side neighbourhoods.

Residents have named this refinery dumping area: the asphalt sea (Norbert George Humane Care Foundation Curaçao)

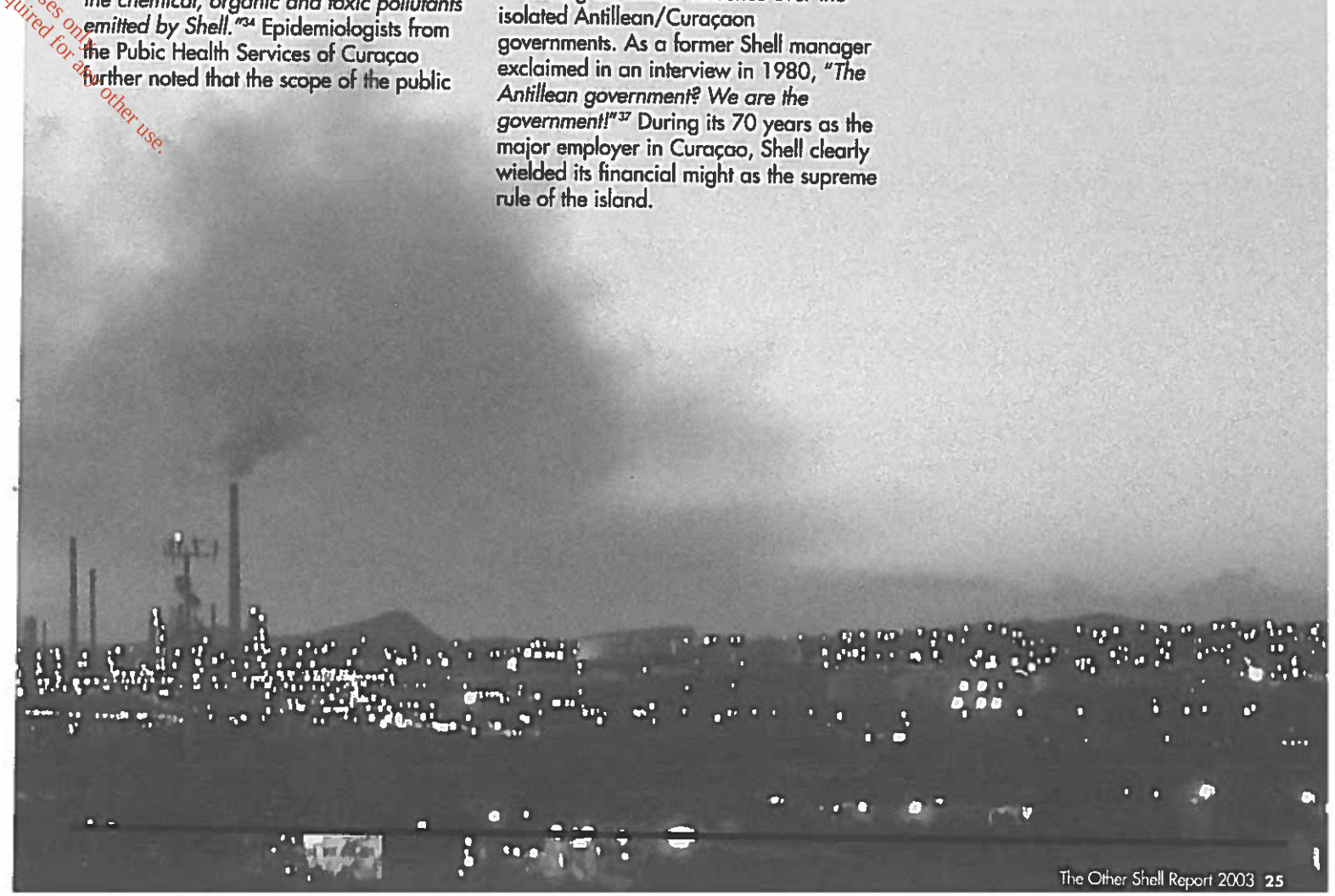
concentrations of pollutants on Curaçao are approximately four times higher than maximum concentrations accepted anywhere else in the world. This implies that irreparable damage is being inflicted to the health of human beings that inhale the chemical, organic and toxic pollutants emitted by Shell."[34] Epidemiologists from the Pubic Health Services of Curaçao further noted that the scope of the public health crisis is evidenced by the high number of poor townships exposed to excessive emissions[35].

In 1985, Shell sold the aging refinery to the island for US$1 on terms that included an indemnity clause transferring to the local government financial responsibility for any environmental/health impacts caused by Shell's 70 years of operation. Local authorities now bear the financial responsibility for the premature deaths, cancers, birth defects, bronchitis, chronic obstructive pulmonary diseases, asthma, skin diseases, respiratory disorders, and childhood illnesses suffered by residents[36].

Just as the case in Nigeria and the Philippines, Shell has been accused of exhibiting an undue influence over the isolated Antillean/Curaçaon governments. As a former Shell manager exclaimed in an interview in 1980, *"The Antillean government? We are the government!"*[37] During its 70 years as the major employer in Curaçao, Shell clearly wielded its financial might as the supreme rule of the island.

Curaçaons hold Shell liable for massive environmental damage

In 2003, the people of Curaçao organised a campaign called the Humane Care Foundation Curaçao, in order to hold Shell liable for the massive damage that it has inflicted on the community. The vital habitats and natural resources on the island have sustained significant toxic damage[38] that affects more than 12.5% of the population, including more than 5,500 children[39]. Central to the campaign is obtaining redress for Shell's legacy of environmental devastation that violates the fundamental human rights of people living on Curaçao.



Curaçao, Caribbean

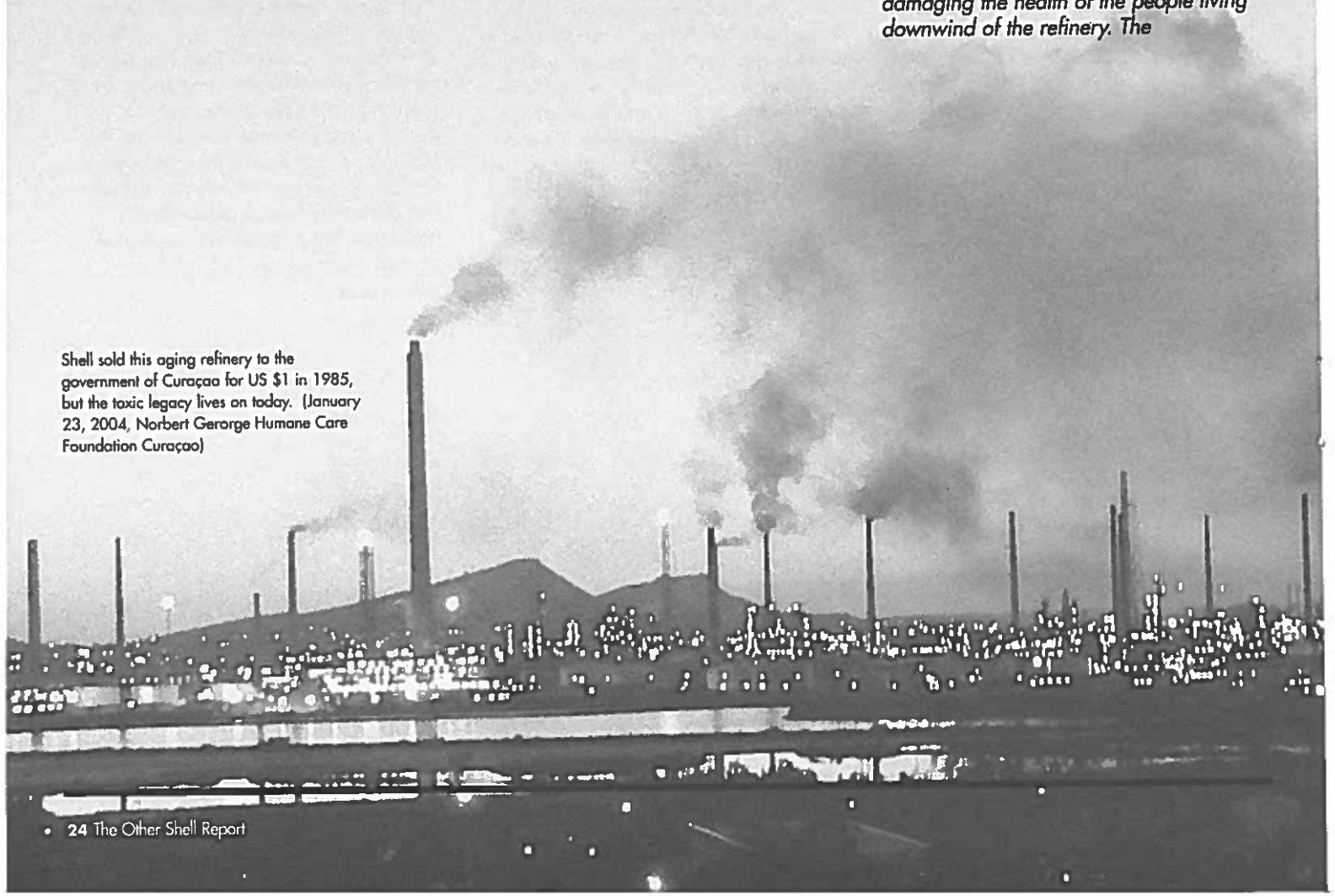
Polluted paradise

The small island of Curaçao has a population of approximately 130,000 inhabitants and only 444 km² of land. The island has over 20 km of coral reefs contained inside the Underwater Marine Park, sandy beaches in the south, and remnants of old mahogany forests inside Christoffel National Park in the north[32]. In 1914 Shell constructed the largest oil refinery in the western hemisphere on Curaçao. Shell was able to dominate the micro-scale island community, which found itself trapped in a so-called enclaved economy. The ecological balance and development of the island gradually became contaminated by toxic pollutants. In particular, the Shell refinery caused major environmental damage to Caracus Bay, the Spanish Waterlake, Bullen Bay, Schottegat Bay, Sint Anna Bay, Valentijn Bay, and Brusca Bay. Ultimately, Shell sold the refinery to the Curaçao government for US$1 and left behind a toxic legacy that continues to plague what was once an island paradise.

Poisoning the community

In 1982, a Venezuelan lab reported that the concentrations of sulphur compound emissions from the Shell refinery were more than twice the levels established by the US EPA and could be responsible for the respiratory diseases suffered by people living on the island[33].

The following year, the Central Environmental Management Service of Rijnmond (DCMR, Rotterdam), visited the site and conducted interviews. This agency concluded that *"The continuous emission of extremely high concentrations of sulphur dioxide and particulate matter, on relatively low stacks, is a huge problem. Measurements of the concentrations of pollutants in the air downwind of the Shell refinery indicate that the pollution is influencing and damaging the health of the people living downwind of the refinery. The*



Shell sold this aging refinery to the government of Curaçao for US $1 in 1985, but the toxic legacy lives on today. (January 23, 2004, Norbert Gerorge Humane Care Foundation Curaçao)

Bad air day in Port Arthur, April 14, 2003 (Hilton Kelley, Community In-power Development Association)

Legal action against Shell

Over 1,200 Port Arthur pollution victims are alleging air, soil, and other contamination due to the release of "noxious fumes, vapours, odours and hazardous substances." The number of citizens participating in the lawsuit is expected to grow dramatically. The lawsuit seeks medical monitoring and reimbursement of medical expense, as well as compensation for loss of quality of life. The specific legal claims include trespass, nuisance, and negligence, as well as fraud and misrepresentation of the harm caused by the toxic releases[6].

The lawsuit is being brought pursuant to the common laws of Texas and the Wrongful Death Act and the Survival Statute. According to the citizens' attorneys, *"The evidence we have obtained shows a habitual pattern of emissions and discharges that endanger the health of the public. These are clearly not 'unavoidable accidents'."*

Don Maierson, one of the attorneys for the fenceline neighbours in Port Arthur said, *"The industries have destroyed the quality of life of their neighbours. It is clearly illegal to deny citizens the right to breathe clean air and have full use and enjoyment of their property."* The legal pleadings charge that local industries have *"violated these basic human rights which we must honour as a society if we are all to live in peace and well-being."*

Because management refused to even talk with affected neighbours, Shell is now being sued in Port Arthur. Is this a good way to manage shareholders' investments?

Pandacan oil depots

A disaster waiting to happen

Pandacan is a residential neighbourhood of the city of Manila in the Philippines where Shell owns a massive oil and gas depot. Shell refuses to relocate its depot, despite legislation requiring them to do so. Over the past year, Pandacan has been the site of an ongoing battle between residents and Shell (and two other oil companies, Caltex and Petron) regarding the companies' refusal to remove the oil and gas depots located on 33-hectares of land.

Philippines' activist exposes truth about Shell's oil depot at 2003 Shell AGM

Hope Esquillo Tura, a member of the United Front to Oust the Oil Depots (UFO-OD), travelled to the 2003 Shell AGM in London where she presented community concerns that the continued presence of Shell's oil depot was circumventing a city ordinance that requires its removal. She explained that Shell had used its significant influence to secure a special permit to operate, rather than respect and comply with the local ordinance. At the AGM, Sir Philip Watts announced that Shell would protect the local community by creating a "buffer zone" between the oil depots and nearby residents. However, Hope exposed the misleading nature of this announcement, pointing out that the so-called "buffer zone" was only going to be a few meters wide.

Circumventing the law: ignoring health and safety risks

The oil depots are located in a densely-populated district located in the heart of Manila. Pandacan has a population of about 84,000 people who come from diverse economic backgrounds, the majority of whom are urban poor. More than 15,000 students are enrolled in elementary and high schools situated near these facilities. The largest university in Asia, the University of the Philippines, which has a student population of about 25,000, is located directly across from the depots on the banks of the Pasig River. Daycare centers, churches, and small businesses are located in the area as well. The Malacanang Presidential Palace is just two kilometers away from the depots.

Vila Carioca has over 40,000 residents, mostly working-class, who are at the mercy of carcinogenic, mutagenic, and teratogenic contamination from Shell's practices.

Shell denies responsibility for any contamination. Numerous residents have testified to serious health problems, among them tumours, cancers, infertility, leukaemia, respiratory problems, and depression, which they believe are caused by Shell's operations[27].

The Sindicato dos Trabalhadores no Comércio de Minérios e Derivados de Petróleo de São Paulo (SIPETROL), or the Union of Workers in Mining, Petroleum and Related Industries of the state of São Paulo, is a member of a working group that is preparing a report on the health hazards faced by workers and neighbouring residents of the facility, as well as on the environmental contamination of the soil and the water.

Above the law?

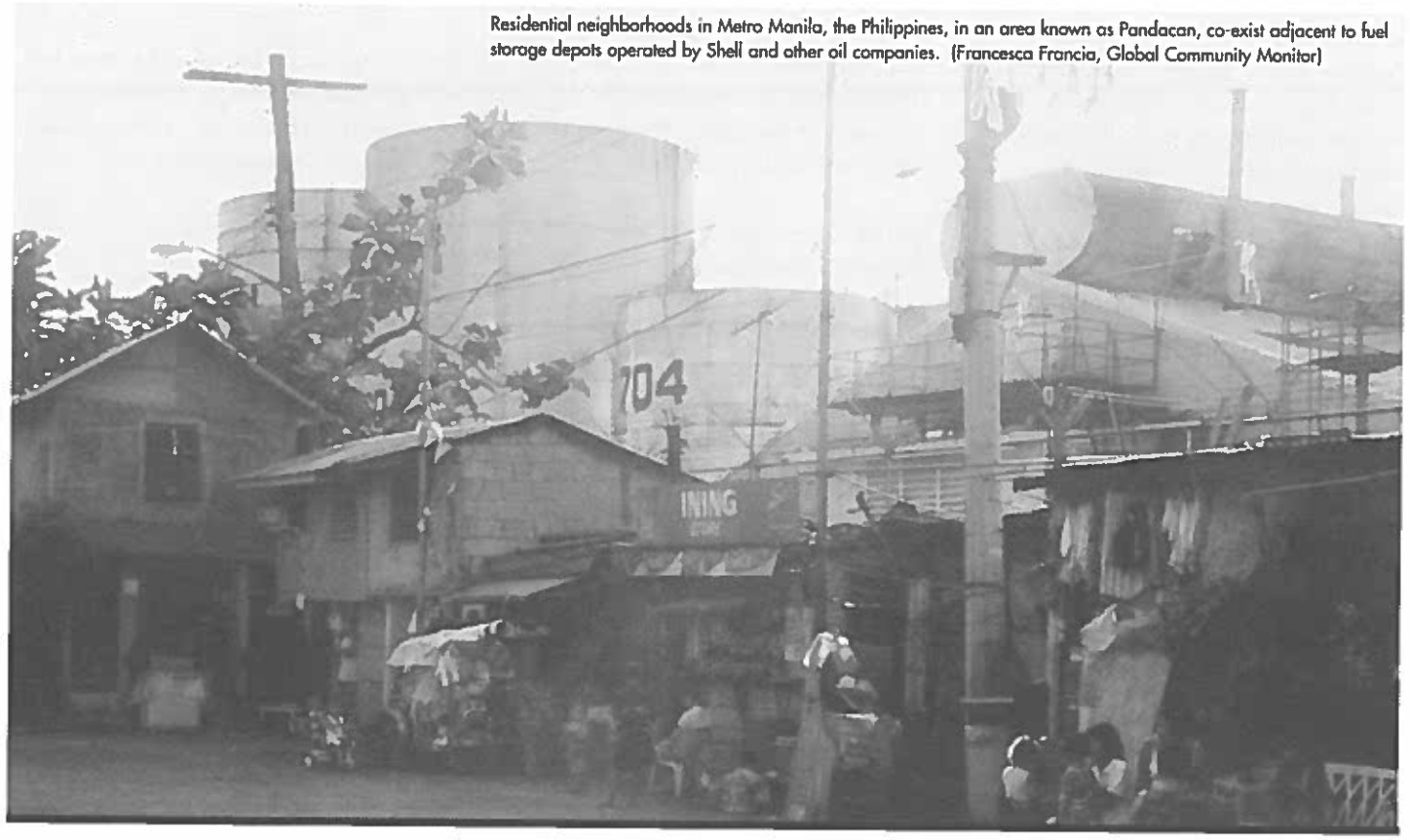
For years, Shell and ExxonMobil were able to act with impunity because they had a virtual monopoly on the distribution and importation of petroleum derivatives, pesticides, and herbicides. However, in 1993 SIPETROL, in collaboration with CAVE and Greenpeace, filed a joint complaint in court, citing contamination of Vila Carioca with hydrocarbons, heavy metals, and organochlorides. Heavy metals were identified, including lead, mercury, and arsenic, as were traces of chromium, barium, strontium and cesium.

Since the filing of the complaint, both Shell and ExxonMobil have been the subject of investigations by the São Paulo State Department of Health and by the State Environmental Protection Agency. In 2002, the investigations revealed that Shell's large fuel-holding tanks located in Vila Carioca had been operating without a valid permit[28]. Governmental officials determined that the permit had expired in 1985, and ordered an immediate shut-down of the facility[29]. Although Shell was able to obtain a court order overturning

Shell neighbours hold a protest in Vila Carioca (Coletivo Alternative VerdE)

the shut-down, shortly thereafter Brazil's environmental agency fined the company for its "grave fault" in polluting the Vila Carioca site[30]. Shell currently faces mounting potential liabilities, as a growing number of lawsuits and complaints continue to be filed by residents and local governments[31].

The poisoning of an entire community is continuing with the complicity of some regulatory agencies. Although CAVE and SIPETROL are pressuring the Ministry of the Environment to fine Shell under the Environmental Crimes Law, thus far, despite clear evidence of violations, the Ministry has not been willing to enforce the law. The struggle continues, with the aim of forcing federal authorities to investigate the potential commission of environmental crimes by Shell and ExxonMobil.



Residential neighborhoods in Metro Manila, the Philippines, in an area known as Pandacan, co-exist adjacent to fuel storage depots operated by Shell and other oil companies. (Francesca Francia, Global Community Monitor)

Authors of this chapter are Cesar Augusto Guimarães Pereira, Executive Director of SIPETROL-SP and Director of the Coletivo Alternativa Verde (CAVE), and Elson Maceió dos Santos, CAVE Co-ordinator.

Sao Paulo, Brazil

Shell contamination at the Vila Carioca

For decades the residents of Vila Carioca in Sao Paulo, Brazil, have been using drinking water contaminated by the nearby joint Shell ExxonMobil facility. In 1993 local unions joined Coletivo Alternativa Verde or the Green Alternative Collective (CAVE) and Greenpeace, and filed a complaint in the courts, citing contamination of Vila Carioca with hydrocarbons, heavy metals, and organochlorides. Since then, despite investigations by local health and environmental authorities, progress, if any, has been slow. Despite evidence which indicates breaches of environmental law, Shell has yet to be prosecuted.

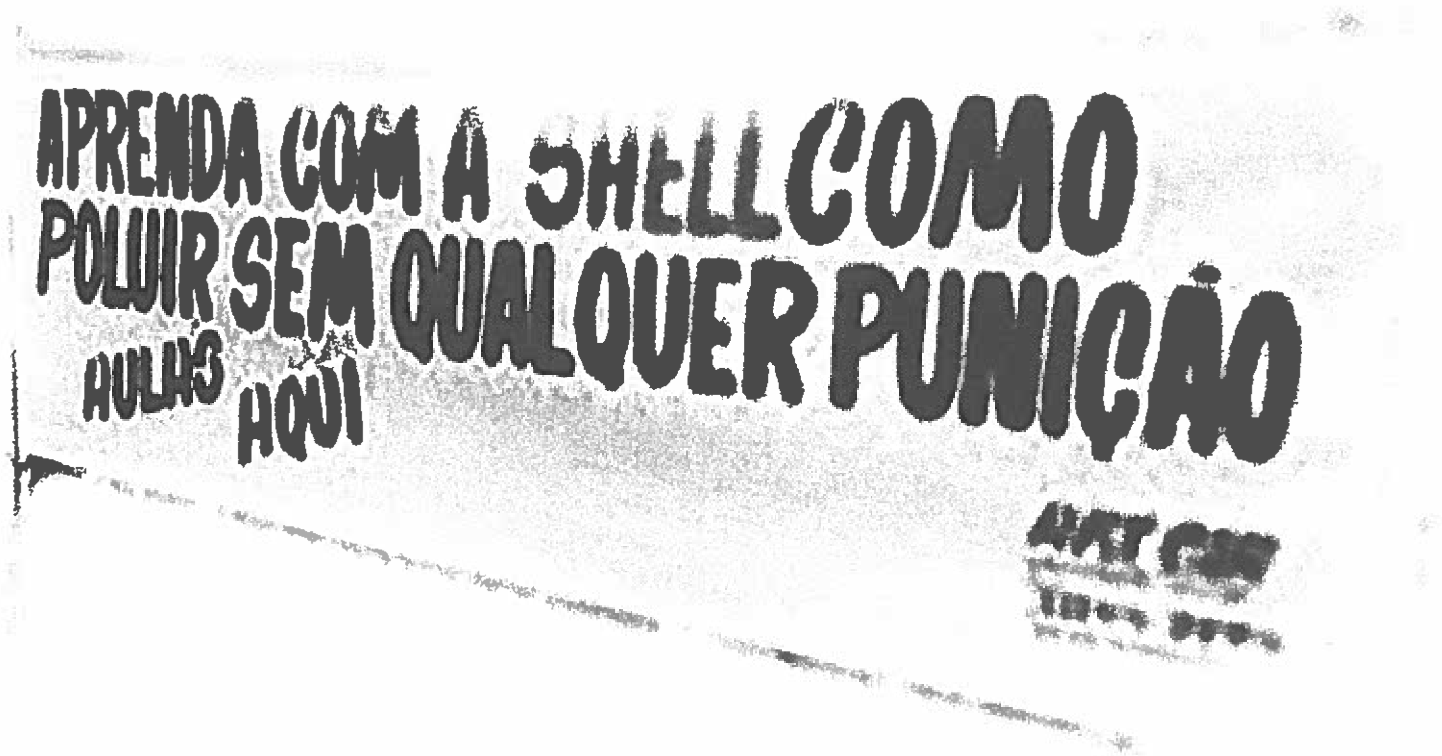
Shell, along with ExxonMobil, arrived in Brazil in 1912 as Anglo Mexican Petroleum, Inc. The company established a facility in the neighbourhood of Agua Branca, next to the Santos-Jundiai railroad line on which it transported gasoline, kerosene, diesel, cooking oil, insecticides, and pesticides to the Port of Santos/São Paulo.

Shell and ExxonMobil continued to operate in Agua Branca until 1942, when the Santos-Jundiai oil pipeline was inaugurated. After this, Shell built a new storage tank depot and shipping terminal in Vila Carioca and ExxonMobil built a facility in Mooca. In 2001, ExxonMobil closed its Mooca facility and became a partner with Shell at Vila Carioca, buying 21.66% of the land and 45% of Shell's processing capacity.

Panel in the Chamber of the Representatives Brasilia—Commission of Environment—Public Hearing about environmental contamination in Villa Carioca, including representatives from Shell Brazil, ExxonMobil Brazil, Petrobras and Coletivo Alernativa Verde - 04/09/2003 (Cláudio Guimarães, Coletivo Alernativa Verde)

Toxic drinking water

For decades, residents have been using the drinking water wells on their properties, which have been contaminated by industrial waste. The thousands of families of Vila Carioca have used that water not only for drinking, but for their gardens and for growing fruit trees as well.



Local residents and governmental officials advocate for the removal of the oil depots because the continuous presence of the depots in Pandacan is a disaster waiting to happen. They warn that an accident or terrorist attack could result in the biggest disaster in the history of petrochemical facilities, affecting the 10.9 million residents of metro Manila[7].

On November 28, 2001, the city of Manila passed ordinance number 8027 requiring Shell, Caltex, and Petron to relocate their oil depots outside of Manila city limits by the end of April 2003[8]. However, in June 2002, the Mayor of Manila, Lito Atienza, signed a memorandum of understanding (MOU) with the three companies allowing them to "stay" if certain conditions were met, including the construction of the woefully inadequate "buffer zone"[9]. The legal adequacy of this MOU was obviously not apparent to the companies, who thereafter each filed separate petitions with the Manila Regional Trial Court seeking injunctions to suspend the ordinance from taking effect[10]. On April 30, 2003, the trial court denied Shell's petition for an injunction, but granted the petitions by Caltex and Petron[11]. The Mayor then issued "special permits" to Caltex and Petron to continue operations during the pending litigation[12]. And, in a highly controversial decision, the Mayor also issued a similar permit to Shell, notwithstanding Shell's failure to prevail in court[13]. An alliance of university students, professors, and employees joined UFO-OD in filing a complaint with the Office of the Ombudsman against the Mayor for issuing the permit to Shell, claiming that the Mayor violated his duty to enforce the ordinance. The alliance also requested that the Ombudsman investigate *"three Pandacan [officials] for seeking 'benefits' from the oil firms in return for their support of the depots"*.[14]

Exponentially exacerbating Shell's brash circumvention of local law requiring Shell to move its operations out of Pandacan is the fundamental fact that Shell's lease from the University of the Philippines for use of the property expired on May 3, 2000. The University was so outraged by Shell's failure to honor the terms of its lease agreement that it urged the Supreme Court to direct the mayor to enforce "the city ordinance banning oil companies from maintaining oil depots in Pandacan[15]". Warning the court that the presence of Shell's depot in Pandacan poses a "major threat to national security, considering the present escalation of terrorist activities"[16], the University expressed concerns about its liability for "death and destruction" from Shell's continued presence[17].

Children of Pandacan living in the shadow of Shell's huge fuel depot. (Francesca Francia, Global Community Monitor)

Pandacan

Ignoring the problem

Instead of complying with the existing law, Shell uses its seemingly limitless resources to fund a massive public relations campaign. That campaign promulgates misleading claims by the company, and also employs Shell's increasingly routine tactic of enticing residents with "feel good" offers, such as scholarship programs and supposed employment opportunities[18], which, of course, do nothing to address residents' complaints of environmental and health problems, as well as security concerns. Rather than acting as a socially responsible corporation, Shell perverts the principle of social responsibility into something more akin to "pay-offs" in an attempt to pacify serious local community concerns.

Buffer zone: false sense of security

After entering into a scandalous arrangement with the Mayor of Manila, Shell and the other oil companies scaled down their operations and constructed a so-called green buffer zone. Although this area measures only 5 to 7 meters in width, Shell claims that it provides a safe distance between fenceline communities and the oil depots. Commerical advertisements paid for by Shell and the two other oil companies falsely describe the buffer zone as a "park" or "promenade area". Continuing the farce, Shell painted its depot with pictures of bushes and trees.

The United Firefighters of the Philippines and international experts on disaster management estimate that an accident or explosion in the Pandacan oil depots could result in devastation within a two-kilometer radius[19]. Local residents continue to complain about the foul odour from emissions released by the depots, and continue to suffer from respiratory diseases, skin diseases, and other ailments associated with toxic pollution.

In short, Shell's scaling down of operations, creating a so-called buffer zone, and offering air monitors do not adequately address the serious health and environmental risks to the entire population of Pandacan and metropolitan Manila. The continued presence of the oil depots in Pandacan is a disaster waiting to happen. The health, safety, and welfare of residents is of paramount importance, and must take precedence over the business interests and profits of Shell and the other oil companies.

Street scene in Pandacan community is dominated by looming fuel storage tanks. (Francesca Francio, Global Community Monitor)

Polluted land—oil spills, fires, and gas flaring

Flaring natural gas from oil fields is one of the visible impacts the oil industry has on daily life in Nigeria. Flares tower over farms, schools, and communities, spewing flames and acrid plumes of charred smoke, day and night, seven days a week. The Nigerian government wants flaring to stop, and has passed environmental laws that should end the practice beginning in 2010. Shell committed to ending its flaring earlier, in 2008[24], but unfortunately Shell is now backsliding on this commitment by claiming that it will be expensive.

Speaking in February 2004, Chris Finlayson, chairman of SPDC [Shell Nigeria] told the Financial Times newspaper, *"To put in an integrated gas and oil development is more expensive than a simple oil development [...] with a limit on the funding going into the industry, clearly that does constrain how much you can do."*

Local people have suffered from decades of pollution as a result of oil spills and fires from Shell's rusting network of pipes. In early December 2003, a high pressure oil pipeline in Rukpokwu, which has been

Rukpokwu, Nigeria, January 7th 2004, fire erupts in a high-pressure, 28-inch pipeline operated by SPDC, Shell's Nigeria affiliate, (copyright Stakeholder Democracy Network 2004)

a problem since 1963, ruptured, causing an oil spill and fires. It took Shell more than six weeks to put out the fires and carry out basic repairs. Rukpokwu is less than an hour's drive from Shell's headquarters.

Speaking about the oil spill and fires, Paramount Ruler, Chief Clifford E. Enyinda, and Chairman of the Mgbuchi Community, Azunda Aaron, have said, *"Our only source of drinking water, fishing stream, and farm-lands covering over 300 hectares of land with aquatic lives, fishing nets and traps, farm crops, animals, and economic trees worth several billions of naira (equivalent to millions of US dollars) are completely destroyed by the spillage and was made worse by the three separate fires that broke out of the spill site"*[25].

What happened to the money for development?

Shell has benefited from the billions of dollars of oil that have been pumped out of the ground in Nigeria while basic economic development—hospitals, schools, running water—are seriously under funded. Shell claims that 75% of the development projects it supports are successful, but Shell only allows external reviewers to examine projects that are no more than one year old.

A recent Christian Aid news article revealed that a critical internal Shell report about community relations was shredded. *"Even the computer hard discs were wiped"*, according to one Shell insider. Oil-producing communities in Nigeria want to know how Shell can spend US$69 million a year of shareholders' money on social development projects in the Niger Delta, with no visible benefits for the majority of people who own the land which contains the oil and gas[26].

"If Shell wants to put US$69 million into community development, why doesn't it set up a foundation which has no direct links to the company and let development workers who know what they're doing manage the projects?" asks Oronto Douglas of Environmental Rights Action (Friends of the Earth Nigeria).

Nigeria

The strange case of Shell's vanishing oil-reserves

In the last year, shareholders have come to learn what oil-producing communities in Nigeria have known for decades: Shell can't be trusted to regulate itself.

Damage from oil spill and fire in a wetlands area in first reported to Shell on December 3rd 2003 by local villagers of Rukpokwu. (Copyright Stakeholder Democracy Network 2004)

Exaggerated oil reserves

In January 2004, Shell shocked its shareholders by announcing that it had overstated its oil and gas reserves by 20%. Shareholders were then left wondering how Shell could lose almost 4 billion barrels of oil and gas[22]. Initially, Shell stated that it revised its Nigerian reserves over concerns about the cost of infrastructure investments needed to deal with the natural gas found in its oil fields, but it appears that there well may have been other influences at work.

During the 1990s, Shell and other companies received incentives under Nigeria's bonus scheme in the form of tax credits for every barrel of oil booked. The scheme ran for nine years, but was finally scrapped in 2000 by Nigerian President Obasanjo. A Shell spokesman told *The Independent* newspaper in February 2004, *"I do not know whether it was a matter of public record that these incentive payments were being made in return for booking reserves."*[23]

It was unclear at the time this report went to print, if the March 2003 decision of Shell's new Board of Directors to drop its claim that Shell made the Nigerian bookings of its reserves "in good faith" is related to the tax breaks Shell received. The US Securities and Exchange Commission and US Department of Justice who are currently investigating Shells misquoting of oil reserves should determine if any influence has occurred.

Norco, Louisiana

health problems still not addressed by Shell

Norco, on the banks of the Mississippi River in Louisiana, is home to a large Shell oil refinery (now a joint venture called Motiva) and a Shell chemical facility. Norco is located in "Cancer Alley", a 136 km span of the Mississippi River where over 130 refineries and petrochemical facilities operate in communities that complain of high rates of cancer. The Norco neighbourhood of Diamond, where generations of close-knit African American families have lived since the1700's, is locked between the two Shell facilities. In 2002, Diamond residents, organized as Concerned Citizens of Norco, compelled Shell to offer them relocation and reduce the pollution from its facilities. This unprecedented victory was a bittersweet one for residents, who left their homeland in order to find a healthy place to live.

Shell Norco refinery flares again. (Louisiana Bucket Brigade)

Margie Richard and Iris Carter are Norco residents who have been fighting for years to get Shell to relocate residents and deal with the health problems in their community that are associated with the toxic pollution released by the Shell facilities. Margie and Iris travelled to Shell's headquarters in both London and in the Netherlands to demand action. Margie, who organized Concerned Citizens of Norco, also spoke out about the community's environmental justice struggle to overcome Shell's resistance at the 2003 AGM.

Leaving home

Concerned Citizens of Norco developed a residential relocation plan and worked tirelessly to bring Shell's harmful practices to international attention. The organisation garnered the support of a diverse international coalition of environmental, health, and human rights advocates, socially responsible investment firms, progressive members of the US Congress, and scientific experts. With significant public scrutiny, the community organisation compelled Shell to enter into negotiations for a fair and just relocation. In 2002, Shell finally agreed to buy out the polluted neighbourhood at a fair price that allowed residents to move. Shell claims that the rationale for its relocation decision was simply to create a "green" buffer zone by offering to move residents on the first two streets abutting the facility. Shell also claims that it was only interested in maintaining the "historic unity" among residents by offering relocation to the remainder of the community. To date, Shell has never acknowledged any of the health impacts of its operations, although residents made it abundantly clear that the issue of health was their motivating factor in demanding relocation.

"We realized that under no circumstances would it ever be fair for people to live next to a toxic industrial facility. For us, relocation was the only option." Margie Richard, Goldman Prize Winner 2004.

Norco

The legacy of health problems

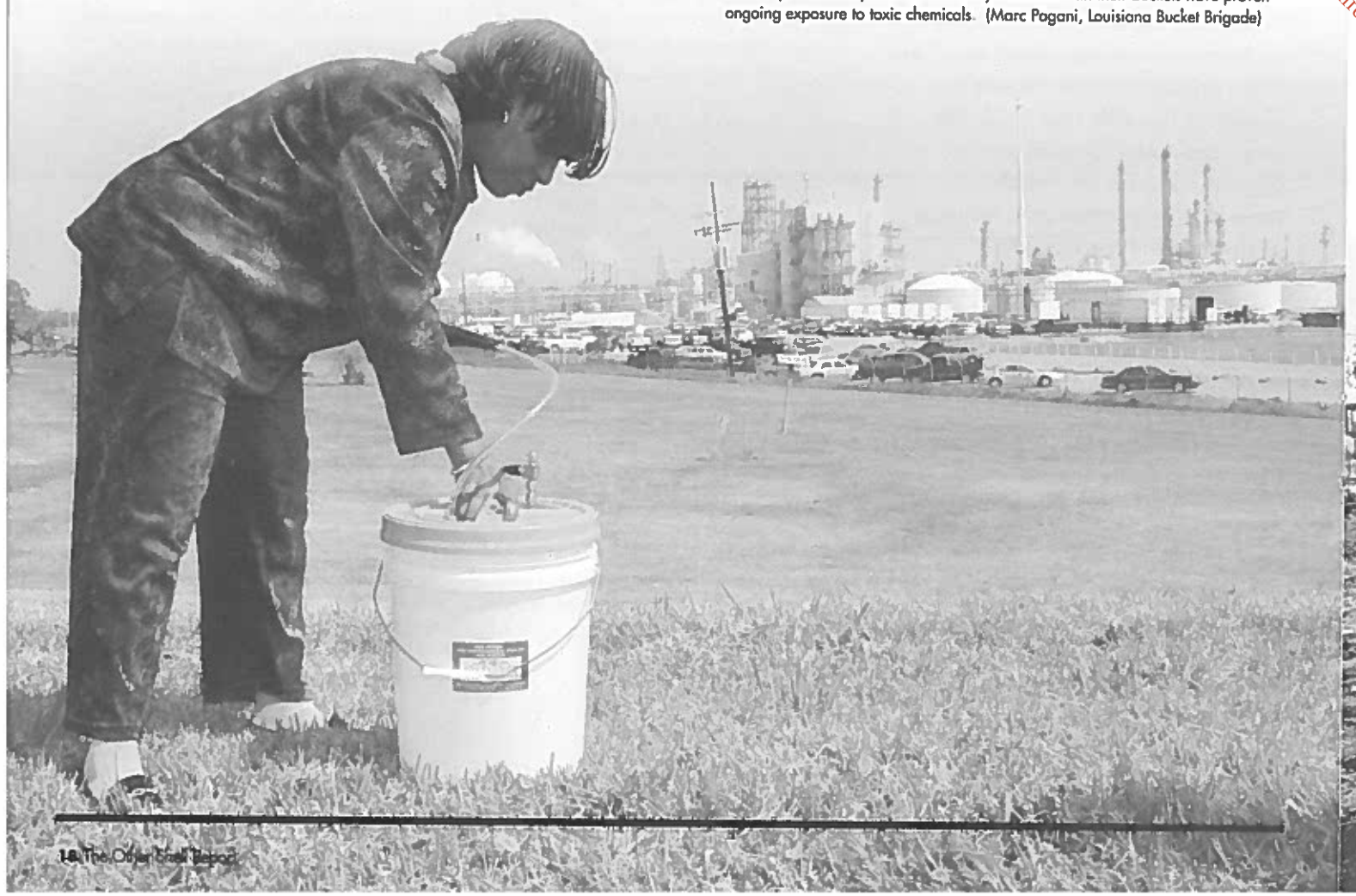
Now out of harm's way, many Norco residents are reflecting on the trauma they suffered living next to Shell. They recall their neighbours who were killed by Shell's accidents, the cluster of rare diseases, and the respiratory problems suffered by so many in the community. Numerous residents continue to suffer what they believe are the effects of chemical exposure, and are burdened by the associated crippling health care costs.

As Iris noted, *"We're still dealing with that, we're still dealing with health issues. I went to England, to Shell's headquarters, and was promised that Shell was going to work on it. We had a meeting... and we still haven't resolved anything."*

Since the relocation in 2002, Shell has begun several community initiatives in Norco. Among these initiatives are a health survey and an air monitoring program. Unfortunately, both the health survey and the monitoring program are reflective of Shell's pattern of designing self-serving programs that fail to meaningfully address the vitally important environmental and health problems associated with its massive pollution impacts on the community. Further, the supposed "health survey", conducted by the Tulane University School of Public Health, merely focused on residents' perceptions about the environment, not on residents' actual health conditions, exposure to toxic chemicals, or medical needs.

Concerned Citizens of Norco were certain that, notwithstanding Shell's representations to the contrary, they were being exposed to significant pollution from Shell's facilities, and so set about to document that fact. With the assistance of Global Community Monitor and the Louisiana Bucket Brigade, organisations that train local residents to collect samples of air pollution in their neighbourhood which are then analyzed by an accredited laboratory, Norco residents were finally able to make their case. In the air samples they collected, Shell's toxic chemicals were detected at levels exceeding health based standards established by the State of Louisiana.

Air samples taken by Norco community members with their buckets have proven ongoing exposure to toxic chemicals. (Marc Pagani, Louisiana Bucket Brigade)

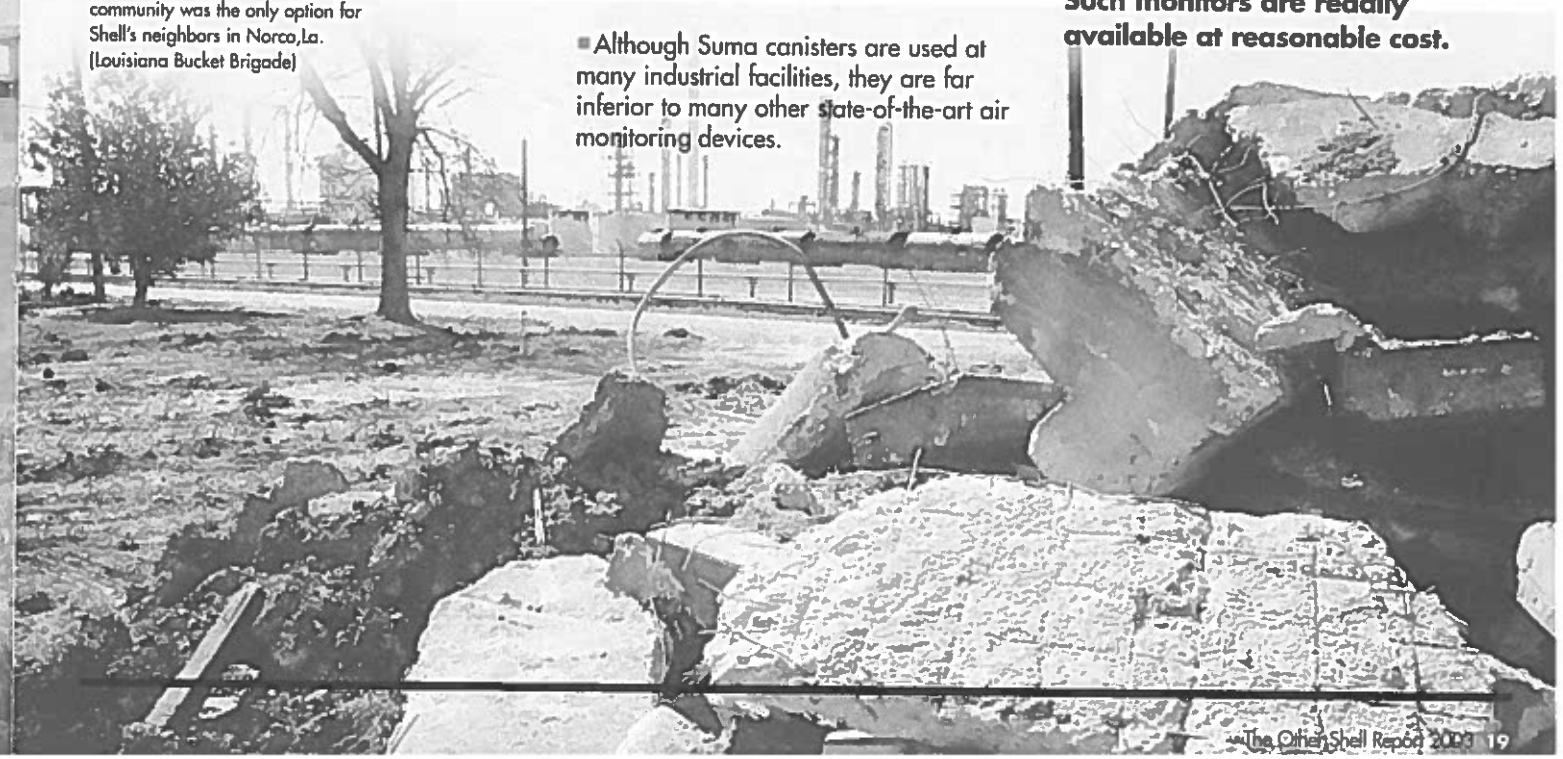


Problems with Shell's air monitoring program

Following the relocation of Diamond residents, Shell initiated an air monitoring program in Norco pursuant to the terms of a settlement agreement it had reached with the Louisiana Department of Environmental Quality pertaining to various air and water quality violations at its facilities in Norco and another facility approximately 30 miles from Norco [21]. However, this air monitoring program is woefully inadequate — the monitors do not even detect sulphur compounds, which are lung-damaging pollutants routinely released in massive quantities by Shell facilities in Norco.

PROBLEM	SOLUTION
Takes an air sample once every six days ■ People do not breathe once every six days. Chemical exposure in Norco is ongoing, 24 hours a day. ■ The monitoring system offers no information whatsoever on air emissions during each 5-day interval between sampling dates, and the majority of emissions could be released during such intervals.	**Shell should install real-time monitors that detect and record emissions occurring 24 hours a day.**
Does not detect sulphur compounds ■ Sulphur compounds are a primary emission of oil refineries. ■ Sulphur has a highly offensive rotten egg odor and is scientifically known to harm the respiratory system.	**Shell should install a monitor that detects, speciates, and measures the various sulphur compounds released by its facilities.**
Uses inferior technology ■ Shell employs Suma canisters to collect air samples. ■ Although Suma canisters are used at many industrial facilities, they are far inferior to many other state-of-the-art air monitoring devices.	**Shell should employ effective, reliable monitors that provide instantaneous data on emissions. Such monitors are readily available at reasonable cost.**

One of the homes of Norco residents adjacent Shell Chemical plant being torn down during relocation program. Relocation and the destruction of their historic community was the only option for Shell's neighbors in Norco,La. (Louisiana Bucket Brigade)



Labour and land are made into commodities which, again, is only a short formula for the liquidation of every and any cultural institution in an organic society.

Polanyi (1944) ***The Great Transformation***