



EDWARD R. ZIEGLER, P.E. C.S.P.

---

*Professional Engineer*

*Certified Safety Professional*

*OSHA 500 Instructor*

---

IN RE: OIL SPILL BY THE OIL RIG  
“DEEPWATER HORIZON” IN THE  
GULF OF MEXICO  
ON APRIL 20, 2010

PHASE II REPORT – SOURCE CONTROL  
REBUTTAL REPORT

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF LOUISIANA  
MDL NO. 2179 SECTION: J

SEAL  
Professional Engineer  
F – 8066 TX

---

EDWARD R. ZIEGLER, P.E., C.S.P.  
JUNE 10, 2013

Copyright 2013 By Edward R. Ziegler, P.E., All Rights Reserved

1964 West Gray, Suite 201 Houston, Texas 77019 Tel: 713-850-0960 Fax: 713-850-1235

TREX-011579R-v2.001

EACH EVENT AND FACT SITUATION MUST BE EXAMINED SEPARATELY TO FORM OPINIONS AS TO THE SPECIFIC EVENTS AND RELATIONSHIPS SURROUNDING AN INCIDENT.

EXCEPT FOR WHERE INDUSTRY PRACTICES AND STANDARDS ARE SET FORTH, THE ANALYSIS AND OPINIONS WRITTEN HERE DO NOT NECESSARILY APPLY TO ANY OTHER OR DIFFERENT FACTS OR EVENT.

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY OF REBUTTAL OPINIONS ..... 4

II. INTRODUCTION ..... 8

III. REBUTTAL OPINION DETAIL ..... 8

    A. Expert Report of Iain Adams, May 10, 2013 ..... 8

    B. [REDACTED] ..... 11

    C. [REDACTED] ..... 18

    D. [REDACTED] ..... 20

    E. [REDACTED] ..... 22

    F. [REDACTED] ..... 24

IV. HALLIBURTON HAS NO RESPONSIBILITIES ..... 25

V. CONCLUSION ..... 26

VI. FINAL REPORT (BASED ON REVIEW TO DATE); FUTURE WORK ..... 26

FIGURES AND EXHIBITS ATTACHED ..... After Page 26

[REDACTED]

EXHIBIT A – BIBLIOGRAPHY FOR THIS REBUTTAL REPORT

I. EXECUTIVE SUMMARY OF REBUTTAL OPINIONS

[REDACTED]

[REDACTED]

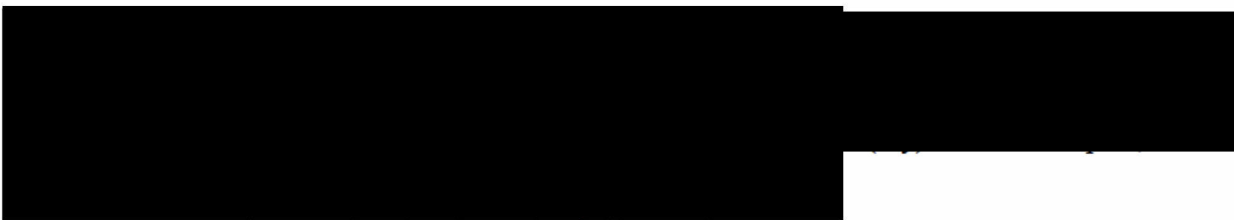
---

[REDACTED]

C. A capping stack or capping device can come in many forms – all BOPs are essentially in capping device configuration, a BOP can be modified for capping, a capping stack can be purpose-built with standardized adapters and tools; or a capping stack can effectively be incorporated into a rig's BOP system as a redundant feature. In addition to the ability to have achieved Source Control, but for the failures of BP, with the original MODU *Deepwater Horizon* BOP, BP did not have a pre-planned, dressed, and staged capping stack - which was feasible.



E. The BP Phase II Source Control reports and positions expressed therein for BP shows incongruent and conflicting claims where BP wants to "pick and chose" its excuses for Source Control failures. BP, for example, claims that it reasonably made engineering decisions to not cap or shut in the Macondo well. But at the same time BP: (a) tried to shut in the well with a hard closure of the BOPs when the well started to flow; (b) tried to shut in the well with a hard closure using repeated ROV attempts on the BOP stack for about two weeks after the initial blowout; and (c)

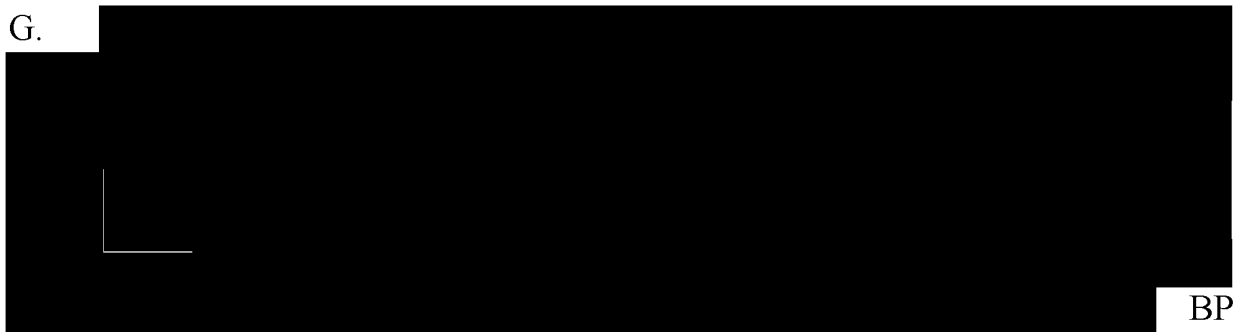


tried to "plug" the well with bridging materials ("junk shot") during Top Kill as late as about five weeks after the initial blowout. These methods and attempts to perform a hard shut-in of the well are incongruent with BP claims during the same time frame that BP was concerned about: (a) "surface (seafloor) broach"; and (b) wellbore integrity (*e.g.* burst disc issues). BP is simply making excuses through the presented reports for why it was slow to apply, or why it could not or would not reasonably apply, a capping/venting device.

F.



G.



BP could have taken different action before drilling Macondo such as **not drilling the well at all** if BP thinks the well might lose integrity or breach the sea floor as calculated by their Mr. Willson

H. BP's own calculation by Mr. Willson shows graphically that if a "surface broach" occurred it would be within 100 feet of the Macondo wellhead. At that location a "surface broach" would not interfere with the relief wells being drilled (closest relief well reportedly permitted about 2,800



feet from Macondo). Again, the BP "surface broach" calculation was performed by Mr. Willson on or about May 14, 2010 and before the Top Kill, so that concern should have been eliminated as a well integrity issue. If such a "surface broach" did occur, it (a) was known by BP before Top Kill, and (b) BP nonetheless, saying a "surface broach" was a problem, went ahead with Top Kill.

I. During the blowout, there was more than 15,000 BFPD processing and/or storage capacity available to BP for containment or collection,<sup>9</sup> contrary to the assertion made by Mr. Adams.<sup>10</sup> Oil tankers for storage/alternate flow,<sup>11</sup> and test/flare systems are readily available.<sup>12</sup> As to collecting fluids, if BP modeled a "surface broach" within 100 feet of the Macondo wellhead,<sup>13</sup> then BP could simply have made a larger top hat or collection device.

J. BP floated many concerns and fears, most of which never occurred. BP is contradictorily and inconsistently (1) critical of regulators for "approving" permits and plans BP developed, signed, and submitted; and yet (2) then BP wants to adopt the regulators and others as supposed supporters in agreement with and supportive of plans and concerns that were largely floated by BP. At the implementation of Source Control, [REDACTED]

[REDACTED] BP then wants to say that Unified Incident Command or others in government had to or did approve all actions – which was not correct.<sup>14</sup>

---

<sup>9</sup> The MODU *Enterprise* had 15,000 BFPD production test/processing capability, but the "flow" through or from the MODU *Enterprise* could be directed to oil tankers for storage or shuttle service to shore on the Gulf Coast for processing and product offloading and sale.

<sup>10</sup> See Expert Report of Iain Adams, May 10, 2013; at page 11.

<sup>11</sup> See Exhibit A for a list of web-sourced news stories from May 2010. Services such as AISLive, which provides tanker/vessel location and status monitored (AISLive, for example, is the source of the BP tanker redirection story cited in this footnote).

<sup>12</sup> Natural/hydrocarbon gas flare systems for well test are readily available on the Gulf Coast. These systems are used on offshore drilling rigs and platforms for well tests and could be quickly and easily transported to or on a vessel for use at or near the MODU *Enterprise* for gas flaring if necessary during collection or containment procedures. See Ziegler Report, May 1, 2013; at pages 33-34, 41-42, & Figures 7 & 8 (floating production equipment information and figures).

<sup>13</sup> See BP's Stephen Willson's calculations discussed elsewhere in this Rebuttal Report.

<sup>14</sup> See Ziegler Report, May 1, 2013; at pages 15, 27-28, 33, and accompanying footnotes.

## II. INTRODUCTION

A. The purpose and intent of this Rebuttal Report is to set forth rebuttal information as Phase II - Source Control opinions formed for litigation called IN RE: OIL SPILL BY THE OIL RIG "DEEPWATER HORIZON" IN THE GULF OF MEXICO ON APRIL 20, 2010, and is written after my review of Phase II – Source Control reports for BP, Transocean, and Halliburton listed on attached Exhibit A to this Rebuttal Report.

B. I stand by all of my opinions formed and presented in my Report dated May 1, 2013 (called in this document "Report"). My methodology for this Rebuttal Report is the same as for my Report of May 1, 2013.

C. I have reviewed additional documents since my Report of May 1, 2013 that include those listed on attached Exhibit A to this Rebuttal Report.

## III. REBUTTAL OPINION DETAIL

A. Expert Report of Iain Adams, May 10, 2013.

1. Mr. Adams never explains why he believes the BP Top Kill and Top Kill with Junk Shot were reasonable efforts for Source Control.<sup>15</sup> If BP is truly concerned about well integrity (*e.g.* burst disc issue or casing integrity) and "surface broach" (*e.g.* Source flow to sea floor outside well bore), then any effort to effect a hard shut in of the well is unreasonable and illogical.

2. Mr. Adams opines that a pre-fabricated capping stack was not feasible.<sup>16</sup> Capping stacks were not only feasible but capping stacks were assembled by MWCC/Trendsetter Engineering in about 8 weeks; and by BP from existing, off-

---

<sup>15</sup> Adams Report, May 10, 2013; at pages 7-10.

<sup>16</sup> *Id.*, at page 16.



the-shelf items.<sup>17</sup> Another disproof of BP's claims is that BP quickly made a pre-fabricated capping/venting device; as did MWCC of which BP is a current member, and other entities (6 or 8 exist) have capping stacks; and it was demonstrated that a simple design and existing technology and equipment could be used, now or before Macondo to have a pre-fabricated capping/venting device.

3. Mr. Adams disagrees that there is a predictable installation timeline for a capping/venting stack even if such a device had been available.<sup>18</sup> When the discrete capping steps actually occurred for Macondo in a few days,<sup>19</sup> it is an engineering reality that with a properly pre-planned, dressed, and staged capping device, with the benefit of engineering and rehearsals, could have reasonably been installed in a like time frame.<sup>20</sup>

4. Many BOPs and related subsea equipment are latched, unlatched, connected, disconnected, pulled, run, and otherwise used in all depths of water frequently – there is no reason that a capping device could not be routinely installed more quickly than was the capping device at Macondo – and practice, rehearsals, planning, and experience make it better and more efficient as time goes on.

5. The claimed necessity for "engineering firsts"<sup>21</sup> only means that BP did not pre-plan, dress (with needed options for flanges, connectors, and connection points), and stage a rehearsed capping device and its use. In fact, the tools and technology were available, existed, were modifiable, and/or easily achieved both before and immediately after the Source flow at Macondo.<sup>22</sup>

---

<sup>17</sup> GIER KARLSON, A FULLY AIR DEPLOYABLE WELL CAPPING STACK AND ROV TOOLING SYSTEM FOR WORLDWIDE SUPPORT 5 (SPE 160409) 2012.

<sup>18</sup> Adams Report, May 10, 2013; Section 3.11, at page 23.

<sup>19</sup> Ziegler Report, May 1, 2013; at Figure 5; *see also* TREX 9139/Document 7076 - Stipulated Facts Concerning Source Control Events, dated August 9, 2010.

<sup>20</sup> Ziegler Report, May 1, 2013; at Figure 5.

<sup>21</sup> Adams Report, May 10, 2013; at pages 26-27.

<sup>22</sup> TREX 9139/Document 7076 (stipulated facts and timeline segments).

6. Mr. Adams compliments BP for spending money to effect Source Control. However it is better to plan properly and spend part of \$ 50 MM<sup>23</sup> for a capping stack instead of \$ 1,600 MM (\$1.6B) for Source Control – that is 32 times as much; or many times that multiple of 32 times more if costs are shared/amortized for the \$ 50 MM capping cost. And, actual cost results for a planned capping device is much, much less than the \$ 20 billion +/- to \$ 50 billion +/- for cost-benefit analysis

[REDACTED]

[REDACTED]

I agree with Mr. Adams in a trivial sense that many engineering tasks were performed for the first time after April 20, 2010 - but only because BP had actually not done it before. BP claims of "many engineering firsts" simply concedes: (1) that "BP did not have a plan", and (2) there were actually no "engineering firsts" as BP just had to do it.

8. All of the list of items cited by Mr. Adams could be pre-planned and accomplished/alternate plans/and a "what if" analysis and alternatives designed - it just had to be done. The proper time to plan and determine what to do is not while a Source was flowing in the Gulf of Mexico - but in labs, shops, and offices with calm and proper planning, consideration, and quiet thinking, time and effort. Of course things had to be planned so they took time - that is why you plan ahead of

---

<sup>23</sup> Ziegler Report, May 1, 2013; at pages 40-41; *see also* Wellings deposition, January 16-17, 2013, at pages 423, 432 (cost of capping stack); *see also* Trendsetter Engineering, Inc. website ([www.trendsetterengineering.com](http://www.trendsetterengineering.com)) for a description of well capping systems and the short time to assemble them (5 ½ to 8 weeks); *see also* TREX 60996 - BP Supplemental Authorization for Expenditure, dated January 27, 2010 (BP costs for Macondo) (BP spent much more than a capping/venting system or shared capping/venting system).

[REDACTED]

time. You might design and install brakes on a car while it is careening off the highway, but that is not how it should be done - the design should be accomplished and the brakes tested, improved, contingencies or alternatives considered, and finally installed before you start driving on the journey.

█ [REDACTED]

1. Blowout frequency calculations and such sources as MMS statistics<sup>25</sup> and SINTEF<sup>26</sup> publications might be useful for insurance or actuarial purposes in the industry, but in my opinion have little relevance or application to Source Control in the real world of drilling operations and safety. [REDACTED]

[REDACTED]

2. [REDACTED]

3. [REDACTED]

---

<sup>25</sup> *Id.*, at Attachment 1.

<sup>26</sup> See Ziegler Report, May 1, 2013; at page 20; see also TREX 7192 – Email, dated May 13, 2010 - From: Graham McNeillie To: Mark Bly and others - Subject: FW: Blowout and Well Release Frequencies, with attachment; see also SINTEF Industrial Management/Scientific, Report No. STF 38 (2001).

[REDACTED]

[REDACTED]

4. [REDACTED]

5. [REDACTED]

[REDACTED] BP's "plan" was nothing more than: (a) ineffective ROV intervention; and, (b) then starting to drill relief well(s) - there was no other "plan".

[REDACTED] Dr. Bea is correct, [REDACTED]

---

[REDACTED]

[REDACTED] – you have to have a plan – but what is the "plan" for Source Control – call the oil skimmers? Or call the technicians and see how long they might take for Source Control since BP had not called those "experts" before and planned with the "experts" for what BP admits and knew was not a risk that could be eliminated. The risk existed in BP's corporate mind-set; but the solution and Source Control did not.

8. The BP supposed "risk management plan" precisely illustrates a corporate mind-set where BP accepted risk, but it was actually "unresponsive" to Source Control mitigation of that risk. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] BP is a multinational corporation. In that position and operating environment, BP interfaces with different regulations, practices, and cultures where BP decides to operate. These interfaces include regulation, operations, and safety. [REDACTED]

11. BAST or the BAT-concept<sup>34</sup> as process safety was defined by BP in such materials for Source Control for BP Alaska<sup>35</sup> and in the industry,<sup>36</sup> as capping a well. **If you need to cap a well, you need a cap.** [REDACTED]

---

<sup>34</sup> TREX 9828 - Best Available Technology [18 AAC 75.425(e)(4)] – Draft (July 2001) (BP Alaska planning documents).

<sup>35</sup> *Id.*

<sup>36</sup> TREX 7353 - IADC Deepwater Well Control Guidelines (October 1998).  
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

16. [REDACTED] – hardware and technology actually implement Source Control. The hardware and technology of a capping stack is real – build it and you can use it. [REDACTED]

[REDACTED] The industry had studied and determined means for Source Control and those means were also determined by BP,<sup>46</sup> the IADC,<sup>47</sup> and the DEA Joint Industry Group<sup>48</sup> long before Macondo.

[REDACTED]

[REDACTED]

[REDACTED]

<sup>46</sup> TREX 9828.

<sup>47</sup> TREX 7353.

<sup>48</sup> Neal Adams Firefighters, Inc., Final Report – Joint Industry Program for Floating Vessel Blowout Control (1991) (also called DEA-63 report).

[REDACTED]



[REDACTED]

[REDACTED]

At alleged Macondo flow rates, even a seven day Source Control event would spill significant oil. A longer flow event, such as the 11 day MMS-documented Source Control event in the cited report, would have flowed even more oil.

[REDACTED]

Also, a capping device

had been determined to be the practical means of Source Control by BP itself as early as 2001.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

In fact, well pressures, flow, and system integrity were not at odds – the burst discs ultimately did not fail under Source flow conditions at Macondo.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

In the U.S. regulatory structure, the responsible party must control the flow as soon as is feasible.<sup>89</sup> BP was not prepared for physical Source Control.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

<sup>89</sup> TREX 51497 (30 C.F.R. § 250.107).

[REDACTED]



5. After Macondo, BP and others<sup>93</sup> have developed "capping devices" to have ready for future events where similar Source Control is required. [REDACTED]

#### IV. HALLIBURTON ENTITIES STILL HAVE NO RESPONSIBILITY

A. Based on my review of Phase II – Source Control reports listed in attached Exhibit A or in Reliance or Consideration materials, Halliburton entities are not responsible for the BP areas of responsibility discussed in this Rebuttal Report.

B. As to Phase II – Source Control, the Halliburton entities did not contribute to any failure of or by BP.

C. To date, I have seen no deposition testimony or other documents related to Phase II – Source Control that indicates, in my opinion, responsibility on the part of Halliburton entities.

---

<sup>93</sup> See Trendsetter Engineering, Inc. website ([www.trendsetterengineering.com](http://www.trendsetterengineering.com)) for a description of well capping systems and the short time to assemble them (5 ½ to 8 weeks); see also MWCC materials; and various press releases cited in Ziegler Report, May 1, 2013 as to capping equipment – including BP capping device magazine article and BP current television ads related to their reliance or touting of their current capping stack – even though Mr. Burch and others say in their reports for Phase II that a capping stack is still not economic, necessary, feasible, or even usable.

## V. CONCLUSION

A. The Macondo Source Control failures were failures of BP, and no reports for BP or other Phase II – Source Control reports I have reviewed change my opinions in that regard.

B. The reports I have read after submitting my Report do not change my opinion that Halliburton entities did not contribute to nor cause any failure to accomplish Source Control.

C. Also, my review has confirmed my Report opinions that Halliburton entities had no responsibility for the BP failures discussed in this Rebuttal Report related to Source Control.

## VI. FINAL REPORT (BASED ON REVIEW TO DATE); FUTURE WORK

A. The Opinions and Conclusion in this Rebuttal Report are final and not preliminary based on information reviewed as of this time.

B. My review has included reports for Phase II – Source Control for the Plaintiff Steering Committee ("PSC"), for BP, for Transocean, and for Halliburton Energy Services, Inc. and related entities. In my Report of May 1, 2013, I gave an opinion as to several PSC Phase II – Source Control-related reports (Perkin and Bea). I agree with the Transocean Phase II – Source Control-related reports in general terms as regards BP. I may have comments or distinctions if questioned as to the several reports, opinions, or conclusions that I have commented on in my Report and in this Rebuttal Report.

C. The review of additional information might require modification of my opinions.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## EXHIBIT A

### BIBLIOGRAPHY

#### EDWARD R. ZIEGLER, P.E. REBUTTAL REPORT

FOR PHASE II (DOCUMENTS RECEIVED AFTER MAY 1, 2013 WHEN MY REPORT WAS SUBMITTED):

1. Expert Reports – (This report and all of the below with exhibits, footnotes, endnotes, figures, and/or reliance materials as applicable)

Expert report of Andreas Momber

Expert report of Andrew Mackay

Expert report of Dan Gibson

Expert report of Glen Stevick

Expert report of Greg Childs

Expert report of Iain Adams

Expert report of Adm. James Hull (Retired)

Expert report of John Wilson

Expert report of Michael Zaldivar

Expert report of Morris Burch

Expert report of Nathan Bushnell

Expert report of Richard Carden

Expert report of Tyson Foutz

Expert report of Adrian Johnson

Expert report of Alain Gringarten

Expert report of Curtis Whitson

Expert report of Kerry Pollard

Expert report of Martin Blunt

Expert report of Robert Zimmerman

Expert report of Simon Lo

2. AISLive website – vessel availability and locations (oil tankers).
3. BP Tanker Diversion web story – “BP oil tanker said to be diverted from Gulf of Mexico” - ALARIC NIGHTINGALE, Copyright 2010 Bloomberg News, May 5, 2010.
4. BP Tanker Use web story – “Supertankers Could Clean up The Gulf Oil Spill, BP Won't Listen” (Source former Shell Oil President), story by Brit Liggett, on May 14, 2010.
5. Oil Pollution Act of 1990.
6. 40 CFR 300 *et seq.*
7. GIER CARLSON, A FULLY AIR DEPLOYABLE WELL CAPPING STACK AND ROV TOOLING SYSTEM FOR WORLDWIDE SUPPORT (SPE 160409) 2012.

# MDL NO. 2179

*In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010*

**EDWARD R. ZIEGLER, P.E., C.S.P.  
EXPERT REBUTAL REPORT CONSIDERATION MATERIALS  
JUNE 10, 2013**

## EXHIBIT A

TREX 000001

TREX 000002

TREX 000093

TREX 000268

TREX 000296-1

TREX 000757

TREX 000768

TREX 000769

TREX 000866

TREX 000871-CUR

TREX 001164

TREX 001165

TREX 001166

TREX 001300

TREX 001626

TREX 001651

TREX 001734

TREX 001741

TREX 002200

TREX 002291

TREX 002292

TREX 002348

TREX 002349

TREX 002352

TREX 002359

TREX 002386

TREX 002416

TREX 002419

TREX 002520

TREX 002681

TREX 002919

TREX 003063

TREX 003174

TREX 003184

TREX 003218

TREX 003220

TREX 003251

TREX 003253

TREX 003265

TREX 003324

TREX 003348

TREX 003352

TREX 003360
TREX 003361
TREX 003364
TREX 003365
TREX 003372
TREX 003602
TREX 003624
TREX 003903
TREX 003907
TREX 003916
TREX 003918
TREX 003922
TREX 004147
TREX 004152
TREX 004156
TREX 004162
TREX 004170
TREX 004198
TREX 004275
TREX 004405
TREX 004414
TREX 004423
TREX 004926
TREX 004941
TREX 004970
TREX 005051
TREX 005053
TREX 005054
TREX 005059
TREX 005063
TREX 005239
TREX 005241
TREX 005246
TREX 005359
TREX 005361
TREX 005370
TREX 005385
TREX 005395
TREX 005792
TREX 005853
TREX 005863
TREX 005946
TREX 006094
TREX 006120
TREX 006176
TREX 006203
TREX 006205
TREX 006212
TREX 006267
TREX 006299
TREX 006311
TREX 006366
TREX 006367
TREX 007192
TREX 007247
TREX 007270

TREX 007307
TREX 007351
TREX 007352
TREX 007353
TREX 007354
TREX 007550
TREX 007687
TREX 007688
TREX 007696
TREX 007697
TREX 007722
TREX 007821
TREX 007920
TREX 008514
TREX 008516
TREX 008524
TREX 008537
TREX 008538
TREX 008542
TREX 008544
TREX 008553
TREX 008583
TREX 008584
TREX 008615
TREX 008616
TREX 008617
TREX 008618
TREX 008620
TREX 008621
TREX 008624
TREX 008630
TREX 008635
TREX 008637
TREX 008638
TREX 008647
TREX 008648
TREX 008656
TREX 008662
TREX 008663
TREX 008667
TREX 008669
TREX 008680
TREX 008682
TREX 008767
TREX 008797
TREX 008865
TREX 008866
TREX 008867
TREX 008886
TREX 008942
TREX 008948
TREX 008975
TREX 008997
TREX 009005
TREX 009012
TREX 009013



TREX 009050
TREX 009056
TREX 009063
TREX 009064
TREX 009065
TREX 009067
TREX 009084
TREX 009096
TREX 009098
TREX 009099
TREX 009100
TREX 009104
TREX 009105
TREX 009110
TREX 009112
TREX 009117
TREX 009118
TREX 009119
TREX 009121
TREX 009122
TREX 009124
TREX 009125
TREX 009127
TREX 009130
TREX 009132
TREX 009135
TREX 009137
TREX 009139
TREX 009146
TREX 009148
TREX 009149
TREX 009151
TREX 009155
TREX 009156
TREX 009157
TREX 009158
TREX 009159
TREX 009160
TREX 009163
TREX 009164
TREX 009171
TREX 009172
TREX 009183
TREX 009240
TREX 009241
TREX 009243
TREX 009245
TREX 009249
TREX 009250
TREX 009254
TREX 009255
TREX 009265
TREX 009266
TREX 009267
TREX 009268
TREX 009269

TREX 009274
TREX 009279
TREX 009283
TREX 009294
TREX 009306
TREX 009309
TREX 009313
TREX 009315
TREX 009328
TREX 009329
TREX 009330
TREX 009331
TREX 009336
TREX 009345
TREX 009346
TREX 009347
TREX 009358
TREX 009361
TREX 009406
TREX 009433
TREX 009434
TREX 009438
TREX 009439
TREX 009441
TREX 009445
TREX 009446
TREX 009448
TREX 009449
TREX 009463
TREX 009466
TREX 009474
TREX 009475
TREX 009480
TREX 009489
TREX 009539
TREX 009552
TREX 009564
TREX 009573
TREX 009574
TREX 009577
TREX 009629
TREX 009672
TREX 009675
TREX 009681
TREX 009682
TREX 009693
TREX 009781
TREX 009827
TREX 009828
TREX 009859
TREX 009890
TREX 009935
TREX 009940
TREX 009946
TREX 009959
TREX 009981

TREX 010091
TREX 010180
TREX 010185
TREX 010188
TREX 010301
TREX 010303
TREX 010338
TREX 010475
TREX 010483
TREX 010484
TREX 010486
TREX 010487
TREX 010488
TREX 010489
TREX 010490
TREX 010492
TREX 010499
TREX 010505
TREX 010506
TREX 010507
TREX 010511
TREX 010516
TREX 010517
TREX 010526
TREX 010528
TREX 010529
TREX 010531
TREX 010532
TREX 010533
TREX 010534
TREX 010535
TREX 010543
TREX 010588
TREX 010600
TREX 010601
TREX 010606
TREX 010608
TREX 010610
TREX 010612
TREX 010617
TREX 010622
TREX 010623
TREX 010628
TREX 010632
TREX 010633
TREX 010634
TREX 010641
TREX 010642
TREX 010655
TREX 010660
TREX 010672
TREX 010679
TREX 010680
TREX 010712
TREX 010713
TREX 010779

TREX 010798
TREX 010855
TREX 010877
TREX 010880
TREX 010896
TREX 010903
TREX 010904
TREX 011135
TREX 011136
TREX 011140
TREX 011151
TREX 011159
TREX 011160
TREX 011164
TREX 011165
TREX 011170
TREX 011193
TREX 011208
TREX 011227
TREX 011230
TREX 011244
TREX 011263
TREX 011264
TREX 011305
TREX 011307
TREX 011317
TREX 011400
TREX 011408
TREX 011435
TREX 011436
TREX 020001
TREX 020143
TREX 020420
TREX 021176
TREX 021285
TREX 025083
TREX 040008
TREX 041008
TREX 041599
TREX 041643
TREX 041644
TREX 043127
TREX 045033
TREX 045056
TREX 051269
TREX 051497
TREX 052673
TREX 060988
TREX 061000
TREX 061123
TREX 061124
TREX 062884
TREX 063059
TREX 091140
TREX 140309
TREX 140311

TREX 140324
TREX 140325
TREX 140347
TREX 140422
TREX 140433
TREX 140485
TREX 140488
TREX 140511
TREX 140513
TREX 140687
TREX 140798
TREX 140804
TREX 140808
TREX 140851
TREX 140852
TREX 140853
TREX 140946
TREX 141021
TREX 141023
TREX 141082
TREX 141313
TREX 141622
TREX 142245
ADX003-0007575 - ADX003-0007577
BP-HZN-2179MDL00059145 - BP-HZN-2179MDL00059167
BP-HZN-2179MDL00063016
BP-HZN-2179MDL00154146 - BP-HZN-2179MDL00154159
BP-HZN-2179MDL00322248 - BP-HZN-2179MDL00322251
BP-HZN-2179MDL00328855 - BP-HZN-2179MDL00328857
BP-HZN-2179MDL00449543 - BP-HZN-2179MDL00449544
BP-HZN-2179MDL00466582
BP-HZN-2179MDL00470598
BP-HZN-2179MDL00470599
BP-HZN-2179MDL00477088
BP-HZN-2179MDL00593164
BP-HZN-2179MDL00596782
BP-HZN-2179MDL01088589
BP-HZN-2179MDL01334232 - BP-HZN-2179MDL01334261
BP-HZN-2179MDL01334280 - BP-HZN-2179MDL01334300
BP-HZN-2179MDL01428028 - BP-HZN-2179MDL01428044
BP-HZN-2179MDL01448714 - BP-HZN-2179MDL01448715
BP-HZN-2179MDL01468660 - BP-HZN-2179MDL01468676
BP-HZN-2179MDL01513402 - BP-HZN-2179MDL01513403
BP-HZN-2179MDL01514140
BP-HZN-2179MDL01514157 - BP-HZN-2179MDL01514158
BP-HZN-2179MDL01554458
BP-HZN-2179MDL01608483
BP-HZN-2179MDL01608973 - BP-HZN-2179MDL01609022
BP-HZN-2179MDL01616217 - BP-HZN-2179MDL01616347
BP-HZN-2179MDL01625468 - BP-HZN-2179MDL01625471
BP-HZN-2179MDL01751138 - BP-HZN-2179MDL01751159
BP-HZN-2179MDL01796033 - BP-HZN-2179MDL01796056
BP-HZN-2179MDL01872218
BP-HZN-2179MDL01962554 - BP-HZN-2179MDL01962632
BP-HZN-2179MDL02175561 - BP-HZN-2179MDL02175577
BP-HZN-2179MDL02389901 - BP-HZN-2179MDL02389927

BP-HZN-2179MDL02393883
BP-HZN-2179MDL02394182
BP-HZN-2179MDL02394184
BP-HZN-2179MDL02394185
BP-HZN-2179MDL02394186
BP-HZN-2179MDL02394187
BP-HZN-2179MDL02405680 - BP-HZN-2179MDL02405700
BP-HZN-2179MDL02497644 - BP-HZN-2179MDL02497695
BP-HZN-2179MDL02730477
BP-HZN-2179MDL03290054 - BP-HZN-2179MDL03290094
BP-HZN-2179MDL03497420
BP-HZN-2179MDL03676655 - BP-HZN-2179MDL03676667
BP-HZN-2179MDL04440238 - BP-HZN-2179MDL04440248
BP-HZN-2179MDL04440267
BP-HZN-2179MDL04440368 - BP-HZN-2179MDL04440381
BP-HZN-2179MDL04440691 - BP-HZN-2179MDL04440731
BP-HZN-2179MDL04563046
BP-HZN-2179MDL04578057 - BP-HZN-2179MDL04578103
BP-HZN-2179MDL04578104
BP-HZN-2179MDL04824968 - BP-HZN-2179MDL04825017
BP-HZN-2179MDL04877807 - BP-HZN-2179MDL04877811
BP-HZN-2179MDL04927171 - BP-HZN-2179MDL04927174
BP-HZN-2179MDL04934351
BP-HZN-2179MDL05036764
BP-HZN-2179MDL05048308
BP-HZN-2179MDL05057726
BP-HZN-2179MDL05059166
BP-HZN-2179MDL05088072 - BP-HZN-2179MDL05088075
BP-HZN-2179MDL05096111 - BP-HZN-2179MDL05096112
BP-HZN-2179MDL05173765 - BP-HZN-2179MDL05173768
BP-HZN-2179MDL05176821
BP-HZN-2179MDL05181294 - BP-HZN-2179MDL05181319
BP-HZN-2179MDL05187231
BP-HZN-2179MDL05187232
BP-HZN-2179MDL05223139
BP-HZN-2179MDL05497214
BP-HZN-2179MDL05593215 - BP-HZN-2179MDL05593219
BP-HZN-2179MDL05695033 - BP-HZN-2179MDL05695034
BP-HZN-2179MDL05698038
BP-HZN-2179MDL05703395
BP-HZN-2179MDL05740228 - BP-HZN-2179MDL05740232
BP-HZN-2179MDL05760839 - BP-HZN-2179MDL05760846
BP-HZN-2179MDL05814854 - BP-HZN-2179MDL05814864
BP-HZN-2179MDL05856533 - BP-HZN-2179MDL05856554
BP-HZN-2179MDL05859632
BP-HZN-2179MDL05864511 - BP-HZN-2179MDL05864512
BP-HZN-2179MDL05871047 - BP-HZN-2179MDL05871051
BP-HZN-2179MDL05905934 - BP-HZN-2179MDL05905938
BP-HZN-2179MDL06005948 - BP-HZN-2179MDL06005968
BP-HZN-2179MDL06096211 - BP-HZN-2179MDL06096223
BP-HZN-2179MDL06314451 - BP-HZN-2179MDL06314453
BP-HZN-2179MDL06393411
BP-HZN-2179MDL06424832
BP-HZN-2179MDL06475244
BP-HZN-2179MDL06482998 - BP-HZN-2179MDL06483049
BP-HZN-2179MDL06497081 - BP-HZN-2179MDL06497094

BP-HZN-2179MDL06604338 - BP-HZN-2179MDL06604339
BP-HZN-2179MDL06742232
BP-HZN-2179MDL06742233
BP-HZN-2179MDL06742235
BP-HZN-2179MDL06742236
BP-HZN-2179MDL06742237
BP-HZN-2179MDL06742238
BP-HZN-2179MDL06742612
BP-HZN-2179MDL06742613
BP-HZN-2179MDL06742827
BP-HZN-2179MDL06742964
BP-HZN-2179MDL06742965
BP-HZN-2179MDL06742966
BP-HZN-2179MDL06742967
BP-HZN-2179MDL06742971
BP-HZN-2179MDL06743164
BP-HZN-2179MDL06743165
BP-HZN-2179MDL06743280
BP-HZN-2179MDL06743281
BP-HZN-2179MDL06743282
BP-HZN-2179MDL06743283
BP-HZN-2179MDL06743284
BP-HZN-2179MDL06743285
BP-HZN-2179MDL06743286
BP-HZN-2179MDL06743478
BP-HZN-2179MDL06743479
BP-HZN-2179MDL06743481
BP-HZN-2179MDL06744009
BP-HZN-2179MDL06744012
BP-HZN-2179MDL06744067
BP-HZN-2179MDL06744203
BP-HZN-2179MDL06744770
BP-HZN-2179MDL06744772
BP-HZN-2179MDL06744773 - BP-HZN-2179MDL06744878
BP-HZN-2179MDL06744881
BP-HZN-2179MDL06744884
BP-HZN-2179MDL06744885
BP-HZN-2179MDL06745326
BP-HZN-2179MDL06745328
BP-HZN-2179MDL06745329
BP-HZN-2179MDL06745330
BP-HZN-2179MDL06745929
BP-HZN-2179MDL06746265
BP-HZN-2179MDL06746266
BP-HZN-2179MDL06746268
BP-HZN-2179MDL06963450 - BP-HZN-2179MDL06963458
BP-HZN-2179MDL06963459 - BP-HZN-2179MDL06963464
BP-HZN-2179MDL07014311 - BP-HZN-2179MDL07014313
BP-HZN-2179MDL07014314 - BP-HZN-2179MDL07014316
BP-HZN-2179MDL07266154
BP-HZN-2179MDL07266155
BP-HZN-2179MDL07266193
BP-HZN-2179MDL07266256
BP-HZN-2179MDL07279441
BP-HZN-2179MDL07284214
BP-HZN-2179MDL07284215

BP-HZN-2179MDL07284216
BP-HZN-2179MDL07284217
BP-HZN-2179MDL07434129
BP-HZN-2179MDL07452165
BP-HZN-2179MDL07459741
BP-HZN-2179MDL07462764
BP-HZN-2179MDL07729355
BP-HZN-2179MDL07729373
BP-HZN-2179MDL07729451
BP-HZN-2179MDL07756913
BP-HZN-2179MDL07756914
BP-HZN-2179MDL07791149 - BP-HZN-2179MDL07791169
BP-HZN-2179MDL07793553
BP-HZN-2179MDL07793813 - BP-HZN-2179MDL07793830
BP-HZN-2179MDL07794870; BP-HZN-2179MDL07797962
BP-HZN-2179MDL07794930 - BP-HZN-2179MDL07794932
BP-HZN-2179MDL07795476 - BP-HZN-2179MDL07795485
BP-HZN-2179MDL07797792 - BP-HZN-2179MDL07797799
BP-HZN-2179MDL07799118 - BP-HZN-2179MDL07799156
BP-HZN-2179MDL07799159 - BP-HZN-2179MDL07799212
BP-HZN-2179MDL07799711 - BP-HZN-2179MDL07799714
BP-HZN-2179MDL07800352
BP-HZN-2179MDL07800358 - BP-HZN-2179MDL07800359
BP-HZN-2179MDL07800361 - BP-HZN-2179MDL07800363
BP-HZN-2179MDL07800369
BP-HZN-2179MDL07802811 - BP-HZN-2179MDL07802868
BP-HZN-2179MDL07804428
BP-HZN-2179MDL07805246
BP-HZN-2179MDL07806038
BP-HZN-2179MDL07806546
BP-HZN-2179MDL07806548
BP-HZN-BLY00000526 - BP-HZN-BLY00000585
CAM CIV 0078101 - CAM CIV 0078104
CAM_CIV_0124774
CAM_CIV_0207839
CAM CIV 0302527
DSE001-011659 - DSE001-011660
DSE001-011663 - DSE001-011664
DSE002-003434
DSE002-003871
DSE002-004044
DSE002-006177 - DSE002-006201
HCG037-000316
HCG259-005847 - HCG259-005848
HCG274-021966 - HCG274-021969
IES008-088413 - IES008-088418
IGS606-013990 - IGS606-013991
IGS628-009825
IGS629-003048 - IGS629-003056
IGS642-000215 - IGS642-000261
IMS991-024822 - IMS991-024831
IMT954-013880
IMW014-001094 - IMW014-001106
LAL098-000104 - LAL098-000112
LAL137-006855
LAL137-011551



LAL137-011552 - LAL137-012153
OSE269-037152
SDX005-0013242 - SDX005-0013243
SDX009-0000583 - SDX009-0000585; SDX009-0000586
SDX009-0004180 - SDX009-0004190
SNL075-004401
TRN-INV-01295992
TRN-INV-01760206 - TRN-INV-01760681
TRN-INV-01871789 - TRN-INV-01871790
TRN-MDL-00494920 - TRN-MDL-00495005
TRN-MDL-00496131
TRN-MDL-02482254 - TRN-MDL-02482259
TRN-MDL-02482283 - TRN-MDL-02482285
TRN-MDL-02482289 - TRN-MDL-02482293
TRN-MDL-02482302 - TRN-MDL-02482315
TRN-MDL-02482353 - TRN-MDL-02482355
TRN-MDL-02487634 - TRN-MDL-02487636
TRN-MDL-02487690 - TRN-MDL-02487691
TRN-MDL-02840301 - TRN-MDL-02840396
TRN-MDL-05572039 - TRN-MDL-05572049
TRN-MDL-07223447 - TRN-MDL-07223448
WFT-MDL-00039236
WFT-MDL-00039242
WFT-MDL-00039245
WFT-MDL-00039304
WFT-MDL-00039346
WFT-MDL-00039352
WFT-MDL-00039353
WFT-MDL-00039354
WFT-MDL-00039356
WFT-MDL-00082904
WFT-MDL-00130933
WFT-MDL-00130933
WW-MDL-00004752 - WW-MDL-00004753
WW-MDL-00005859 - WW-MDL-00005860
WW-MDL-00051360
WW-MDL-00074743 - WW-MDL-00074745
WW-MDL-00074743 - WW-MDL-00074745
XRDX001-000096 - XRDX001-000144
All materials referenced in the May 1, 2013 Expert Report of Edward Ziegler, including Exhibit C.
Article and Powerpoint: "The Role of Existing Wells as Pathways for CO2 Leakage," Michael Celia, Search and Discovery Article, 2010
Article and Video Interview: "BP Exec: We'll Accept Military Help to Stem Leak," CBS News <a href="http://www.cbsnews.com/2100-500202_1626443358.html">www.cbsnews.com/2100-500202_1626443358.html</a>
Article: "A Discussion on Casing Settling During Shallow Gas Blowouts," N. Adams, SPE/IADC Drilling Conference, Feb. 15-18, 1994 (Abstract)
Article: "A Fully Air Deployable Well Capping Stack and ROV Tooling System for Worldwide Support," Karlsen, G., SPE 160409, 2012
Article: "A New Pressure/Rate-Deconvolution Algorithm to Analyze Wireline-Formation-Tester and Well-Test Data," E. Pimonov, et al., SPE Annual Tech. Conference and Exhibition, Oct. 4-7, 2009, (Abstract)
Article: "A New Set of Type Curves Simplifies Well Test Analysis," D. Bourdet, et al, World Oil, 1983
Article: "AAPG, Deep GOM Discoveries Toasted over 30 Years - Celebrations Began with Cognac GOM," Stephen Cossey, AAPG website, Sept. 2004
Article: "Abrasion Erosion of Concrete by Water-borne Sand," Liu, Yu-Wen, et al., Cement and Concrete Research, Vol. 36, Issue 10, Oct. 2006 (Abstract)

Article: "Abrasion-Porosity-Strength Model for Fly Ash Concrete," J. Mater, Journal of Materials in Civil Engineering, Volume 15, Issue 4, July 15, 2003 (Abstract)
Article: "Analyzing Pressure Buildup Data by the Rectangular Hyperbola Approach," Haugland, T., Larsen, L., and Skjaeveland, S.M., SPE 13079 SPE Annual Tech Conference, Sept. 16-19, 1984. (Abstract),
Article: "Applications of Science and Engineering to Quantify and Control the Deepwater Horizon Spill," M.K. McNutt et. al., Nat'l Center for Biotechnology Information, Dec. 3, 2012 (Abstract)
Article: "Approximating Well-to-Fault Distance From Pressure Build-up Tests," K.E. Gary, Journal of Petroleum Technology, Volume 17, Number 7, July 1965 (Abstract)
Article: "Architecture of Turbidite Channel Systems on the Continental Slope: Patterns and Predictions," T. McHargue et al., Marine and Petroleum Geology, Vol. 28, Issue 3, March 2011 (Abstract)
Article: "BP Builds Independent, Air-Deployable Capping Stack," Pramod Kulkarni, World Oil News
Article: "BP Oil Spill Day 25 How Much Is Really Leaking," Jeffrey Kofman et al, ABC News, May 14, 2010
Article: "BP oil tanker said to be diverted from Gulf of Mexico" - ALARIC NIGHTINGALE, Copyright 2010 Bloomberg News, May 5, 2010
Article: "BP welcomes military help for oil leak," Associated Press, New Orleans City Business, <a href="http://neworleanscitybusiness.com/blog/2010/04/29/bp-welcomes-militar">http://neworleanscitybusiness.com/blog/2010/04/29/bp-welcomes-militar</a>
Article: "Calculating Viscosities of Reservoir Fluids From Their Compositions," John Lohrenz et. al., Journal of Petroleum Technology, Volume 16, Number 10, October 1964, Society of Petroleum Engineers (Abstract)
Article: "CFD Modelling of Hydrate Formation in Oil-Dominated Flows," Simon Lo, Offshore Technology Conference 2011 (Abstract)
Article: "Chemical Data Quantify Deepwater Horizon Hydrocarbon Flow Rate and Environmental Distribution," Thomas B. Ryerson, et al., PNAS, Vol. 109, No. 50, Dec. 11, 2012
Article: "Chemical Data Quantify Deepwater Horizon Hydrocarbon Flow Rate and Environmental Distribution," Thomas Ryerson et al., Proceedings of the Nat'l Academy of Sciences of the USA, Nov. 29, 2011 (Abstract)
Article: "Cocurrent Liquid-Gas Flow in a Pipeline Contractor," Alves, Chemical Engineering Prog. 1954 (Abstract)
Article: "Compaction Effects on Porosity and Permeability: Deepwater Gulf of Mexico Turbidite," R.M. Ostermeier, SPE, Journal of Petroleum Technology, Vol. 53, 2001 (Abstract)
Article: "Compressibility of Reservoir Rocks," Howard Hall, Journal of Petroleum Technology, Vol. 5, No. 1, Jan. 1953 (Abstract)
Article: "Computational Fluid Dynamics of Two-Phase Flow Topologies in Boiling Water Reactor Fuel Assembly," Adrian Tentner, Simon Lo, et al., 2008 (Abstract)
Article: "Computing Downhole Temperatures in Circulation, Injection, and Production Wells," Gary Wooley, Journal of Petroleum Technology, Vol. 32, No. 9, Sept. 1980 (Abstract)
Article: "Coupling in Poroelasticity and Thermoelasticity," Robert Zimmerman, International Journal of Rock Mechanics and Mining Sciences, Vol. 37, No. 1, 2000 (Abstract)
Article: "Depositional Elements Associated with a Basin Floor Channel-Levee System: Case Study from the Gulf of Mexico," Henry Posamentier, Marine and Petroleum Geology, 2003
Article: "Development of a Blowout Intervention Method and Dynamic Kill Simulator for Blowouts Occurring in Ultra-Deepwater," Jerome Schubert, et al, Offshore Technology Research Center, Dec. 2004
Article: "Double-diffusive Convection," Herbert Huppert et al, Journal of Fluid Mech., Volume 106, 1981
Article: "Double-Diffusive Finger Convection," Scott Pringle, et al, Journal of Fluid Mechanics, Volume 462, July 2002 (Abstract)
Article: "Drag Coefficients of Single Bubbles Under Normal and Micro Gravity Conditions," Akio Tomiyama, Isao Kataoka, et al., The Japan Society of Mechanical Engineers, JSME International Journal, Series B, Vol. 41, No. 2, 1998
Article: "Effect of crushed ceramic and basaltic pumice as fine aggregates on concrete mortars properties," H. Binici, Construction and Building Materials, Volume 21, Issue 6, 2007 (Abstract)
Article: "Erosion Mechanisms of Hydraulic Concretes under High-Speed Abrasive Water Jets at Different Impact Angles," Y. Yin and T. Xie, Advanced Materials Research, Vols. 150-151, 680-686, 2011.
Article: "Evaluation of confidence intervals in well test interpretation results," Azi, A.C., Gbo, A., Whittle, T., and Gringarten, A.C., SPE 113888, Europec/EAGE Annual Conference and Exhibition, 9-12 June 2008 (Abstract)
Article: "Experimental Investigation of Flow Through an Asymmetric Plane Diffuser," Carl Buice, 1997
Article: "Fracture of brittle multiphase materials by high energy water jets," Momber and Kovacevic, Journal of Materials Science 31, (1996), 1081-1083
Article: "Friction Factors for Pipe Flow," Lewis Moody, Semi-Annual Meeting of the American Society of Mechanical Engineers, June 19-22, 1944

Article: "Fundamentals of Poroelasticity: Chapter 5, Comprehensive Rock Engineering: Principles, Pract and Projects, Vol. II," Emmanuel Detoumay and Alexander Cheng, Pergamon Press, 1993
Article: "Fundamentals of the Hydrodynamic Mechanism of Splitting in Dispersion Process," J. O. Hinze, June 17, 2004 (Abstract)
Article: "Geothermal Gradients and Subsurface Temperatures in the Northern Gulf of Mexico," Joseph Forrest et al, Gulf Coast Assoc. of Geological Societies Transactions, Vol. 55, 2005 (Abstract)
Article: "Gulf Oil Spill: BP Lacked the Right Tools to Deal with Crisis, Chief Executive Admits," Wearden, Graeme, The Guardian, June 3, 2010
Article: "High-speed flow erosion on a new roller compacted concrete dam during construction," Xin Wang et al., Emerald Group Publishing Limited, Vol. 59, 2012 (Abstract)
Article: "Hydraulic Erosion of Concrete by a Submerged Jet," H. Hocheng and C.H. Weng, Journal of Materials Engineering and Performance, Vol. 11, 2002 (Abstract)
Article: "Hydraulic Snubbing Unit Works Over, Recovers Well After Blowout," Tyson Foutz, World Oil, Vol. 225, No. 1
Article: "Hydro-abrasive Erosion of Steel-Fibre Reinforced Hydraulic Concrete," X.G. Hu, et al, Elsevier Science, Vol. 253, 2002
Article: "Impact Abrasion of Hydraulic Structures Concrete," Yu-Wen Liu et al, Journal of Marine Science and Technology, Vol. 20, No. 3, 2012
Article: "Innovative Use of the Well Freeze Technique for Repairs on Steam Injection Wells in a Thermal Recovery Project," MJ Zatka, et al., SPE Int'l Thermal Operations and Heavy Oil Symposium and Int'l Horizontal Well Tech. Conference, Nov. 4-7, 2002 (Abstract)
Article: "Investigation of Slug Flow Induced Forces on Pipe Bends Applying STAR-OLGA Coupling," Xing, L., Yeung, H., and Lo, S. (Abstract)
Article: "IXTOC I: Case Study of a Major Oil Spill," Peter Myer, University of Rhode Island, Marine Affairs, April 1, 1984
Article: "JIP Study on BOP Reliability 2004 - 2006: Subsea Control Systems Were Most Prone to Failure," Jeff Sattler and Frank Gallander, Drilling Contractor, Sept. 2010
Article: "Kick and Blowout Control Developments for Deepwater Operations," E. Nakagawa, SPE/IADC Drilling Conference, Feb. 15-18, 1994 (Abstract)
Article: "Lateral Accretion in a Deep-Marine Channel Complex," Mason Dykstra et al, Sedimentology, 2008
Article: "Lateral Accretion Packages (LAPs): An Important Reservoir Element in Deep Water," Vitor Abreu, et al, Marine and Petroleum Geology, 2003 (Abstract)
Article: "Legal Framework Considerations in the Development of Risk Acceptance Criteria," D.N.D. Hartford, Elsevier Publishers, Structural Safety, Vol. 31, 2009
Article: "Mechanism of Slug Formation in Horizontal Two-Phase Flow," E. Kordyban, et al, Journal of Fluids Engineering.
Article: "Modeling and Prediction of Formation Compressibility and Compactive Pore Collapse in Siliciclastic Reservoir Rocks," B.R. Crawford, 45th U.S. Rock Mechanics/Geomechanics Symp., June 26-29, 2011 (Abstract)
Article: "Modeling Ultra-Deepwater Blowouts and Dynamic Kills and the Resulting Blowout Control Best Practices Recommendations," Samuel Noynaert and Jerome Schubert, Society of Petroleum Engineers, 2005 (Abstract)
Article: "Modelling of Break-Up and Coalescence in Bubbly Two-Phase Flows," Simon Lo et al, 6th International Conference on CFD in Oil & Gas, Metallurgical and Process Industries, June 10-12, 2008
Article: "Modelling of Droplet Breakup and Coalescence in an Oil-Water Pipeline," Simon Lo et al, 6th International Conference on Multiphase Flow, July 9-13, 2007
Article: "Multi-Fidelity Computational Flow Assurance for Design and Development of Subsea Systems and Equipment," Simon Lo
Article: "Numerical Simulations of the Combined Effects of Wellbore Damage and Partial Penetration," Ronald M. Saidikowski, SPE Annual Tech Conference and Exhibition, Sept. 23-26, 1979 (Abstract)
Article: "Numerical Simulations of the Macondo Well Blowout Reveal Strong Control of Oil Flow by Reservoir Permeability and Exsolution of Gas," C.M. Oldenberg, Proceedings of the National Academy of Sciences of the United States of America <a href="http://www.pnas.org/content/early/2011/06/30/1105165108.full.pdf+html">http://www.pnas.org/content/early/2011/06/30/1105165108.full.pdf+html</a>
Article: "Oil Leak in Gulf Worse than Estimated, BP Takes Some Responsibility," Ryan Owens, et al., ABC News, 2010
Article: "Outcrop and Waterflood Simulation Modeling of the 100-Foot Channel Complex, Texas, and the Ainsa II Channel Complex, Spain: Analogs to Multistory and Multilateral Channelized Slope Reservoirs," Integration of Outcrop and Modern Analogs in Reservoir Modeling, Larue, D. K. Grammer and others, pages 337-364, 2004 (Abstract)
Article: "Outer Continental Shelf Drilling Blowouts, 1971-1991," Danenberger, Offshore Technology Conference, 1993 (Abstract)
Article: "Parametric effects on the erosion-corrosion rate and mechanism of carbon steel pipes in oil sands slurry," Y. Yang et al., Wear, 2012 (Abstract)

Article: "Permeability of Foamed Concrete," C.S. Sanjaya, et. al., 32nd Conference on Our World in Concrete and Structures, Aug. 28-29, 2007
Article: "Phase Behavior," Curtis H. Whitson, Michael R. Brule, SPE Monograph, Vol. 20
Article: "Pore-Scale Imaging and Modeling," Martin Blunt et al., Advances in Water Resources, No. 51, 2013
Article: "Pore-Volume Compressibility of Consolidated, Friable, and Unconsolidated Reservoir Rocks Under Hydrostatic Loading," Newman, G.H., Journal of Petroleum Technology, Vol. 25, No. 2, Feb. 1973 (Abstract)
Article: "Practical Use of Well Test Deconvolution," Gringarten, A.C. SPE Annual Technical Conference and Exhibition, Sept. 19-22, 2010 (Abstract)
Article: "Pressure Distributions in Rectangular Reservoirs," Robert Earlougher, Jr., Journal of Petroleum Technology, Volume 20, Number 2, February 1968 (Abstract)
Article: "Proposed Correlation of Data for Isothermal Two Phase, Two Component Flow in Pipes," R.W. Lockhart and R.C. Martinelli, Chemical Engineering Progress (1949)
Article: "Quality Goals: Acceptable Reliability and Risk," Professor Robert Bea, Center for Catastrophic Risk Management, University of California Berkeley, 2003
Article: "Recent Progress in CFD Modeling of Multiphase Flow in Horizontal and Near-Horizontal Pipes," Simon Lo, et. al.. and A Tomasello
Article: "Research on the Abrasion Erosion and Impact Resistance of Fiber Concrete," Chung-Hao Wu et al., 2010
Article: "Reservoir Management in a Deepwater Subsea Field-The Schiehallion Experience," Govan, Alastair, et al., SPE Reservoir Evaluation & Engineering, Volume 9, Number 4, August 2006 (Abstract)
Article: "Review of flow rate estimates of the Deepwater Horizon oil spill," Marcia McNutt et al, PNAS Vol. 109, Dec. 11, 2012
Article: "Rock Mechanics--an introduction for the practical engineer," Evert Hoek, Mining Magazine April, June and July 1966
Article: "Science Applications in the Deepwater Horizon Oil Spill Special Feature," Proceedings of the National Academy of Sciences of the United States of America, 2012 (Abstract)
Article: "Science in Support of the Deepwater Horizon Response," Jane Lubchenco, et al, Proceedings of the National Academy of Sciences of the United States of America, Vol. 109, No. 50, 2012 (Abstract)
Article: "Scientific basis for safely shutting in the Macondo Well after the April 20, 2010 Deepwater Horizon blowout," Stephen Hickman et al., PNAS Early Edition, 2012
Article: "Search for 11 Missing Workers in Oil Rig Explosion will go Through the Night," Paul Purpura, et al., nola.com, April 29, 2010
Article: "Seismic Geomorphology and Connectivity of Deepwater Reservoirs," Gilberto M. Ragagnin, Marco A.S. Morales, SPE Reservoir Evaluation & Engineering, Vol. 11, 2008 (Abstract)
Article: "Seismic Geomorphology and Stratigraphy of Depositional Elements in Deepwater Settings," Posamentier and Kolla, Journal of Sedimentary Research, Vol. 73, No. 3, 2003 (Abstract)
Article: "Simplified Modeling of Turbidite Channel Reservoirs," Garuk Alpak, et al., SPE Journal (Abstract)
Article: "Simulation of Slug Flow in Oil and Gas Pipelines Using a New Transient Simulator," Thomas Danielson, et al., Offshore Technology Conference, 2012 (Abstract)
Article: "So What is the Reservoir Permeability?" S. Haddad et al, SPE Annual Tech. Conference and Exhibition, Oct. 1-4 2000 (Abstract)
Article: "Stressed Oil Permeability of Deepwater Gulf of Mexico Turbidite Sands: Measurements and Theory," R. Ostermeier, SPE Formation Evaluation, December 1996
Article: "Supertankers Could Clean up The Gulf Oil Spill, BP Won't Listen" (Source former Shell Oil President), story by Brit Liggett, on May 14, 2010
Article: "Syntactic Foam Thermal Insulation for Ultra-Deepwater Oil and Gas Pipelines," Lou Watkins and Elmer Hershey, Offshore Technology Conference, 2001 (Abstract)
Article: "The Bubbly-Slug Transition in a High Velocity Two-Phase Flow," Peter Griffith et al, Mass. Institute of Technology, July 1964
Article: "The Computer Simulation of Dispersed Two-Phase Flows," Hill, David P., Imperial College of Science, Technology and Medicine, July 1998
Article: "The Effect of Fluid Pressure Decline on Volumetric Changes of Porous Rocks," J. Geertsma, Petroleum Transactions, ALME, Vol. 210, 1957 (Abstract)
Article: "The Effects of Salt, Gas, Temperature, and Pressure on the Compressibility of Water," Terry Osif, Feb. 1988 (Abstract)
Article: "The Impact of Fine-Scale Turbidite Channel Architecture on Deep-water Reservoir Performance," Faruk Alpak et al., American Assoc. of Petroleum Geologists, Vol. 97, No. 2, Feb. 2, 2013 (Abstract)

Article: "The Lost Legacy of the Last Great Oil Spill," Mark Schrope, Scientific American, July 14, 2010, <http://www.scientificamerican.com/article.cfm?id=the-lost-legacy-lxtoc-oil>.

Article: "Thermal Conductivity and Thermal Diffusivity Coefficients of 12Kh18N10T Stainless Steel in a Wide Temperature Range," Savchenko Stankus et al, High Temperature, Vol. 46, Issue 5, Sept. 2008 (Abstract)

Article: "Thermal Conductivity of Deepwater Offshore Sediments," T.A. Newson et al, IJOPE Paper, 2004

Article: "Thermophysical properties of seawater: a review of existing correlations and data," Mostafa Sharqawy, Desalination and Water Treatment, Volume 16, Issue 1-3, November 14, 2009 (Abstract)

Article: "Turbidite Channel Reservoirs - Key Elements in Facies Prediction and Effective Development," Mike Mayall, et al, Marine and Petroleum Geology Volume 23, Issue 8, pp. 821-841 (Abstract)

Article: "Use of Pressure Derivative in Well Test Interpretation," Bourdet, Dominique, et al, Society of Petroleum Engineers, 1989

Article: "Void Fraction and Flow Patterns of Two-Phase Flow Upward and Downward Vertical and Horizontal Pipes," AJ Ghajar, et al, Advances in Multiphase Flow and Heat Transfer, Vol. 4, 2012

Article: "Water Permeability of Cracked Cementitious Composites," Michael Lepech et al, Proceedings of ICF11, 2005 (Abstract)

Article: "Water-flooding Incremental Oil Recovery Study in Middle Miocene to Paleocene Reservoirs, Deep-Water Gulf of Mexico," Society of Petroleum Engineers, 2008 (Abstract)

Article: "Weak Elastic Anisotropy," Leon Thomsen, Geophysics, Vol. 51, No. 10, 1986

Article: "Well Control Procedures for Dual Gradient Drilling as Compared to Conventional Riser Drilling," J.J. Schubert, et al, Society of Petroleum Engineers, 2006 (Abstract)

Article: "WELL CONTROL Ultra-deepwater blowouts - how could one happen," Larry Flak, Offshore Vol. 57, 1997

Article: "Wellbore Heat Transmission," H. Ramey, Journal of Petroleum Technology, Vol. 14, No. 4, April 1962 (Abstract)

Article: "Well-specific Blowout Risk Assessment," V. Vandenbussche et al, SPE/APPEA International Conference on Health, Safety, and Environment in Oil and Gas Exploration and Production, Sept. 11-13, 2012 (Abstract)

Article: "Will Wireline Formation Tests Replace Well Tests?" T.M. Whittle, et al, SPE Annual Tech. Conference and Exhibition, Oct. 5-8, 2003 (Abstract)

Article: API STD 53, Blowout Prevention Equipment Systems for Drilling Wells, 4th Ed., Nov. 2012 (Abstract)

Book: "Advanced Well Control," David Watson, et al., 2003 (Abstract)

Book: "Blast Cleaning Technology," Momber, Andreas. 2008 (Abstract)

Book: "Blowout and Well Control Handbook," R.D. Grace, Gulf Professional Publishing, 2003

Book: "Blowout Prevention Equipment Systems for Drilling Wells," American Petroleum Institute, 4th Ed. (Abstract)

Book: "Boiling, Condensation, and Gas-Liquid Flow," P.B. Whalley, Oxford University Press, 1st Edition, August 2, 1990 (Abstract)

Book: "Chemical Engineering, Particle Technology & Separation Processes," J. Richardson, et al., Butterworth Heinemann, Vol. 2, 5th Ed. 2002

Book: "Compressibility of Sandstones," R.W. Zimmerman, Developments in Petroleum Science, Vol. 29, 1991 (Abstract)

Book: "Conduction of Heat in Solids," H. S. Carslaw & J. C. Jaeger. 2nd Edition, Oxford Science Publications, Clarendon Press, Oxford, 1986 (Abstract)

Book: "Convective Boiling and Condensation," Collier, J & Thome, J. Oxford University Press, 3rd ed. August 1, 1996. Page 93. (Abstract)

Book: "Drilling Fluid Engineering," Pal Skalle, 3rd edition (Abstract)

Book: "Fine-Grained Turbidite Systems," Bouma A. H., and Charles Stone, editors, AAPG and SEPM, April 25, 2000 (Abstract)

Book: "Fundamentals of Reservoir Engineering - Developments in Petroleum Science" L.P. Dake Elsevier Science Publishers, Amsterdam (1978). (Abstract)

Book: "Fundamentals of Rock Mechanics," John Jaeger et al. Blackwell Publishing, 2007 (Abstract)

Book: "Handbook of Mathematical Functions," Milton Abramowitz and Irene Stegun, Nat'l Bureau of Standards Applied Mathematic Series, 55, Dec. 1972

Book: "Handbook of Offshore Engineering," Subrata Chakrabarti, Elsevier Science; 1st edition (June 10, 2005)

Book: "Hydrodynamics of Gas-Liquid Reactors: Normal Operation and Upset Conditions," BJ Azzopardi, et al., John Wiley & Sons, Inc. (Abstract)

Book: "Internal Flow Systems," Miller, D.S., British Hydromechanics Association, 1990 (Abstract)

Book: "Introduction to Heat Transfer," Incropera, Frank P., DeWitt, David P., 4th Ed. (Abstract)

Book: "Managing the Risks of Organizational Accidents," J. Reason, Ashgate Publishers, 1997

Book: "Mathematical Basis of a Multi-Phase Flow Model," Simon Lo, Harwell: UKAEA Atomic Energy Research Establishment Thermal Hydraulics Division, 1989 (Abstract)

Book: "Mechanistic Modeling of Gas-Liquid Two-Phase Flow in Pipes," Shoham, Ovadia, Society of Petroleum Engineers, 2006
Book: "Nuclear Systems Vol I Thermal Hydraulic Fundamentals," NE Todreas and MS Kazimi, Hemisphere Publishing Corp, 1990
Book: "Offshore Blowouts: Causes and Control," Per Holland, Gulf Professional Publishing, 1997.
Book: "Petroleum Related Rock Mechanics," E. Fjaer et al., Developments in Petroleum Science Vol. 53, 2nd Edition, Elsevier, 2008 (Abstract)
Book: "Petroleum Systems of Deepwater Settings," Paul Weimer and Roger Slatt, Society of Exploration Geophysicists and European Association of Geoscientists and Engineers, 2004 (Abstract)
Book: "Pressure Buildup and Flow Tests in Wells," Matthews, C.S., et al. (1967)
Book: "Sedimentology of some Flysch Deposits: A Graphic Approach to Facies Interpretation," Arnold Bouma, Elsevier Publishing Company, 1962 (Abstract)
Book: "Seismic and Acoustic Velocities in Reservoir Rocks," Zhiling Wang, et al, Geophysics Reprint Series No. 19, 2000 (Abstract)
Book: "Terrigenous Clastic Depositional Systems: Applications to Fossil Fuel and Groundwater Resources," Galloway, W. E. and David Hobday, Springer Verlag Publishing, 1983 (Abstract)
Book: "The Engine Company," Fire Engineering Books, Salka, John, The PennWell Corporation, 2009
Book: "The Flow of Complex Mixtures in Pipes" G. Govier et al, Von Nostrand, 1972 (Abstract)
Book: "The Practice of Reservoir Engineering," L. P. Dake, Vol. 36, Developments in Petroleum Science, May 24, 2001 (Abstract)
Book: "The Properties of Petroleum Fluids," William McCain, Jr., Pennwell, 2nd Edition, April 10, 1990 (Abstract)
Book: "The Rock Physics Handbook: Tools for Seismic Analysis of Porous Media," Gary Mayko, Tapan Mukerji, Jack Dvorkin, 2nd ed., 2010 (Abstract)
Book: "Water Jet Applications in Construction Engineering," Andreas Momber, 1998 (Abstract)
Book: "Well Completion Design," Jonathan Bellarby, Developments in Petroleum Science, 56, Elsevier
Book: "Well Test Analysis: The Use of Advanced Interpretation Models, Handbook of Petroleum Exploration and Production." Bourdet, Dominique, Elsevier Science, 3rd ed. (Abstract)
Discovery: Pretrial Order No. 41 (Doc. Rec. 4033)
Document: "General Theory of Three-Dimensional Consolidation," Biot, 1941
Document: Data Sheet for Mensor Deadweight Tester Model CPB5000
Document: Data Sheet for Thurlby Thandar Instruments Model 1604
Document: 30 CFR 200-699 (Mineral Resources)
Document: 30 CFR 254.1 - 254.2
Document: 30 CFR 254.1, Who Must Submit a Spill-Response Plan?
Document: 33 USC 1251, Congressional declaration of goals and policy
Document: 33 USC 1321, Title 33 - Navigation and Navigable Waters, Part 1321 - Oil and hazardous substance liability
Document: 33 USC 2701
Document: 40 CFR Part 300, Title 40: Protection of Environment, Part 300 National Oil and Hazardous Substances Pollution Contingency Plan
Document: Bureau of Safety and Environmental Enforcement, Loss of Well Control - Statistics and Summaries 2007-2012, <a href="http://www.bsee.gov/Inspection-and-Enforcement/Accidents-and-Incidents/Loss-of-Well-Control.aspx">http://www.bsee.gov/Inspection-and-Enforcement/Accidents-and-Incidents/Loss-of-Well-Control.aspx</a>
Document: Cuming Corporation Technical Note 100-1-A, "Introduction to Syntactic Foam"
Document: Definition of 'blowout' from the Schlumberger Oilfield Glossary
Document: Definition of 'kick' from Schlumberger Oilfield Glossary
Document: Flow and Transport Processes Lab Double Diffusion Research, Sandia Labs website
Document: Helix Well Containment Group (HWCG), Quick Facts
Document: KBC Advanced Technologies acquired Infochem Software - Software that accurately models flow assurance
Document: LedaFlow - Kongsberg Gruppen
Document: Macondo Well Deepwater Horizon Blowout: Lessons for Improving Offshore Drilling Safety
Document: Mide Technology Corporation - Deep Water Drilling Risk Reduction Assessment
Document: Moderator Daren Beaudou, BP_technical_audio_08032010, Confirmation # 87627179
Document: Multiflash Fluid Definition File, version 4.1.09
Document: NOPSEMA ALARP Guidelines N-04300-GN0166-ALARP, Rev. 4, Dec 2012
Document: Norsok Standard D-010, Rev. 3, Aug., 2004, p. 10, Well Integrity in Drilling and Well Operations
Document: Norsok Standard D-010, Rev. 3, Well Integrity in Drilling and Well Operations, p. 9.
Document: NTL No. 2006-G21, MMS Regional and Sub-Regional Oil Spill Response Plans

Document: Oil Pollution Act of 1990
Document: OLGA - Schlumberger SPT Group Internet (with link to 7.2 software)
Document: OLGA Flow Assurance Simulator Product Specifications
Document: Remarks by the President on the Gulf Oil Spill, White House Press Conference, May 27, 2010
Document: Securities and Exchange Commission v. BP plc in the United States District Court for the Eastern District of Louisiana, Case 2:12-cv-02774
Document: Stipulated Facts Concerning Source Control Events, MDL-2179 Document 7076
Document: Stipulation Mooting BP's Motion for Partial Summary Judgment Against the United States, [Rec. Doc. 8213]
Document: Stipulation Mooting BP's Motion For Partial Summary Judgment against the US, MDL-2179, Document 8620
Document: The United States' Second Response to Various Defendants' First Joint Discovery Requests to the United States related to Phase Two
Document: Thermal Insulating Properties of Syntactic Foam, Cuming Corporation, Technical Note 600-1
Document: UKHSE, Risk management Principles and guidelines to assist HSE in its judgements that duty-holders have reduced risk as low as reasonably practicable, <a href="http://www.hse.gov.uk/risk/theory/alarp1.htm">http://www.hse.gov.uk/risk/theory/alarp1.htm</a>
Document: United States' Initial Response to BP's First Set of Discovery Requests to the United States of America
Document: US House of Representatives, Testimony Before the Committee on the Judiciary, Rachel Giesber Clingman, Acting Co-General Counsel, Transocean (in re Horizon Incident)
Document: USCG National Response Framework CONOP
Document: Welcome to the Center for Hydrate Research at CSM, Website <a href="http://hydrates.mines.edu/CHR/Home.html">http://hydrates.mines.edu/CHR/Home.html</a>
Letter: Revised Guidance Relating to Environmental Submissions, UK DECC (Department of Energy & Climate Change)
Manual: Reducing Risks Protecting People, HSE's decision making process
Manual: US Dept of Homeland Security, USCG Incident Management Handbook
Memo: Laws of Flows in Rough Pipes, Translation of "Stromungsgesetze in Rauhen Rohren," National Advisory Committee for Aeronautics, Technical Memorandum 1292
Presentation: "Well-head Pressure Transient Analysis," C. E. Spyrou, P. Nurafza, and A.C. Gringarten June 10-13, 2013 (Abstract)
Presentation: Deepwater Horizon Lessons Learned on Containment, by Lars Herbst, BOEMRE GULF OF MEXICO Regional Director, April 18, 2011 at 2.
Press Release: "BP CEO Rates Leak Plug Success Chance About 70 Percent," Bloomberg News
Press Release: "New Oil Spill Containment System to Protect Gulf of Mexico Planned by Major Oil Companies," Chevron
Press Release: Deepwater Horizon Drills World's Deepest Oil & Gas Well. <a href="http://www.deepwater.com/fw/main/IDeepwater-Horizon-i-Drills-Worlds-Deepest-Oil-and-Gas-Well-419C151.html">http://www.deepwater.com/fw/main/IDeepwater-Horizon-i-Drills-Worlds-Deepest-Oil-and-Gas-Well-419C151.html</a>
Report: Det Norske Veritas, "Forensic Examination of Deepwater Horizon Blowout Preventer, Vol. 2 Appendices", pages 222-227.
Report: Kerry Pollard Phase II Expert Report, Appendix 3: Consideration Materials
Report: Nathan Bushnell Expert Report (including Appendix(s))
Report: Phase II Expert Report of Carlos Torres-Verdin (BP)
Report: Phase II Expert Report of Edward Ziegler (HESI)
Report: Phase II Expert Report of J.P. Martin Trusler (BP)
Report: Stewart Griffiths Phase II Expert Report, including Appendix(es)
Report: "Clarification of UK DECC Guidance Relating to Environmental Aspects of Drilling, Well Intervention and Well Abandonment Operations," Department of Energy and Climate Change
Report: "Intro to Risk and Uncertainty in Evaluation of Environmental Investments," Charles Yoe, Ph.D, for U.S. Army Corps of Engineers, Evaluation of Environmental Investments Research Program, IWR Report 96-R-8
Report: "The Transition from Two Phase Bubbly Flow to Slug Flow," Nick Radovich and Raphael Moissis, The Office of Naval Research, June 1962
Report: A Probabilistic Approach to Risk Assessment of Managed Pressure Drilling in Offshore Applications - Study 582, Ken Malloy for the MMS
Report: Aaron Zick Phase II Expert Report, including Appendix(es)
Report: Adrian Johnson Amended Phase II Expert Report
Report: Adrian Johnson Phase II Expert Report
Report: Alain Gringarten Amended Phase II Expert Report
Report: Analysis of Well Containment and Control Attempts in the Aftermath of the Deepwater Blowout in MC252, by Tyagi, Mayank PhD.; Smith, John PhD.; Bourgoyne, Darryl MS., submitted to the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling
Report: Andreas Momber Amended Phase II Expert Report

Report: Andrew MacKay Phase II Expert Report
Report: Blowout Risk Assessment Joint Industry Project BORA JIP
Report: Capping & Containment, Global Industry Response Group Recommendations, Report No. 464
Report: Columbia Accident Investigation Board Report, August 2003
Report: Combining Modeling With Response In Potential Deep Well Blowout: Lessons Learned From Thunder Horse, CJ Beegle-Krause, Ph.D., NOAA Office of Response and Restoration, and Walton (Tad) Lynch, Sr. HSE Advisor-BP Exploration and Production, 2005 International Oil Spill Conference
Report: Curis Hays Whitson Phase II Expert Report
Report: Dan Gibson Phase II Expert Report
Report: Deep Water, The Gulf Oil Disaster and the Future of Offshore Drilling, Report to the President, National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, pgs. 130-132
Report: Deepwater Gulf of Mexico 2009 - Interim Report of 2008 Highlights, OSC Report, MMS 2009-016
Report: Deepwater Horizon Study Group, "Final Report on the Investigation of the Macondo Well Blowout" (March 1, 2011).
Report: Dynamic Simulations Deepwater Horizon Incident BP Accident Report, Appendix W, pg. 15, Figure 1.5 Temperature profile
Report: Glen Stevick Phase II Expert Report
Report: Greg Childs Phase II Expert Report
Report: Greg Perkin Phase II Expert Report, including Appendix(es)
Report: Guidance Notes to Operators of UK Offshore Oil and Gas Installations on the Offshore (Emergency Control) Regulations 2002
Report: Hans Vaziri Phase II Expert Report, Appendix E: Estimation of Sand Production in the Macondo Well
Report: How Safe is Safe? Coping with Mother Nature, Human Nature and Technology's Unintended Consequences, Wenk, E., Deepwater Horizon Study Group (2011)
Report: Iain Adams Phase II Expert Report
Report: Initial Report of the Images VIII/Page 127 Gas Hydrate and Paleoclimate Cruise on the RV Marion Dufresne in the Gulf of Mexico
Report: Intertek fluid property report, WTC-10-001812
Report: John Wilson Phase II Expert Report
Report: Joint Industry Program for Evaluating Vessel Blowout Control - Final Report, Performed by Neal Adams Firefighters, Inc. for MMS (Dec. 28, 1991).
Report: Kerry Pollard Phase II Expert Report
Report: Martin Blunt Phase II Expert Report
Report: Measurement of Compressibility of Consolidated Oil Bearing Sandstones
Report: Michael Zaldivar Amended Phase II Expert Report
Report: Michael Zaldivar Phase II Expert Report
Report: Mohan Kelkar Phase II Expert Report, including Appendix(es)
Report: Morris Burch Phase II Expert Report
Report: Morten Emilsen Phase II Expert Report
Report: Nathan Bushnell Phase II Expert Report
Report: Nigel Richardson Phase II Expert Report, Appendix F
Report: Pooladi-Darvish Phase II Expert Report
Report: Richard Carden Phase II Expert Report
Report: Robert Bea Phase II Expert Report
Report: Robert W. Zimmerman Phase II Expert Report
Report: Ronald Dykhuizen Phase II Expert Report, including Appendix(es)
Report: Sankaran Sundaresan Phase II Expert Report
Report: Simon Lo Phase II Expert Report
Report: Srdjan Nesic Phase II Expert Report
Report: Stewart Griffiths Phase II Expert Report
Report: Studies of Two-Phase Flow Patterns by Simultaneous X-Ray and Flash Photography. No. AERE-M-2159 (1969) by Hewitt, G. F., & Roberts, D. N.
Report: Tyson Foutz Phase II Expert Report
Report: Vice Admiral James Hull Phase II Expert Report
Transcript Excerpt: Phase I Trial Transcript, pg. 1719
Transcript Excerpt: Andrew Frazelle Deposition, pgs. 219-222
Transcript Excerpt: Andrew Frazelle Deposition, pgs. 421-422



Transcript Excerpt: Andy Inglis Deposition, pgs. 125; 136-137; 139-142; 144-146; 148-149; 162; 160
Transcript Excerpt: Cheryl Ann Grounds Deposition, pgs. 96, 108-112, 190
Transcript Excerpt: David Young Phase I Trial Testimony, pgs. 5878 - 5879
Transcript Excerpt: Dennis Johnson Deposition, pg. 42
Transcript Excerpt: Don Maclay Deposition, pgs. 393-394; 413-414
Transcript Excerpt: Don Maclay Deposition, pgs. 413-414
Transcript Excerpt: Doug Suttles Deposition, pgs. 199-200; 486 - 487; 530-531
Transcript Excerpt: Edmond Shtepani Deposition, pgs. 26-29, 222-226
Transcript Excerpt: Forrest Shanks Phase I Trial Testimony, pgs. 9012; 9023 - 9024
Transcript Excerpt: Geoff Boughton Deposition, pgs. 71-72; 442-443
Transcript Excerpt: Geoff Boughton Deposition, pgs. 73, 79
Transcript Excerpt: Glen Stevick Phase I Trial Testimony, pgs. 6923; 7003 - 7004
Transcript Excerpt: Hugh Banon Deposition, pgs. 31 - 34
Transcript Excerpt: James Dupree Deposition, pgs. 114, 183, 645-646
Transcript Excerpt: James Wells Deposition, pgs. 100-101; 192-193
Transcript Excerpt: Kalwant Jassal Deposition, pgs. 284-289
Transcript Excerpt: Lamar McKay Deposition, pgs. 41-42, 49-50, 64-65, 89-90
Transcript Excerpt: Mark Mazzella Deposition, pgs. 106 - 107
Transcript Excerpt: Michael Saucier Deposition at 72
Transcript Excerpt: Michael Saucier Deposition, pgs. 211 - 212
Transcript Excerpt: Michael Saucier Deposition, pgs. 214-215
Transcript Excerpt: Michael Saucier Deposition, pgs. 384 - 387
Transcript Excerpt: Michael Saucier Deposition, pgs. 391 - 392
Transcript Excerpt: Nicky Pellerin Deposition, pgs. 21-22
Transcript Excerpt: Patrick O'Bryan Deposition, pgs. 250-251
Transcript Excerpt: Phase I Trial Testimony of Greg Perkin, pgs. 3391-3392
Transcript Excerpt: Phase I Trial Transcript, pg. 3330
Transcript Excerpt: Richard Brannon Deposition, pgs. 38
Transcript Excerpt: Richard Brannon Deposition, pgs. 70 - 71
Transcript Excerpt: Richard Morrison Deposition, pgs. 87, 290, 227-231
Transcript Excerpt: Robert Patterson Deposition, pgs. 66 - 67
Transcript Excerpt: Robert Sanders Deposition, pgs. 63
Transcript Excerpt: Rory Davis Phase I Trial Testimony, pgs. 2657 - 2658
Transcript Excerpt: Rory Davis Trial Testimony, pgs. 2746 - 2747
Transcript Excerpt: Rory Ronald Davis Deposition, pg. 43
Transcript Excerpt: Simon Bishop Deposition, pg. 95
Transcript Excerpt: Timothy Lockett Deposition, pg. 339
Transcript Excerpt: Timothy Lockett Deposition, pg. 355
Transcript Excerpt: Timothy Lockett Deposition, pgs. 214-215, 224-225
Transcript Excerpt: Timothy Lockett Deposition, pgs. 337-338
Transcript Excerpt: Timothy Lockett Deposition, pgs. 344-345
Transcript Excerpt: Timothy Lockett Deposition, pgs. 424, 425
Transcript: Adam Ballard Deposition Transcript & Exhibits
Transcript: Adm. Thad Allen Deposition Transcript & Exhibits
Transcript: Admiral Kevin Cook Deposition, Transcript & Exhibits
Transcript: Anthony Hayward Deposition
Transcript: Brian O'Neill Deposition Transcript & Exhibits
Transcript: Bryan Ritchie Deposition Transcript & Exhibits
Transcript: Charles Holt Deposition Transcript & Exhibits
Transcript: David Barnett (Wild Well Control) Deposition Transcript & Exhibits
Transcript: Deposition Transcript & Exhibits of Nicky Pellerin
Transcript: Earnest Bush Deposition Transcript & Exhibits
Transcript: Farah Saidi Deposition Transcript & Exhibits
Transcript: Graham "Pinky" Vinson Deposition Transcript & Exhibits
Transcript: Greg Rohloff Deposition Transcript & Exhibits
Transcript: Gregg Perkin Deposition Transcript & Exhibits

Transcript: Henry Charles Deposition Transcript & Exhibits
Transcript: James Wellings Deposition Transcript & Exhibits
Transcript: Jason LeBlanc Deposition Transcript & Exhibits
Transcript: Kalwant Jassal Deposition
Transcript: Kevin Devers Deposition Transcript & Exhibits
Transcript: Lars Herbst Deposition Transcript & Exhibits
Transcript: Marcia McNutt Deposition Transcript & Exhibits
Transcript: Mark Patteson Deposition Transcript & Exhibits
Transcript: Michael Levitan Deposition, Transcript & Exhibits
Transcript: Mike Mason Deposition Transcript & Exhibits
Transcript: Ole Rygg Deposition Transcript & Exhibits
Transcript: Patrick J. Campbell Deposition Transcript & Exhibits
Transcript: Paul Hsieh Deposition Transcript & Exhibits
Transcript: Paul Tooms Deposition Transcript & Exhibits
Transcript: Rear Admiral Mary Landry Deposition Transcript & Exhibits
Transcript: Richard Brannon Deposition, Volumes I and II
Transcript: Richard Lynch Deposition Transcript & Exhibits
Transcript: Richard Vargo Deposition Transcript & Exhibits
Transcript: Robert Merrill Deposition Transcript & Exhibits
Transcript: Robert Turlak Deposition Transcript & Exhibits
Transcript: Ronald Dykhuizen Deposition, Transcript & Exhibits
Transcript: Scott Angelle Testimony Before the Committee on Resources United States House of Representative: Hearing on the Benefits of Offshore Oil and Natural Gas Development
Transcript: Steve Hand Deposition Transcript & Exhibits
Transcript: Steven Chu Deposition Transcript & Exhibits
Transcript: Stewart Griffiths Deposition
Transcript: Tom Hunter Depositions Transcript & Exhibits
Transcript: Tom Knox Deposition Transcript & Exhibits
Transcript: Tony Liao Deposition Transcript & Exhibits
Transcript: Trevor Hill Deposition Transcript & Exhibits
Transcript: Trevor Smith Deposition Transcript & Exhibits
Video: "BP COO: We'll find who's at fault," today.com, <a href="http://www.today.com/video/today/37147007#37147007">http://www.today.com/video/today/37147007#37147007</a> (View video online)
Website: Cuming Corporation, C-FLOAT Tech Data
Website: AISLive website - vessel availability and locations (oil tankers)
Website: Capping Stack Technology - Description of Exxon cap, MWCC Interim Well Cap System ("ICS"), Shell cap, Helix cap at Trendsetter Engineering, Inc. website ( <a href="http://www.trendsetterengineering.com">www.trendsetterengineering.com</a> )
Website: Cuming Corporation: C-FLOAT Tech Data <a href="http://www.cumingcorp.com/c-float-tech-data/">www.cumingcorp.com/c-float-tech-data/</a>
Website: Engineering Toolbox website: Solids - Specific Heats <a href="http://www.engineeringtoolbox.com/specific-heat-solids-d_154.html">www.engineeringtoolbox.com/specific-heat-solids-d_154.html</a>
Website: ExxonMobil - Scarborough, Australia
Website: Incident News - Countermeasures/Mitigation <a href="http://incidentnews.noaa.gov/entry/508790">http://incidentnews.noaa.gov/entry/508790</a>
Website: Incident News - IXTOC I <a href="http://incidentnews.noaa.gov/incident/6250">http://incidentnews.noaa.gov/incident/6250</a>
Website: Interpolation - SciPy ( <a href="http://docs.scipy.org/doc/scipy/reference/tutorial/interpolate.html">http://docs.scipy.org/doc/scipy/reference/tutorial/interpolate.html</a> ).
Website: National Oceanographic Data Center database - <a href="http://www.nodc.noaa.gov/OCS/GOMclimatology/">http://www.nodc.noaa.gov/OCS/GOMclimatology/</a>
Website: NOIA - History of Offshore, <a href="http://www.noia.org/website/article.asp?id=123">http://www.noia.org/website/article.asp?id=123</a>
Website: Oil & Gas UK - Home Page, <a href="http://www.oilandgasuk.co.uk/">http://www.oilandgasuk.co.uk/</a>
Website: Society of Petroleum Engineers, "About SPE" <a href="http://www.spe.org/about/">http://www.spe.org/about/</a>
Website: The Engineering ToolBox, "Liquids and Fluids - Specific Heats" <a href="http://www.engineeringtoolbox.com/specific-heat-fluids-d_151.html">www.engineeringtoolbox.com/specific-heat-fluids-d_151.html</a>
Website: The Engineering ToolBox, "Overall Heat Transfer Coefficients" <a href="http://www.engineeringtoolbox.com/overall-heat-transfer-coefficients-d_284.html">www.engineeringtoolbox.com/overall-heat-transfer-coefficients-d_284.html</a>
Website: Transocean Website, Discover Enterprise <a href="http://www.deepwater.com/fw/main/Discoverer-Enterprise-141.html">http://www.deepwater.com/fw/main/Discoverer-Enterprise-141.html</a>
Website: UKHSE, ALARP "at a Glance" <a href="http://www.hse.gov.uk/risk/theory/alarpglance.htm">http://www.hse.gov.uk/risk/theory/alarpglance.htm</a>