

Deposition Testimony of:

Kenneth Bhalla

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Page 7:16 to 7:18

00007:16 KENNETH BHALLA,
17 HAVING BEEN FIRST DULY SWORN, TESTIFIED AS
18 FOLLOWS:

Page 8:02 to 8:05

00008:02 Q. AND I THINK YOU'VE BEEN PRODUCED
03 AS A 30(B) (6) WITNESS ON BEHALF OF STRESS
04 ENGINEERING.
05 A. YES.

Page 9:06 to 9:13

00009:06 Q. (BY MR. GONZALEZ) ALL RIGHT.
07 CAN YOU TELL US WHAT AREA YOU WERE PRODUCED
08 TO HAVE THE MOST KNOWLEDGE IN.
09 A. I WORKED ON A CALCULATION THAT
10 ASCERTAINED WHAT ADDITIONAL PRESSURE OR
11 INCREMENTAL PRESSURE WOULD LIFT THE
12 9 7/8-INCH BY 7-INCH PRODUCTION CASING OFF
13 ITS SEAL ASSEMBLY.

Page 9:15 to 12:18

00009:15 MR. HIDALGO: MORE SPECIFICALLY, TO
16 CLARIFY MATTERS FOR THE REST OF THE OTHER
17 REPRESENTATIVES FOR STRESS, MR. BHALLA IS
18 HERE TO SPEAK ON TOPICS 1 THROUGH 4 OF THE
19 SUBPOENA OR DEPOSITION NOTICE.
20 Q. (BY MR. GONZALEZ) OKAY.
21 MR. BHALLA, TELL US YOUR EDUCATIONAL
22 BACKGROUND, PLEASE.
23 A. I HAVE A BACHELOR'S AND A
24 MASTER'S FROM IMPERIAL COLLEGE UNIVERSITY OF
25 LONDON IN AEROSPACE ENGINEERING WITH FLUID
00010:01 AND STRUCTURAL MECHANICS AND A MATHEMATICS
02 BACKGROUND, A PH.D. FROM CORNELL UNIVERSITY
03 IN THEORETICAL AND APPLIED MECHANICS.
04 Q. WHEN WERE YOU GRADUATED FROM
05 EACH?
06 A. IN 1987 -- 1986 FOR MY
07 BACHELOR'S, 1987 FOR MY MASTER'S, AND 1992
08 FOR MY PH.D.
09 Q. AND TELL US A LITTLE BIT ABOUT
10 YOUR EMPLOYMENT HISTORY.
11 A. ORIGINALLY, AFTER I LEFT --
12 Q. YEAH, AFTER YOU GRADUATED FOR
13 YOUR PH.D.
14 A. AFTER I GRADUATED WITH MY PH.D.
15 I WORKED FOR SEAGATE TECHNOLOGY DESIGNING
16 DISK DRIVES FOR -- I DID THAT FOR ABOUT A

17 YEAR.
18 Q. DISK DRIVES FOR COMPUTERS?
19 A. DISK DRIVES FOR COMPUTERS.
20 AFTER THAT I JOINED DALLAS SCHLUMBERGER. I
21 WORKED IN THE FIELD OF HYDRAULIC FRACTURING
22 AND COILED TUBING MECHANICS FOR APPROXIMATELY
23 FOUR YEARS. THEN AFTER THAT I JOINED
24 TUBOSCOPE VETCO PIPELINE.
25 I JOINED A GROUP CALLED COILED
00011:01 TUBING ENGINEERING SERVICES AND I WORKED ON
02 COILED TUBING MECHANICS PROBLEMS. THAT WAS
03 FOR APPROXIMATELY ONE YEAR. AND THEN I HAVE
04 BEEN WITH STRESS ENGINEERING FOR
05 APPROXIMATELY 14 1/2 YEARS WORKING IN THE
06 FIELDS OF DEEP SEA RISER ANALYSIS, CASING --
07 WELL, CONDUCTOR/STRUCTURAL CASING ANALYSIS
08 AND WELLHEAD ANALYSIS.
09 Q. WHAT YEAR DID YOU START AT
10 STRESS ENGINEERING?
11 A. 1997.
12 Q. HOW DID YOU RISE THROUGH THE
13 RANKS?
14 A. I STARTED OFF AS AN ASSOCIATE --
15 Q. ASSOCIATE ENGINEER?
16 A. ASSOCIATE ENGINEER.
17 Q. IN ANY PARTICULAR DEPARTMENT?
18 A. IT WAS WITHIN THE FLOATING
19 SYSTEMS DEPARTMENT. IT WAS CALLED RISER
20 ENGINEERING AT THAT POINT. SO I WAS AN
21 ASSOCIATE FOR THREE YEARS. AFTER THAT I WAS
22 PROMOTED TO SENIOR ASSOCIATE FOR FOUR YEARS
23 AND THEN AFTER FOUR YEARS I WAS PROMOTED TO
24 PRINCIPAL.
25 Q. SO ROUGHLY 2008 YOU WERE
00012:01 PROMOTED TO PRINCIPAL ENGINEER?
02 A. YEAH, ROUGHLY.
03 Q. AND WHAT DOES THAT MEAN TO BE A
04 PRINCIPAL ENGINEER?
05 A. YOU TEND TO MANAGE PROJECTS,
06 YOU -- AS WELL AS DO A LOT OF QA PROJECTS.
07 YOU HAVE A BROAD -- BROAD EXPERIENCE BASE AND
08 YOU WORK WITH A NUMBER OF PEOPLE IN TERMS OF
09 SOLVING PROBLEMS.
10 Q. WHAT DOES QA MEAN?
11 A. QUALITY ASSURANCE.
12 Q. OKAY. WHEN DID YOU FIRST GET
13 INVOLVED IN WORKING WITH OR FOR BP PROJECTS?
14 A. IN GENERAL?
15 Q. YES.
16 A. WHEN I STARTED, ACTUALLY, AT
17 STRESS.
18 Q. AT STRESS?

00015:06 Q. AND WHAT IS THE PURPOSE OF
07 STRESS ENGINEERING? WHAT DO THEY DO FOR A
08 LIVING?
09 A. WE'RE AN ENGINEERING CONSULTING
10 COMPANY. WE PROVIDE SERVICES SUCH AS DESIGN,
11 ANALYSIS, TESTING, INSTRUMENTATION SERVICES,
12 FOR VARIOUS ENGINEERING FIELDS, SUCH AS GULF
13 STREAM OIL AND GAS INDUSTRY, MEDICAL --
14 MEDICAL INDUSTRY, PIPELINE INDUSTRY, CONSUMER
15 PRODUCTS, AND THE POWER INDUSTRY, FOR
16 INSTANCE.

Page 16:01 to 16:22

00016:01 Q. OKAY. HOW DOES A ROCKET
02 SCIENTIST LIKE YOURSELF GET INVOLVED IN OIL
03 RIG AND OIL RIG RELATED PARTS?
04 A. I SOLVE DIFFERENTIAL EQUATIONS.
05 YOU KNOW, IT'S PHYSICS.
06 Q. SO IT'S RELATED?
07 A. IT'S RELATED, EXACTLY.
08 Q. IT'S INTERESTING, ONE AREA LEADS
09 TO ANOTHER SOMETIMES THAT YOU DON'T INITIALLY
10 ANTICIPATE.
11 A. CORRECT.
12 Q. THE MAJORITY OF YOUR WORK, LET'S
13 SAY FROM 2004 TO THE PRESENT, WOULD INCLUDE
14 WHAT?
15 A. IT WOULD INCLUDE A LOT OF
16 DRILLING RISER ANALYSIS, THE DESIGN OF
17 DRILLING RISERS TO ENSURE THAT THEY MEET API
18 RECOMMENDED PRACTICE 16Q, ASSESSMENT OF
19 STRUCTURAL CONDUCTOR CASING AND ASSESSMENT OF
20 WELLHEADS. MAINLY -- MAINLY THAT FIELD.
21 I'VE ALSO WRITTEN A LOT OF SOFTWARE TO SOLVE
22 THOSE TYPES OF PROBLEMS AS WELL.

Page 17:04 to 20:03

00017:04 A. A DRILLING RISER CONSISTS OF A
05 NUMBER OF COMPONENTS. IF WE START FROM THE
06 SEA FLOOR UP, YOU START WITH THE
07 STRUCTURAL/CONDUCTOR CASING, WHICH CONNECTS
08 TO THE WELLHEAD. AND THERE'S A WELLHEAD
09 CONNECTOR WHICH SITS BELOW THE BOP.
10 ABOVE THE BOP IS THE LMRP, THE
11 LOWER MARINE RISER PACKAGE. ABOVE THAT
12 YOU'LL -- YOU'LL FIND A LOWER FLEX JOINT.
13 ABOVE THE LOWER FLEX JOINT WILL BE AN
14 ADAPTOR. ABOVE THE ADAPTOR WILL BE A NUMBER
15 OF WHAT WE CALL BARE AND BUOY JOINTS, WHICH
16 PROVIDE, YOU KNOW, THE CONDUIT FOR THE DRILL
17 STRING.
18 ABOVE THAT WOULD BE A TELESCOPIC

19 JOINT, WHICH STROKES AND THEN STROKES OUT TO
20 ACCOMMODATE CHANGES IN THE ENVIRONMENT. AND
21 ABOVE THE TELESCOPIC JOINT THERE WOULD BE AN
22 UPPER FLEX JOINT, WHICH WOULD BE CONNECTED TO
23 THE DIVERTER ROTARY.

24 IN ADDITION TO THOSE COMPONENTS,
25 THERE WOULD ALSO BE A TENSIONING DEVICE,
00018:01 WHICH CONSISTS OF A TENSION RING THAT'S
02 CONNECTED TO THE TELESCOPIC JOINT, AND THAT
03 PROVIDES TENSION TO HOLD THE RISER UP. THOSE
04 ARE THE COMPONENTS OF A DRILLING RISER
05 SYSTEM.

06 Q. OKAY. IS THE DRILLING RISER
07 THE BASE -- WELL, LET ME NOT TRY TO BE AN
08 ENGINEER.

09 YOU DRILL DOWN TO GET TO THE
10 OIL. AND ONCE THE OIL IS GOING TO GO INTO
11 PRODUCTION MODE AND STARTS COMING BACK UP, IS
12 THE SAME PIPE SYSTEM USED?

13 A. NOT NECESSARILY, NO. YOU USE A
14 PRODUCTION RISER.

15 Q. SO YOU REPLACE THE DRILLING --
16 THE DRILLING PIPE, FOR A LACK OF A BETTER
17 WORD, AND THEN YOU USE A PRODUCTION LINE?

18 A. YOU WOULD USE A PRODUCTION RISER
19 OF SORTS, YES.

20 Q. OKAY. AND ONE OF THE THINGS
21 THAT WE'RE GOING TO BE TALKING ABOUT LATER IS
22 A FLOAT COLLAR. DOES THE FLOAT COLLAR GO
23 INTO THE PRODUCTION LINE?

24 A. THE FLOAT COLLAR IS NOT IN MY
25 SPHERE OF EXPERTISE.

00019:01 Q. AND JUST GENERALLY SO WE CAN GET
02 THE PICTURE. DO YOU KNOW WHAT A FLOAT COLLAR
03 IS?

04 A. I DON'T KNOW THE SPECIFICS OF A
05 FLOAT COLLAR.

06 Q. OKAY. ALL RIGHT. SO WE'LL ASK
07 SOMEONE ELSE ABOUT THAT.

08 NOW, IN YOUR PARTICULAR AREA DO
09 YOU DEAL WITH THE ANALYSIS OF WHAT PRESSURE
10 IT TAKES TO DISENGAGE A RISER FROM THE SEA
11 FLOOR? IS THAT SOMETHING THAT YOU WOULD BE
12 ABLE TO DO AND FIGURE OUT?

13 A. THE PRESSURE THAT -- COULD YOU
14 BE SPECIFIC?

15 Q. IF WE WANTED TO DETERMINE -- I'M
16 SORRY. AND I APOLOGIZE FOR CUTTING YOU OFF,
17 BECAUSE IT MAKES HER LIFE MISERABLE.

18 IF WE WANTED TO DETERMINE HOW
19 MUCH PRESSURE IT WOULD TAKE TO MOVE THE -- TO
20 CAUSE THE RISER TO DISENGAGE, IS THAT
21 SOMETHING YOU WOULD BE ABLE TO CALCULATE?

22 A. WELL, THE RISERS CONNECT -- THE
23 RISER CONSISTS OF CONNECTIONS. SO YOU WOULD

24 HAVE TO DISENGAGE A CONNECTION.
25 Q. AND IS THAT SOMETHING YOU WOULD
00020:01 BE ABLE TO TEST AND DETERMINE?
02 A. THAT IS SOMETHING -- THAT IS
03 SOMETHING THAT IS POSSIBLE TO CALCULATE.

Page 20:16 to 21:18

00020:16 Q. -- BUT NOW AS IT RELATES TO BP
17 AS A CLIENT, COULD YOU TELL US WHAT TYPE OF
18 WORK YOU HAVE BEEN DOING?
19 A. I DO -- I DO THE SAME TYPE OF
20 WORK.
21 Q. ALL RIGHT. DID YOU GET INVOLVED
22 IN WORKING ON THE MACONDO WELL? NOW, WHEN I
23 SAY "YOU," I MEAN YOU PERSONALLY.
24 A. AT WHAT PERIOD?
25 Q. AT ANY PERIOD.
00021:01 A. YES, I DID.
02 Q. OKAY. TELL US WHAT PERIODS
03 THOSE WERE.
04 A. APPROXIMATELY TWO YEARS AGO I
05 HELPED WITH THE STRUCTURAL/CONDUCTOR CASING
06 DESIGN AND THE WELLHEAD DESIGN OF THE MACONDO
07 WELL.
08 Q. BEFORE IT WAS INSTALLED?
09 A. BEFORE IT WAS INSTALLED.
10 Q. ALL RIGHT. SO THE STRUCTURAL
11 CASING?
12 A. STRUCTURAL CASING.
13 Q. WHAT ELSE?
14 A. AND THE WELLHEAD CAPACITY
15 ASSESSMENT.
16 Q. AND THAT WOULD HAVE BEEN IN
17 2009, ROUGHLY?
18 A. ROUGHLY 2008, 2009, THEREABOUTS.

Page 27:12 to 28:15

00027:12 Q. ALL RIGHT. SO OTHER THAN THE
13 INITIAL MODELING THAT YOU DID IN 2000 AND
14 2009 -- ROUGHLY 2008 OR 2009 THAT WE HAVE
15 ALREADY TALKED ABOUT, THE NEXT THING THAT YOU
16 DID ON THE MACONDO WELL PROJECT FOR BP
17 THROUGH STRESS WAS THE GLOBAL ANALYSIS
18 REPORT?
19 A. YES. AND I SHOULD SAY THAT I
20 WAS DOING THIS AND ALSO WORKING ON THE
21 CAPPING STACK AS WELL AT THE SAME TIME -- I
22 MEAN IN THE SAME TIME INTERVAL.
23 Q. OKAY. LET'S GO BACKWARDS. I'M
24 GOING TO TAKE THIS -- I'M SORRY. LET'S TAKE
25 THE SECOND ONE FIRST, THE CAPPING STACK.
00028:01 A. OKAY.

02 Q. IS THAT THE SAME CAPPING STACK
 03 THAT WAS USED TO CAP THE WELL ROUGHLY JULY
 04 15TH, 2010?
 05 A. CORRECT.
 06 Q. WHAT WAS YOUR WORK ON THAT?
 07 A. GIVEN THE PROPOSED DIMENSIONS
 08 AND WEIGHT OF THE CAPPING STACK, AND GIVEN
 09 THE STRUCTURAL/CONDUCTOR CASING AND WELLHEAD
 10 AT THE MACONDO WELL, WE LOOKED AT THE LOADS
 11 THAT WOULD BE IMPOSED ON THE CASING AND THE
 12 WELLHEAD.
 13 Q. THE CAPPING STACK IS LIKE A MINI
 14 BOP?
 15 A. CORRECT.

Page 28:19 to 29:13

00028:19 Q. WHEN DID YOU START WORKING ON
 20 THAT?
 21 A. IT WOULD HAVE BEEN IN -- IN JULY
 22 OF 2010, SOMETIME IN THAT TIME FRAME.
 23 Q. PRIOR TO THAT YOU WERE ASKED --
 24 I'M SORRY.
 25 A. JUNE, JULY, THAT SORT OF TIME
 00029:01 FRAME.
 02 Q. OKAY. BEFORE THAT DATE, WERE
 03 YOU ASKED TO LOOK INTO THE CAPPING STACK IN
 04 ANY WAY?
 05 A. NO.
 06 Q. WHO APPROACHED YOU ABOUT THE
 07 CAPPING STACK?
 08 A. BP.
 09 Q. DO YOU KNOW WHO?
 10 A. DAVID PETRUSKA.
 11 Q. WHAT IS DAVID PETRUSKA'S
 12 POSITION WITH BP?
 13 A. HE'S A TECHNICAL AUTHORITY.

Page 29:16 to 29:19

00029:16 Q. IS HE AN ENGINEER?
 17 A. YES.
 18 Q. WHAT WAS HIS ROLE WITH THE
 19 CAPPING STACK?

Page 29:23 to 30:12

00029:23 A. OH, OKAY. HE WAS THE TECHNICAL
 24 LEAD.
 25 Q. AND WHEN YOU SAY "TECHNICAL
 00030:01 LEAD," TELL US WHAT THAT MEANS, AS FAR AS YOU
 02 KNOW.
 03 A. MY UNDERSTANDING WAS THAT HE WAS

04 LOOKING AT -- AT OUR CALCULATIONS AND OTHER
05 CALCULATIONS TO ENSURE THAT WHEN THE CAPPING
06 STACK WAS -- WAS BEING DESIGNED AND PLANNED,
07 THAT IT WOULD -- THAT THE CAPPING STACK WOULD
08 FUNCTION CORRECTLY AND WOULD NOT ALSO CAUSE
09 ANY POTENTIAL PROBLEMS TO THE CASING AND THE
10 WELLHEAD.
11 Q. WHAT WAS THE PURPOSE OF THE
12 CAPPING STACK?

Page 30:14 to 30:17

00030:14 THE WITNESS: AS I UNDERSTAND IT, TO --
15 TO CAP THE FLOW.
16 Q. TO CAP THE FLOW OF THE WELL?
17 A. CORRECT.

Page 30:21 to 30:23

00030:21 Q. WERE YOU AWARE THAT TRANSOCEAN
22 RECOMMENDED THE USE OF A CAPPING STACK AS
23 EARLY AS APRIL 25TH, 2010?

Page 30:25 to 31:03

00030:25 THE WITNESS: I DO NOT KNOW THAT.
00031:01 Q. (BY MR. GONZALEZ) DO YOU KNOW
02 WHY BP TOOK SO LONG TO START LOOKING INTO THE
03 CAPPING STACK?

Page 31:05 to 31:05

00031:05 A. I DON'T KNOW.

Page 31:09 to 31:14

00031:09 Q. (BY MR. GONZALEZ) DID YOU SEE
10 THE CAPPING STACK OR WAS IT JUST
11 MATHEMATICAL?
12 A. I DID NOT SEE THE CAPPING STACK.
13 Q. YOU LOOKED AT PLANS?
14 A. I LOOKED AT DRAWINGS.

Page 31:21 to 31:23

00031:21 Q. WAS IT SUPPOSED TO GO ON TOP OF
22 THE LOWER MARINE RISER PACKAGE?
23 A. CORRECT.

Page 32:04 to 32:07

00032:04 Q. (BY MR. GONZALEZ) AND IT WAS
05 USING THE EXISTING BOP THAT WAS ALREADY ON
06 SITE?
07 A. CORRECT.

Page 32:14 to 32:16

00032:14 Q. WHAT CONCERNS, IF ANY, DID BP
15 HAVE WITH RESPECT TO THE CAPPING STACK THAT
16 THEY ASKED YOU TO LOOK AT?

Page 32:18 to 32:23

00032:18 THE WITNESS: WELL, WE -- I DON'T -- I
19 DON'T THINK THEY HAD ANY CONCERNS AT THE
20 POINT WHERE WE -- WHEN THEY ASKED US TO
21 ANALYZE THE CAPPING STACK, EXCEPT FOR TO
22 ENSURE THAT THE INTEGRITY OF THE CASING AND
23 THE WELLHEAD WERE NOT COMPROMISED.

Page 33:13 to 33:19

00033:13 Q. SO WHAT PART OF THE CASING WERE
14 YOU LOOKING AT AS TO WHETHER IT WOULD BE ABLE
15 TO WITHSTAND THE PRESSURES OF HAVING THE
16 CAPPING STACK ON IT?
17 A. WITH THE LOADS OF THE CAPPING
18 STACK, IT WOULD BE THE 36-INCH CASING AND
19 THEN THE WELLHEAD ITSELF.

Page 34:03 to 34:19

00034:03 Q. RIGHT. SO YOU WERE LOOKING TO
04 SEE, ONCE WE PUT THIS CAPPING STACK ON -- BP
05 PUTS A CAPPING STACK ON THE LOWER MARINE
06 RISER PACKAGE OF THE BLOWOUT PREVENTER OR
07 BOP, WHAT TYPE OF PRESSURE IT'S GOING TO
08 CAUSE AND WHAT EFFECT THAT WILL HAVE ON THE
09 CASING AND THE WELLHEAD, IF ANY?
10 A. WE'RE LOOKING AT, GIVEN THE
11 WEIGHT AND HEIGHT OF THE CAPPING STACK, WHAT
12 LOADS IT WOULD PRODUCE ON THE CASING AND
13 WELLHEAD.
14 Q. AND WHEN YOU SAY "LOADS," WHAT
15 DO YOU MEAN?
16 A. BENDING MOMENTS AND TENSIONS.
17 Q. DID THAT CORRELATE TO THE AMOUNT
18 OF PRESSURE IN THE WELL, OF THE OIL COMING
19 OUT?

Page 34:21 to 35:06

00034:21 A. IT DOESN'T -- WHAT DO YOU MEAN
 22 BY "CORRELATE"?
 23 Q. THE CASING IS MY PEN, THE
 24 WELLHEAD WOULD BE MY HAND, OIL IS GUSHING OUT
 25 PROBABLY AT -- WHAT WAS IT -- SEVERAL
 00035:01 THOUSAND BARRELS -- 5,000 BARRELS A DAY?
 02 A. MORE THAN THAT.
 03 Q. MORE THAN THAT. 50,000 BARRELS
 04 A DAY? AND IT'S COMING OUT OF THE WELLHEAD.
 05 YOU'RE GOING TO PUT A CAPPING STACK ON IT.
 06 THAT'S GOING TO CREATE SOME PRESSURE, RIGHT?

Page 35:08 to 36:05

00035:08 Q. (BY MR. GONZALEZ) IS THAT A
 09 YES?
 10 A. THERE WOULD BE SOME PRESSURE.
 11 Q. OKAY. DID YOU TAKE THAT INTO
 12 CONSIDERATION WHEN YOU WERE DOING YOUR
 13 TESTING ON WHAT THE EFFECT OF THE CAPPING
 14 STACK WOULD HAVE ON THE CASING AND WELLHEAD?
 15 A. WHEN YOU SAY "TESTING," WHAT DO
 16 YOU MEAN BY TESTING?
 17 Q. THE WORK YOU DID.
 18 A. OKAY. THE WORK WE DID WAS A
 19 MATHEMATICAL MODEL. THAT WOULD BE AN INPUT
 20 INTO THE MATHEMATICAL MODEL. OR WE -- WHAT
 21 WITH WE WOULD DO IS WE WOULD ASSUME THE WORST
 22 CASE PRESSURE, AND THEN SAY GIVEN THAT
 23 PRESSURE IS THE INTEGRITY OF THE WELLHEAD
 24 COMPROMISED.
 25 Q. WHAT WAS THE WORST CASE PRESSURE
 00036:01 THAT YOU ASSUMED FOR YOUR CALCULATIONS?
 02 A. IT WAS EITHER 15 KSI, 20 KSI.
 03 Q. AND TELL US WHAT THAT MEANS.
 04 A. 15,000 OR 20,000 POUNDS PER
 05 SQUARE INCH.

Page 36:10 to 36:13

00036:10 Q. WHAT OTHER INPUT -- WHAT OTHER
 11 VARIABLES GO INTO THE FORMULA?
 12 A. WELL, WE JUST CHECK THE CAPACITY
 13 OF THE WELLHEAD.

Page 37:23 to 38:21

00037:23 Q. HOW LONG DID IT TAKE YOU TO DO
 24 THIS ANALYSIS?
 25 A. APPROXIMATELY A MONTH OR SO,
 00038:01 THEREABOUTS.
 02 Q. ABOUT FOUR WEEKS?
 03 A. YEAH, FOUR WEEKS, APPROXIMATELY.

04 Q. WHY DID IT TAKE SO LONG?
 05 A. WE HAD MANY, MANY VARIATIONS ON
 06 THE -- ON -- ON THE DESIGN OF THE CAPPING
 07 STACK. SO WE WERE WORKING EVERY DAY.
 08 Q. SO EVERY TIME THERE'S A
 09 DIFFERENT VARIATION OF THE CAPPING STACK,
 10 YOUR ANALYSIS HAS TO CHANGE?
 11 A. CORRECT.
 12 Q. WHO WAS PROVIDING YOU WITH THE
 13 DIFFERENT VARIATIONS OF THE CAPPING STACK?
 14 A. THAT WOULD HAVE BEEN THE BP
 15 GROUP THAT WE WORK WITH.
 16 Q. AND WHO FROM THE BP GROUP WOULD
 17 YOU SAY WOULD BE THE PERSON YOU WORK WITH THE
 18 MOST?
 19 A. MR. DAVID PETRUSKA.
 20 Q. HOW DID THE DESIGN OF THE
 21 CAPPING STACK CHANGE OVER TIME?

Page 38:23 to 39:01

00038:23 THE WITNESS: IT WOULD HAVE GOTTEN
 24 LIGHT -- HEAVIER OR LIGHTER OR WIDER OR
 25 SHORTER. I MEAN, THE GEOMETRIC DIMENSIONS
 00039:01 WOULD CHANGE.

Page 39:06 to 39:09

00039:06 Q. (BY MR. GONZALEZ) BUT AS FAR AS
 07 YOU KNOW, THERE'S ALWAYS A MINI BOP OVER THE
 08 LOWER MARINE RISER UNIT?
 09 A. CORRECT.

Page 39:17 to 39:18

00039:17 Q. (BY MR. GONZALEZ) THE DESIGN OF
 18 THE CAPPING STACK.

Page 39:20 to 39:24

00039:20 THE WITNESS: WHAT DO YOU MEAN BY
 21 "REGULAR"?
 22 Q. (BY MR. GONZALEZ) DID IT OFTEN
 23 CHANGE?
 24 A. YES, IT DID.

Page 40:14 to 40:21

00040:14 Q. WELL, LET'S TALK ABOUT WHAT YOU
 15 WERE INVOLVED IN. NO ONE CAME UP TO YOU AND
 16 SAID, "HERE IS THE CAPPING STACK. TEST IT"?
 17 A. CORRECT, NO ONE DID SAY THAT.

18 Q. WHAT THEY SAID WAS, "HERE'S ONE
 19 DESIGN," AND THEN THEY CHANGED IT, AND
 20 "HERE'S ANOTHER DESIGN," AND THEN THEY
 21 CHANGED IT, AND THAT HAPPENED OFTEN?

Page 40:23 to 41:10

00040:23 THE WITNESS: I DON'T KNOW IF THOSE
 24 DESIGNS WERE REAL OR NOT AT THAT POINT.
 25 Q. (BY MR. GONZALEZ) YOU WERE
 00041:01 GIVEN DIFFERENT DESIGNS?
 02 A. YES.
 03 Q. AND THEY CHANGED?
 04 A. THERE WERE SOME MODIFICATIONS TO
 05 THOSE DESIGNS, YES.
 06 Q. OVER -- OVER A FOUR-WEEK PERIOD?
 07 A. CORRECT.
 08 Q. AND DURING THAT FOUR-WEEK PERIOD
 09 THERE WERE THOUSANDS OF BARRELS OF OIL BEING
 10 SPILLED INTO THE GULF?

Page 41:12 to 41:23

00041:12 Q. (BY MR. GONZALEZ) CORRECT?
 13 A. CORRECT.
 14 Q. OKAY. AND THEN AT SOME POINT
 15 THEY SAID, "OKAY, HERE IS THE DESIGN. WE'RE
 16 DONE," RIGHT?
 17 A. CORRECT.
 18 Q. AND THAT'S THE ONE YOU HAD TO
 19 MODEL OUT?
 20 A. CORRECT.
 21 Q. SO SOMEONE WAS TRYING TO CREATE
 22 A CAPPING STACK THAT WOULD WORK DURING THE
 23 TIME THAT THE BLOWOUT WAS ONGOING?

Page 41:25 to 42:16

00041:25 THE WITNESS: I BELIEVE SO.
 00042:01 Q. (BY MR. GONZALEZ) ONCE YOU GOT
 02 THE VARIABLES IN PLACE, MEANING ONCE BP SAID,
 03 "THIS IS THE CAPPING STACK WE ARE GOING TO
 04 USE," WHAT OTHER INFORMATION DID YOU NEED IN
 05 ORDER TO RUN YOUR CALCULATIONS AND DO YOUR
 06 ANALYSIS ON THE CAPPING STACK?
 07 A. WE HAD THE -- WE HAD THE CASING
 08 INFORMATION, WE -- WE LOOKED AT THE ANGLE AT
 09 WHICH THE CASING WAS LEANING.
 10 Q. AND YOU -- DID YOU ALREADY KNOW
 11 THAT?
 12 A. WE WERE GIVEN PHOTOGRAPHS AND
 13 ROV FOOTAGE.
 14 Q. SO ONCE YOU HAD THE ACTUAL

15 CAPPING STACK THAT BOP [SIC] INTENDED TO USE,
16 HOW LONG DID IT TAKE YOU TO DO YOUR ANALYSIS?

Page 42:18 to 43:19

00042:18 THE WITNESS: PROBABLY OVER A DAY OR
19 TWO, OR THEREABOUTS.
20 Q. (BY MR. GONZALEZ) OKAY. SO
21 SOMEWHERE BETWEEN 24 TO 48 HOURS?
22 A. CORRECT.
23 Q. ONCE YOU HAVE THE ACTUAL CAPPING
24 STACK ITSELF?
25 A. CORRECT.
00043:01 Q. BECAUSE THE ANGLE, THAT'S
02 SOMETHING YOU HAD JUST FROM THE PHOTOGRAPHS
03 AND THE VIDEOS, RIGHT?
04 A. CORRECT.
05 Q. AND WHAT WAS THE OTHER THING?
06 THE ANGLE --
07 A. IT WAS REALLY JUST THE ANGLE.
08 Q. JUST THE ANGLE?
09 A. WE HAD EVERYTHING ELSE.
10 Q. RIGHT. BECAUSE YOU KNEW THE
11 CASING ALREADY. YOU HAD BEEN INVOLVED IN THE
12 CASING FROM 2008 OR 2009?
13 A. CORRECT.
14 Q. SO IF BOP HAD BEEN IN A POSITION
15 TO PROVIDE YOU WITH THE CAPPING STACK THAT
16 THEY INTENDED ON USING, YOU WOULD BE ABLE TO
17 DO YOUR ANALYSIS AND MODELING WITHIN 24 TO 48
18 HOURS, CORRECT?
19 A. NO.

Page 43:21 to 44:25

00043:21 Q. (BY MR. GONZALEZ) HOW LONG?
22 A. AGAIN, THREE TO FOUR WEEKS, THAT
23 TIME FRAME.
24 Q. I THOUGHT YOU SAID THAT THE
25 REASON THAT IT TOOK THREE TO FOUR WEEKS WAS
00044:01 BECAUSE THERE WERE DESIGN CHANGES ON THE
02 CAPPING STACK.
03 A. THERE WERE DESIGN CHANGES ON THE
04 CAPPING STACK. HOWEVER, IT TAKES -- THERE'S
05 A RAMP-UP TIME TO COME UP -- YOU KNOW, TO
06 PRODUCE THE MODELS, AND THEN GIVEN THAT THE
07 DESIGNS WERE CHANGING -- I MEAN, THESE WERE
08 INCREMENTAL CHANGES THAT TAKE A DAY OR TO --
09 TO -- TO MAKE AND THEN TO -- TO RUN THE
10 MODELS AND DO QA ON THE MODEL RESULTS.
11 Q. ALL RIGHT.
12 A. SO --
13 Q. IF WE TAKE OUT THE VARIATIONS IN
14 THE CAPPING STACK, HOW LONG DOES IT TAKE TO

15 RUN THE MODEL?
16 A. HOW LONG DOES IT TAKE TO RUN THE
17 MODEL OR HOW LONG DOES TAKE TO --
18 Q. THE WHOLE PROCESS.
19 A. THE WHOLE PROCESS.
20 APPROXIMATELY TWO TO THREE WEEKS, I WOULD
21 SAY.
22 Q. IF WE HAD A BLOWOUT TODAY,
23 HEAVEN FORBID, THE WORK THAT YOU HAVE DONE,
24 WOULD IT STILL TAKE TWO TO THREE WEEKS TO DO
25 THE SAME TYPE OF WORK?

Page 45:02 to 45:12

00045:02 Q. (BY MR. GONZALEZ) ASSUMING WE
03 HAVE A CAPPING STACK AVAILABLE NOW.
04 A. WE HAVE PRE-MADE MODELS. SO IT
05 WOULD NOT TAKE THAT LONG.
06 Q. HOW LONG WOULD IT TAKE IF WE HAD
07 A BLOWOUT TODAY IN 5,000 FEET OF WATER?
08 A. LESS THAN A WEEK.
09 Q. SO IF -- IF WE WERE TO PLAN NOW
10 FOR A WORST CASE SCENARIO INVOLVING ANOTHER
11 BLOWOUT, WE NOW HAVE A CAPPING STACK
12 AVAILABLE -- BP HAS ONE AVAILABLE, RIGHT?

Page 45:14 to 45:18

00045:14 THE WITNESS: I BELIEVE SO.
15 Q. (BY MR. GONZALEZ) AND STRESS
16 ENGINEERING WOULD BE ABLE TO DO THE MODELING
17 IN FIVE DAYS OR SO?
18 A. CORRECT.

Page 46:17 to 46:20

00046:17 Q. OKAY. BUT AS FAR AS YOU'RE
18 CONCERNED, YOUR WORK COULD BE DONE IN A
19 MATTER OF FIVE DAYS OR SO?
20 A. THAT IS CORRECT.

Page 46:24 to 47:06

00046:24 Q. IS THAT AN OPINION WITHIN A
25 REASONABLE DEGREE OF ENGINEERING PROBABILITY?
00047:01 A. THAT'S CORRECT.
02 Q. WHO ASSISTED YOU WITH THIS
03 CAPPING STACK ANALYSIS?
04 A. I HAD ONE OF MY COLLEAGUES.
05 Q. WHO?
06 A. HIS NAME IS ATUL GANPATYE.

Page 47:10 to 48:18

00047:10 Q. OKAY. IS HE A SENIOR ENGINEER?
11 A. HE IS A -- I'M TRYING TO
12 REMEMBER HIS -- YEAH, HE'S -- HE'S -- HE'S A
13 MID-LEVEL ENGINEER.
14 Q. OKAY. ANYONE ELSE?
15 A. THERE WAS JUST HIM AND I THAT
16 WORKED ON IT.
17 Q. WHERE DID YOU DO THE WORK? OUT
18 OF HOUSTON?
19 A. YES, IN THE STRESS OFFICES.
20 Q. WHAT DID YOU DETERMINE?
21 A. WE DETERMINED WHETHER THE DESIGN
22 WAS ADEQUATE OR NOT AND TO ENSURE THAT THE
23 INTEGRITY OF THE CASING WAS NOT COMPROMISED
24 UNDER THE -- UNDER THE CONDITION IT WAS IN,
25 AND THE WELL -- AND THE INTEGRITY OF THE
00048:01 WELLHEAD WAS NOT COMPROMISED UNDER THE
02 CONDITION IT WAS?
03 Q. AND WHAT WAS THE RESULT? WHAT
04 DID YOU FIND?
05 A. WHAT WE FOUND WAS THAT WE NEEDED
06 TO -- OR ONE NEEDED TO SHIM OR -- SHIM THE
07 LOWER FLEX JOINT BECAUSE YOU JUST COULDN'T
08 PUT A CAPPING STACK ON -- ON THE LMRP,
09 OTHERWISE THE SYSTEM WOULD BE UNSTABLE. THAT
10 WAS ONE OF THE FINDINGS.
11 Q. WHAT DOES SHIMMING THE FLEX
12 JOINT MEAN?
13 A. IT MEANS -- IT MEANS STOPPING IT
14 FROM ROTATING ANY FURTHER.
15 Q. AND HOW DOES ONE SHIM THE FLEX
16 JOINT?
17 A. YOU PUT SOME STOPS IN THERE,
18 SOME MECHANICAL STOPS.

Page 48:23 to 49:20

00048:23 Q. SO YOU SAY, "WELL, WE NEED SOME
24 KIND OF MECHANICAL STOP TO SHIM THE FLEX
25 JOINT," AND THEN ANOTHER ENGINEER COMES UP
00049:01 WITH THE APPROPRIATE TYPE OF MECHANICAL STOP
02 TO ACHIEVE THAT GOAL?
03 A. CORRECT.
04 Q. WHAT ELSE DID YOU FIND?
05 A. THAT WAS REALLY IT.
06 Q. AND ASSUMING THAT THERE WAS A
07 SHIM TO THE -- A SHIM FLEX TO PREVENT THE --
08 A MECHANICAL STOP TO PREVENT THE MOVEMENT,
09 THEN WOULD THE CAPPING STACK BE OKAY IN TERMS
10 OF NOT DAMAGING THE WELLHEAD AND THE CASING?
11 A. CORRECT.
12 Q. SO WAS YOUR OPINION SUBJECT TO
13 SHIMMING THE FLEX JOINT, IT'S OKAY TO DO

14 THIS?
15 A. YES.
16 Q. WHO DID YOU PROVIDE THE REPORT
17 TO?
18 A. TO BP.
19 Q. AND TO WHAT PERSON?
20 A. TO DAVID PETRUSKA.

Page 51:21 to 52:09

00051:21 Q. OKAY. WHAT ELSE DID YOU DO FOR
22 THE CAPPING STACK, IF ANYTHING?
23 A. THAT WAS IT.
24 Q. AND ROUGHLY HOW LONG DID YOU
25 WORK FROM START TO FINISH ON THAT PROJECT?
00052:01 A. APPROXIMATELY FOUR TO FIVE
02 WEEKS.
03 Q. AND STARTING, YOU THINK,
04 SOMETIME IN JUNE?
05 A. SOMETIME IN JUNE, THAT'S
06 CORRECT.
07 Q. AND YOU ENDED OBVIOUSLY BEFORE
08 THEY INSTALLED IT IN MID JULY?
09 A. CORRECT.

Page 52:16 to 52:21

00052:16 Q. DID YOU -- WERE YOU AWARE THAT
17 IT -- THE CAPPING STACK WAS USED?
18 A. YES.
19 Q. WERE YOU AWARE THAT IT STOPPED
20 THE FLOW ROUGHLY JULY 15TH, 2010?
21 A. YES.

Page 52:25 to 53:04

00052:25 Q. DO YOU AGREE WITH ME THAT
00053:01 SOMETHING LIKE A CAPPING STACK SHOULD BE
02 IMMEDIATELY AVAILABLE IF THERE'S A BLOWOUT
03 AND THE BLOWOUT PREVENTER DOES NOT STOP THE
04 BLOWOUT?

Page 53:06 to 53:10

00053:06 THE WITNESS: IT WOULD BE PRUDENT TO
07 HAVE A -- SUCH A DEVICE.
08 Q. (BY MR. GONZALEZ) DID THE
09 TECHNOLOGY FOR SUCH A DEVICE EXIST PRIOR TO
10 JULY 2010?

Page 53:12 to 53:20

00053:12 THE WITNESS: THAT'S A -- THAT'S A
13 DIFFICULT QUESTION TO ANSWER. YOU KNOW, I
14 COULD SAY THAT FOR THIS PARTICULAR WELL, WE
15 KNOW THAT WE -- THAT THIS HAD TO BE DESIGNED.
16 Q. (BY MR. GONZALEZ) RIGHT. BUT
17 WHAT MY QUESTION IS, IN THE INDUSTRY, BECAUSE
18 YOU'RE VERY FAMILIAR WITH IT, ARE THERE
19 CAPPING STACKS AVAILABLE?
20 A. AT THAT TIME?

Page 53:22 to 53:23

00053:22 Q. (BY MR. GONZALEZ) YEAH, AT THAT
23 TIME.

Page 53:25 to 54:04

00053:25 THE WITNESS: AT THAT TIME MY
00054:01 UNDERSTANDING WAS THERE WERE NO CAPPING
02 STACKS.
03 Q. (BY MR. GONZALEZ) SO THIS WAS A
04 NEW IDEA?

Page 54:06 to 54:09

00054:06 THE WITNESS: THAT IS MY UNDERSTANDING.
07 Q. (BY MR. GONZALEZ) AND THE NEW
08 IDEA WAS ACTUALLY FORMULATED FOR THIS
09 EMERGENCY?

Page 54:11 to 54:19

00054:11 THE WITNESS: THAT IS MY UNDERSTANDING.
12 Q. (BY MR. GONZALEZ) HAD YOU EVER
13 HEARD OF A CAPPING STACK BEFORE?
14 A. I HAD NOT.
15 Q. YOU HAD NOT?
16 A. PRIOR TO THE INCIDENT?
17 Q. YOU HAD NOT PRIOR TO THE
18 INCIDENT HEARD OF THAT?
19 A. CORRECT.

Page 56:08 to 56:14

00056:08 Q. (BY MR. GONZALEZ) OKAY. IN
09 BETWEEN THE BLOWOUT PREVENTER WORKING AND THE
10 RELIEF WELL ACTUALLY WORKING, WHICH WOULD BE
11 FIVE MONTHS AFTER THE BLOWOUT THERE WAS
12 NOTHING IN PLACE THAT WE COULD JUST SAY,
13 "HERE BRING THE X DEVICE AND STOP THE WELL
14 NOW," RIGHT?

Page 56:16 to 56:19

00056:16 THE WITNESS: THAT IS MY UNDERSTANDING.
17 Q. (BY MR. GONZALEZ) SO THE
18 PROCESS REQUIRED A LOT OF ENGINEERING,
19 DESIGNING, TESTING, TO GET A SOLUTION, RIGHT?

Page 56:21 to 56:22

00056:21 THE WITNESS: AT THAT MOMENT IN TIME,
22 YES.

Page 57:24 to 58:06

00057:24 Q. OKAY. LET'S TALK ABOUT THE
25 GLOBAL ANALYSIS REPORT. TELL US WHAT THAT
00058:01 IS.
02 A. THE GLOBAL ANALYSIS REPORT, WE
03 WERE ASKED A QUESTION BASED UPON AN
04 ASSUMPTION THAT THERE'S GAS INGRESS ON THE
05 OUTSIDE OF THE 9 7/8-INCH BY 7-INCH
06 PRODUCTION CASING, WHAT ADDITIONAL

Page 59:09 to 59:11

00059:09 Q. WHO DID YOU DEAL WITH FROM BP?
10 A. A GENTLEMAN NAMED TORBEN
11 KNUDSEN.

Page 59:19 to 59:25

00059:19 Q. AND WHAT DID MR. KNUDSEN WANT
20 YOU TO DO?
21 A. HE WANTED US TO -- TO DETERMINE
22 WHAT THE INCREMENTAL PRESSURE ON THE BACK
23 SIDE OF THE 9 7/8-INCH CASING WOULD BE THAT
24 COULD LIFT THE CASING HANGER OFF OF ITS
25 ASSEMBLY.

Page 62:11 to 62:17

00062:11 WHERE DID THE SEPARATION OCCUR
12 BASED ON THE ASSUMPTION THAT YOU WERE GIVEN?
13 A. THE SEPARATION OF WHAT, PLEASE?
14 Q. THE LIFTING OF THE CASING.
15 A. THE LIFTING OF THE CASING WOULD
16 HAVE COME AT THE TOP OF THE CASING AT THE
17 CASING HEAD.

Page 75:21 to 76:11

00075:21 Q. OKAY. AND WHEN WE -- WE'RE

22 JUST -- WHEN WE SAY "ASKED," WE'RE SAYING IF
 23 BP HAD ASKED YOU TO DO SO, YOU WOULD HAVE
 24 DONE IT?
 25 A. THAT IS CORRECT.
 00076:01 Q. AND BP IS THE ONE THAT GAVE YOU
 02 THE ASSUMPTIONS?
 03 A. WE WORKED ON JUST ONE
 04 ASSUMPTION, AND THEN WE -- WE CHECKED THE --
 05 WE PERFORMED OUR CALCULATION BASED UPON THAT
 06 ONE ASSUMPTION.
 07 Q. CORRECT ME IF I'M WRONG, BUT I
 08 THOUGHT YOU SAID INITIALLY THAT BP HAD ALSO
 09 ASKED YOU TO DO YOUR OWN MODELING TO
 10 DETERMINE IF THEIR CALCULATIONS WERE CORRECT.
 11 A. THAT IS CORRECT.

Page 104:17 to 106:12

00104:17 Q. (BY MR. GONZALEZ) 3302 WILL BE
 18 THE EXHIBIT NUMBER.
 19 TAB 17, PLEASE. CAN YOU GO TO
 20 NO. 17?
 21 A. 17?
 22 Q. THIS IS BP-HZN-BLY00126400.
 23 IT'S FROM YOU, MR. BHALLA --
 24 A. UH-HUH.
 25 Q. -- DATED JUNE 28TH, 2010. DO
 00105:01 YOU RECALL THIS E-MAIL?
 02 A. I DO.
 03 Q. DID YOU PREPARE IT?
 04 A. I DID.
 05 Q. YOU SENT IT TO MR. PATTILLO AND
 06 MR. YOUNG. AND TELL US WHO THEY ARE.
 07 A. MR. PATTILLO WAS A -- IS A
 08 TECHNICAL AUTHORITY, A DISTINGUISHED ADVISOR,
 09 AT BP. MR. YOUNG IS ONE OF MY COLLEAGUES.
 10 Q. OKAY. AND ALSO COPIED IS
 11 MR. KNUDSEN, WHO WE'VE DISCUSSED, RIGHT?
 12 A. YES.
 13 Q. AND IT STATES, "PHIL, WE ARE
 14 PROCEEDING SLOWLY SINCE WE KEEP GETTING
 15 PULLED ON THE RELIEF/MITIGATION EFFORTS TO
 16 LOOK AT VARIOUS SCENARIOS. WE WORKED AGAIN
 17 THIS WEEKEND ON THE 3 RAM BOP SYSTEM FOR
 18 MACONDO FOR DAVID PETRUSKA.
 19 "THAT SAID, WE SHOULD HAVE
 20 PRELIMINARY RESULTS ON OR BEFORE THE END OF
 21 THIS WEEK FOLLOWED BY A DRAFT INTERIM
 22 MEMO/REPORT NEXT WEEK. BEST REGARDS,
 23 KENNETH."
 24 ARE YOU REFERRING TO THE CAPPING
 25 STACK?
 00106:01 A. YES, I AM.
 02 Q. ALL RIGHT. AND ARE YOU
 03 EXPLAINING WHY THERE HAVE BEEN SOME DELAYS IN

04 THE WORK THAT YOU'RE DOING ON THE CAPPING
05 STACK?
06 A. I'M -- YES, I'M EXPLAINING WHY
07 THERE WERE DELAYS IN THIS PARTICULAR WORK
08 SCOPE.
09 Q. OKAY. AND CAN YOU TELL US WHAT
10 IT IS THAT WAS -- WHO WAS PULLING YOU OFF THE
11 RELIEF/MITIGATION EFFORTS TO LOOK AT VARIOUS
12 SCENARIOS?

Page 106:14 to 106:23

00106:14 THE WITNESS: SORRY. NO ONE WAS
15 PULLING US OFF THE RELIEF/MITIGATION EFFORTS.
16 WE WERE BEING PULLED OFF THIS PARTICULAR
17 EFFORT TO -- TO BE ON THE RELIEF/MITIGATION
18 EFFORT.
19 Q. (BY MR. GONZALEZ) OKAY. THANK
20 YOU FOR EXPLAINING THAT.
21 AND TELL US WHO WAS PULLING YOU
22 OFF OF THE CAPPING STACK WORK TO WORK ON
23 OTHER RELIEF MITIGATION EFFORTS.

Page 106:25 to 107:24

00106:25 THE WITNESS: ALL OUR CAPPING STACK
00107:01 WORK WAS ESSENTIALLY THE RELIEF/MITIGATION
02 EFFORT.
03 Q. (BY MR. GONZALEZ) OKAY. I'M
04 JUST LOOKING AT THIS FIRST SENTENCE.
05 A. UH-HUH.
06 Q. IT SAYS, "WE ARE PROCEEDING
07 SLOWLY." "WE" MEANING STRESS, RIGHT?
08 A. UH-HUH.
09 Q. STRESS ENGINEERING?
10 A. YES.
11 Q. OKAY. "SINCE" MEANING BECAUSE,
12 "WE" MEANING STRESS ENGINEERING, RIGHT?
13 A. UH-HUH.
14 Q. "KEEP ON GETTING PULLED ON THE
15 RELIEF/MITIGATION EFFORTS TO LOOK AT VARIOUS
16 SCENARIOS."
17 SO YOU'RE EXPLAINING TO BP THAT
18 THE WORK ON THE CAPPING STACK IS SLOW --
19 A. NO. WE'RE EXPLAINING TO BP THAT
20 THE WORK ON THE GLOBAL ANALYSIS IS SLOW.
21 Q. OKAY.
22 A. BECAUSE WE GET PULLED ONTO THE
23 RELIEF/MITIGATION EFFORTS, WHICH IS THE
24 CAPPING STACK WORK.

Page 144:02 to 144:07

00144:02 Q. EXACTLY. OKAY. NOW, YOU WERE
03 NOT ASKED BY BP TO LOOK INTO ANYTHING THAT
04 HALLIBURTON OR SPERRY DID IN REFERENCE TO THE
05 WORK ON THE MACONDO WELL; IS THAT CORRECT?
06 A. THAT IS CORRECT; I DID NOT DO
07 ANY OF THAT --

Page 144:10 to 144:14

00144:10 Q. NEITHER YOUR REPORT NOR ANYTHING
11 YOU'RE GOING TO SAY HERE TODAY HAS ANYTHING
12 TO DO WITH WHAT HALLIBURTON MAY HAVE DONE OUT
13 THERE; IS THAT RIGHT?
14 A. THAT IS CORRECT.

Page 163:18 to 166:03

00163:18 Q. DO YOU CONSIDER YOURSELF AN
19 EXPERT IN THE DESIGN OR FUNCTION OF A CASING
20 HANGER SEAL ASSEMBLY?
21 A. I'M NOT AN EXPERT ON CASING
22 HANGER SEAL ASSEMBLY.
23 Q. AND THEREFORE, YOU HAVE NOT AND
24 DO NOT INTEND TO EXPRESS ANY OPINIONS ON
25 CASING HANGER SEAL ASSEMBLY, EITHER THEIR
00164:01 DESIGN OR THEIR FUNCTION?
02 A. THAT IS CORRECT.
03 Q. BP CAME TO YOU AT THE BEGINNING
04 OF THIS -- OF THE PROJECT THAT YOU WORKED ON
05 AND ASKED YOU TO MAKE AN ASSUMPTION, TRUE?
06 A. YES. THE ANALYSIS WE PERFORMED
07 IS BASED UPON AN ASSUMPTION.
08 Q. AND THAT ASSUMPTION WAS THAT
09 THERE WAS PRESSURE IN THE ANNULUS OR ON THE
10 BACK SIDE?
11 A. THAT IS CORRECT.
12 Q. DID ANYONE AT BP TELL YOU THAT
13 THEY KNEW FOR CERTAIN THAT THAT WAS THE CASE
14 OR WERE THEY SIMPLY ASKING YOU TO ASSUME THAT
15 SO YOU COULD PERFORM YOUR CALCULATIONS?
16 A. IT WAS AN ASSUMPTION.
17 Q. AT THAT POINT WHEN THEY FIRST
18 CAME TO YOU IN THE SPRING OF 2010, WAS IT
19 YOUR UNDERSTANDING OR BELIEF THAT BP DID NOT
20 YET KNOW THE FLOW PATH OF THE HYDROCARBONS?
21 A. IT WAS MY UNDERSTANDING THAT
22 THEY DID NOT KNOW.
23 Q. SO BP ASKED YOU TO ASSUME THAT
24 THERE WAS PRESSURE IN THE ANNULUS OR ON THE
25 BACK SIDE. DO I HAVE AN OPINION ONE WAY OR
00165:01 ANOTHER WHETHER THERE ACTUALLY WAS PRESSURE
02 THERE?
03 A. I DON'T HAVE AN OPINION.
04 Q. DID YOU DO ANY STUDY OR ANY

05 ANALYSIS AS TO WHETHER PRESSURE MIGHT EXIST
06 ON THE BACK SIDE?
07 A. I DID NOT.
08 Q. YOU TESTIFIED THAT THE QUESTION
09 THAT YOU WERE ASKED TO ANSWER WAS
10 DIFFERENTIAL PRESSURE NECESSARY TO LIFT A
11 CASING HANGER AND THE SEAL ASSEMBLY SIX
12 INCHES. IS THAT ACCURATE?
13 A. THE NET PRESSURE.
14 Q. RIGHT.
15 A. THE NET ADDITIONAL PRESSURE.
16 Q. THE NET PRESSURE DIFFERENTIAL
17 THAT WOULD BE NECESSARY?
18 A. I DIDN'T USE THE WORD
19 "DIFFERENTIAL."
20 Q. ALL RIGHT. BUT IT WOULD BE THE
21 NET -- NET ADDITIONAL PRESSURE INSIDE THE
22 ANNULUS?
23 A. THAT IS CORRECT.
24 Q. WERE YOU ASKED BY BP OR ANYONE
25 ELSE TO DETERMINE WHETHER OR NOT THAT
00166:01 ADDITIONAL PRESSURE CAUSED A RUPTURE OR
02 FAILURE IN THE PRODUCTION CASING?
03 A. I WAS NOT.

Page 171:08 to 172:07

00171:08 Q. GOOD AFTERNOON, MR. BHALLA. MY
09 NAME IS PHILIP CHEN. I'M COUNSEL FOR BP.
10 I WANT TO GO BACK TO SOME OF THE
11 QUESTIONS THAT COUNSEL FOR PLAINTIFF'S ASKED
12 YOU THIS MORNING ABOUT YOUR WORK ON THE
13 RELIEF WELL.
14 NOW, YOU'RE NOT AN EXPERT ON
15 DIFFERENT TECHNIQUES FOR STOPPING A BLOWOUT,
16 ARE YOU?
17 A. THAT IS CORRECT; I'M NOT AN
18 EXPERT.
19 Q. AND HAVE YOU EVER BEEN RETAINED
20 TO PROVIDE OPINIONS OR WORK PRODUCT ON HOW TO
21 STOP A BLOWOUT?
22 A. I HAVE NEVER BEEN RETAINED IN
23 ANY CAPACITY.
24 Q. AND ARE YOU AN EXPERT ON THE
25 DIFFERENT TYPES OF TECHNOLOGY AVAILABLE FOR
00172:01 STOPPING A BLOWOUT?
02 A. I AM NOT AN EXPERT IN THAT AREA.
03 Q. AND HAVE YOU EVER BEEN ASKED TO
04 PROVIDE ANY REPORTS OR WORK PRODUCT ON THE
05 DIFFERENT TYPES OF TECHNOLOGY AVAILABLE TO
06 STOP A BLOWOUT?
07 A. I HAVE NEVER BEEN ASKED THAT.