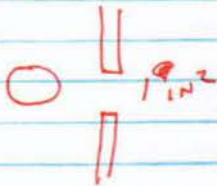


Key Questions  
P<sub>6</sub>  
BOP<sub>3</sub> state  
P<sub>8</sub>  
Kink stable Kink  
P<sub>5</sub>

analysis

$$\sigma = \frac{Pr}{t} = \frac{7000 (9.5)}{1} = \frac{67000}{20000} < 110 \text{ KSI}$$

origin



$$5000 \text{ b/d} = \frac{5000}{24 \times 60} = \frac{200}{60} = 3 \text{ B/min} \\ = 120 \text{ gal/min}$$

Flow Thru

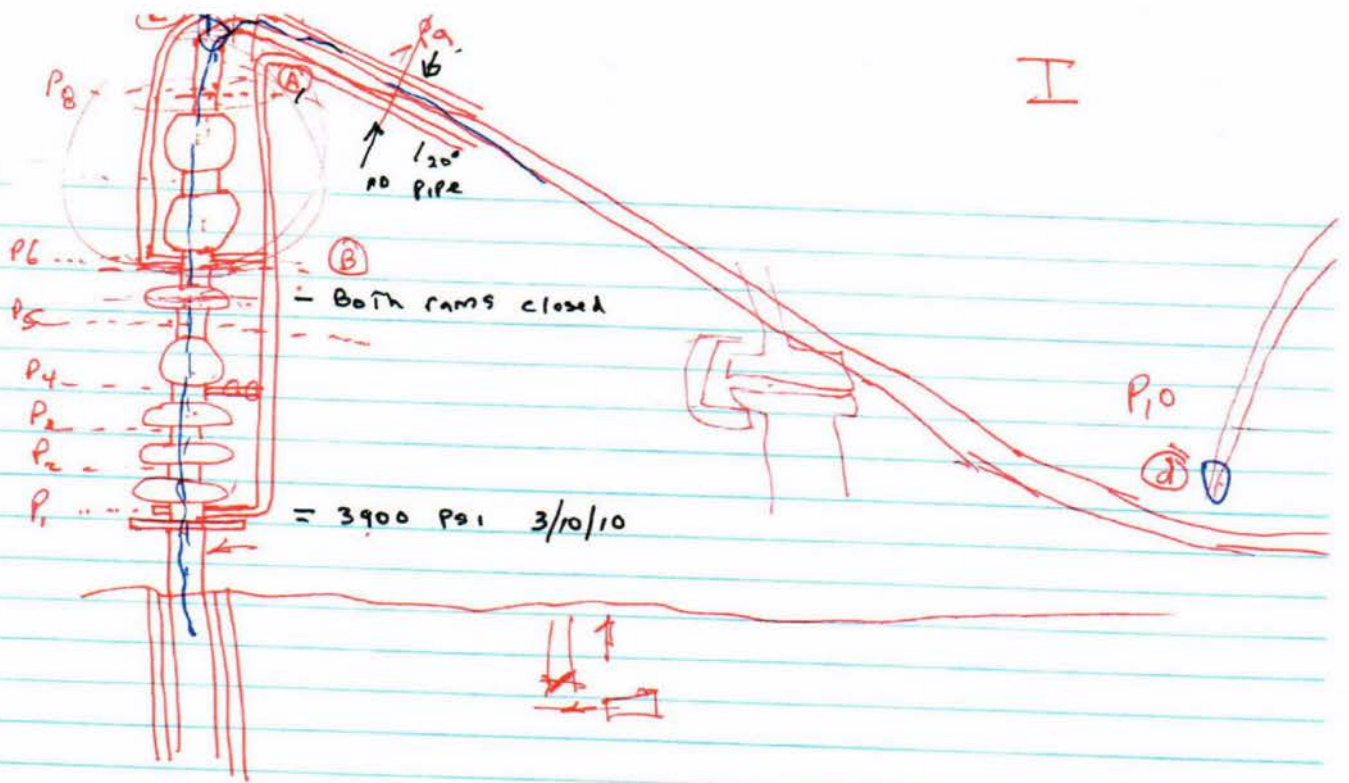
$$= 2 \text{ gal/sec} \\ 120 \cdot \frac{2 \text{ gal}}{\text{sec}} \times 231 = \frac{500 \text{ in}^3}{\text{sec}}$$

$$\text{if } 1 \text{ in}^2 = \frac{500 \text{ in}^3}{\text{sec}} = \frac{40 \text{ ft}}{\text{sec}}$$

$$\approx 25 \text{ mi/hr (slow)}$$

P<sub>5</sub>

if low



- $P_0 = P_1 = 9000 \text{ psi}$  measured 3/9-10/10 3900 psi
- $P_2 \approx P_1$  inverted BOP, unknown internal pipe
- ?  $P_3 \approx P_2$  stuck BOP, unknown internal pipe
- $P_4 = P_3$  open BOP, never activated
- $P_5 = P_4$  open BOP, actuator but allowed to open, 8.112 passage
- ?  $P_6 \ll P_5$  shut BOP (1/2 locked, 1/2 unknown), 5000 Bpd constant with small flow 1/2 locked, 1/2 locked 3/10/10
- $P_7 \approx P_6$  BOP assumed closed but scheduled
- ?  $P_8 \approx P_7$  " " " " " "
- ?  $P_9 \approx P_8$  AREA OF KINK IS large, low flow
- $P_{10} \approx P_9$  Low flow, large correction

~~Security~~  
~~Debris on siding~~

1. Radiography  
Source  
Image
2. Pressure  
at Flange
3. Ram location

$P(x)$   
 $V(x)$   
 $E(x)$   
Ram location

4. ~~Drop~~ Kirk  
analysis  
pressure  
~~flange~~  
transmission
- 5.
- 6.

Pressure  
peto tube

Flaw  
core flaw

- Kirk  
analysis - how to deform  
how to evaluate pressure  
how to assess stability  
NISA
0. provide workbooks
  1. support evaluation to understand
  2. fix into the operation  
- disciplined complex  
- methodical efforts  
- cautious
  3. provide correlation on solutions

Feedback

Words like contact  
Don Ferrari  
Bob Ballard  
VCRS  
Side order  
Water contamination  
in disposal good

Slogans

1. long term lessons
2. emergency at hand  
a) confusion  
b) junk that may be  
c) relief well

Personal

## Official Use Only

### Deep Water Horizons Oil Spill

#### Call Attendees:

- Secretary Chu
- Dan Poneman
- Arun Majumdar
- Rod O'Connor

#### Purpose: Status & Next Steps

Current Status: (from Sheldon Tieszen on 5/13/2010 at 11:00am (MST))

- ROV's working on choke/kill lines in preparation for the "junk shot"
- Measurements were taken on the gash geometry at the kink in case we insert a pressure probe (or wire) through it
- A survey was done on the riser to provide data for "top hat" collection
- The gamma imaging of the ram was done last night and is being processed
- The gamma imaging was started on the kink but interrupted when the ship had to move off (due to VOC's) and will be resumed today
- The lab teams are actively involved in flow assessment for the "junk shot"

*ann*

*alex slovic*

- *where are tests for flow insert*
  - ↳ *Temp flow*
  - ↳ *pressure*
  - ↳ *flow*

- *simultaneous injection & pressure measurement*
- *just slug measurement*
  - ↳ *injection*
- 

*Proposed from christina*

Official Use Only

Plan

1. Distribute basic information framework.
2. Assemble daily information from BP Engineering office.
  - a. Attend BP morning status meeting.
  - b. Attend diagnostics meeting.

5/13

3. Update daily information package.

4. Daily status call:

- a. Summary of status
  - i. Diagnostics ✓
  - ii. Operations -
  - iii. Analysis
- b. Progress on intended actions
  - i. Junk shot
  - ii. Upper flange removal
  - iii. LMR removal
  - iv. Collector

rate of flow -  
go ahead  
go to hot tap

1. RIT
2. Hot Taps
3. Kink Tube clamp
4. mud control line valve  
good now
5. Wire Feed Tool \*

c. Ideas

testing

d. Conclusion/prognosis

- \* Tool for controlling + inserting top line  
ED Gallows
- \* Mud insert diagnostic  
flow
- \* produce thru choke kill

5/15

Magna

R&T: - not inserted, stop nearby

Pressure - diffuser # 500; 3100 same & down

Dag - more Radio, not ~~read~~ read 250 m Ci

~~upstream~~  
line some, uncertain  
value, this morning, agent  
1)  
end

Analysis

1. Risk structural organs
2. Flow
  - a) shut in
  - b) other
3. flow

IP

Legal Liability  
maybe get identity

# We are giving advice

- o read the ~~in~~ read Boost
- o production ~~in~~ then C/K
- o Strain gauge
- o ~~off~~ continuous pressure in C/K
- o has top down LARP

~~to~~ below 15, 15  
o contact @ BP for casing for George

Raf Mennemter  
Tom Bickel

Daily Summary of Status 5/15/10

1. Diagnostics

Gamma Scan

a) Trans Co repeating scan of upstream at Hink

b) L&L " " " " " Hink

Accounter no action

Pressure preparing check sheet for pressure measure  
require yellow P&D

2. Operations

RIT



4:30 Friday 3/14

mgmt mtg

### Dispersant injection

need permit and ship on site, will allow, with some red tape  
will modify protocol  
inject until 10-11 tomorrow

### BOP

drying

preparing RIT

1st jumper run will try to get second

entrapment out in 18 hours

pressure transducer with manual + acoustic transmitter

### Subsea collection

RIT Tool up on surface soon

will connect to drill pipe mid day tomorrow

### Engineering

Trace a survey

Gamma & surge not clear

Value on top of flex joint

frozen hand, focus on LMAP as part of document

Ken's reinforcement

ready to go if need

need to evaluate Top flange to see if better than disconnect

### 1 TOP Kill

~~some~~ MUD Tendency + needed

decision on Thursday for LMAP removal

BOP on BOP - most likely, only option

Testing manifold should ok

Delay up on rig now

### B03

spud ready

yellow Pod will run Sunday  
Wednesday for

rupture disc  
prevent external pressure  
on casing  
different vs  
external vs internal p  
test or external

Flow regime

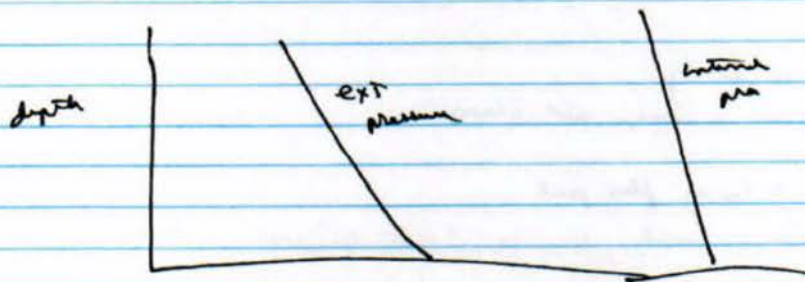
(A) inside 9" casing

(B) outside 9" casing

PHD parallels  
rupture disc & casing effort

(1) maximum shut in pressure

(2) pressure @ rupture disc  
? what are the pres



Sequence of ops

1. RITS
2. Hot Tap in downstream riser
3. Hook up choke & kill
  - a) take P's
  - b) pressure for Kill
4. LMAP removed

1. Is There a drill pipe
2. ~~Where~~ Where are the Flow Impedances and what are the relative magnitudes
3. Is the flow in the Drill pipe or annulus
4. Will the mud get around the test ram
5. Will the mud get ~~into~~ into Annulus
6. ~~Is there~~ Is there a reason the Kill shot ~~should~~ should not be attempted
7. Can you risk opening the test ram

## Control Questions:

1. What is the position/condition of BOP Rome
2. Is there anything in the flow stream upstream of choke
3. What are the pressures in the stroke and how often taken
4. What is the flow rate & ~~where~~ where is the restriction
5. ~~What~~ what is the plan for using the mud Boost & Choke/Kill
6. Is there flow/pressure control ~~status~~ <sup>+ measurement</sup> during mud/suck injection
7. ~~Questions~~ Questions from BP to use
  - a) max shut in pressure
  - b) max flow rate on system
  - c) external pressure
  - d) revised dynamic kill schedule

for margin

- 1: location of ~~Pressure~~ Pressure from choke/Kill
- 2: ~~an~~ indicator on BOP

5/16/10

Marsha <sup>prof</sup>

1. ask only to make statement of intent they are responsible
2. James ~~and~~ Dupree  
analysis of dynamic hill approach - go thru slides
3. ~~and~~ Top moderate
  1. questions
  2. suggestion - risk, options
  3. wrap of our action

automatic ma

|                    |   |     |
|--------------------|---|-----|
| James Dupree       | } | arm |
| <del>and</del> Rod |   | rod |
| Tony               |   | on  |
|                    |   | I   |

Ball Bearing

h right of OP

Margi

5-16

grjo

TOP

high probability of metals on r h s

up and down stream

which side - both sides looked

Phone call 5/16/10

888 290 6903

~~76271682~~ 76271682

semi 877 806 9184

~~76271682~~ 76271682

TOH

1. roll

~~2 only angle~~

2

~~3 Same Design~~

4 disc

yellow

green

5 path forward

6 see

Phi

$\pm 5\%$

Call:

slide

open line

Mark

50 BBY/MIN

Background

In Doc (not time do

a) calculate perimeter

↓

1

2

3) analyze scenario's

4) model logic

① ~~Ball Bearing~~ Ball Bearing

② Model creation geometry

③ More info Package

Schematic  
most likely  
path

historical record?

II Data

↓

III Decision

5/20/10

12:45 EST

1. Call Monna  
single data point with BP

single point for info / release  
multiple investigations  
country science committee  
lead (with) NOAA

2. BP

~~2:40 EST FRIDAY~~

plan for pressure measurements  
pressure & down on surge /

2:45 EDT

data on valve

+ Sci Team

decision on # path shut

activity

topic for controller injection

contingency plan

current status of burst disc / casing

flow / surge measurements

Time of data call

3. Flow analysis

4. Telecom 2:00P

Houston

upper pressure gauge failed no replacement

lower gauge 3500 =

new acoustic

collecting 5000 Bpd 15 m SEC gas

yellow pad questions -

break or leak not decided

1. think flow

2. think pressure  
stability

3. 0% at RIT

4. access to RAMS

5/20/10

margin,

- 1. error, time & accuracy
- 2. Status vs configuration

5.5 ~~ask~~ what are the criteria & definition of successful  
 diagnosis for systems  
 delete 7

\* ask about flow interrupt, dependent stop  
 ask about high resolution pictures  
 check kill

EASTERN

~~11:15~~ 11:15 → 1:30

only

Kent

James  
Dym

See

1:15 EAST Coast

Tom B

4:30 RIT only gas

BP

Please let tomorrow, final review & procedure to MMS  
 Saturday later Sunday for bill

format

different OK

Slogan team on Saturday  
 Che welcome, let team work

Sunday AM pressure

8:25



5/21/10

Tom B

Ⓟ  
Tull March

Injecting dependent, stop Friday with  
setting up high speed video

RIS now down to 2200 Bpd  
reduction in phone

getting video of kick high speed

pressure measurement on Sat/Sun in CK

TOP Kill Tuesday 5/25

still 3500 psi at Galvan  
near @ Top

Clamp ready but not use

Schedule Tom B 9:00 cont Friday

pressure Sun AM

TOP Kill Tuesday AM

1. 9 gauge

2. 6 ga

3. disc

4. Kill Team

5. ~~lab~~ lab <sup>analysis</sup>

6. daily reports

7. Galvan Thesis

Lab report Today on glass

a) glass

b) red team

Kerry

11:30

Kent

PT after

2:00p Houston SCIENTS - SCIENTS (chv) note Salazar

11:06am Houston/Wells

not Elyse

can do pressure on site

pressure late Sunday

5/21/10

Call

get data from ROV pressure

need to get value of flow measurement

agree to ~~not~~ not need new flow data

Rod/Chr

Call to order  
3 exhibit  
① design copy  
② the program per  
③ pump limitation

Summary - TOH  
Elaboration - BB  
Q & A - all

2059

① Diagnostic Pressure Rate Test

check & pump

note of hydrology

pump + check

fundamental

get them all

Surface & groundwater  
accuracy + visual

order

T - B

calibrate lower gauge than upper means  
continuous monitor (1 sec)

Rem

all current

3" ~ "

repressure casing string -

get exhibit # 1

accuracy of lower mod. live  
cannot bore drill margin & pressure  
Measure at ground & rig

② Rem location & status

color coded on exhibit #1

will close casing string

will not open test rem until after pressure test

use exhibit # 1

3. stripe ~~rem~~

1) review only

2) all data from

stroke diagnostic pressure rate test

- Pressure

- dynamic from pumping

- test rem decision

3) success of kill - go / no go

erosion potential

well integrity - watch pressure rate

data closure → 24 hours → decision

our engagement:

concerns:

1) ~~press~~ our pressure

data needs for some  
some or about

4.

~~pressure observation~~

Big ~~of~~ pressure - rig & geomech < within <sup>Bank</sup> ~~limits~~  
rate  
volume ~~per~~ pumped  
back well

pressure relying on rig  
variable at rig

decision @ from plan up

5

do know  
next

6

success

indicated

no flow

pressure are stable and stable

more work

work with different cement density

7

Flow rate

high resolution photography

RIT sample

displacement stopped only short

~~Cont guard OKed~~

- gather data - 12 hours

- pick a data transfer time

- print & review feedback & parallel review + feedback

• check with Mersha

Postponed

Day of decision

(Monday)

(8).00

5/22/10 Phone Call

info: 3 exhibits

- a) dynamic hill design configuration
- b) Diagnostic Pressure Rate Test
- c) ~~mod~~ mud injection limitations
- d) notes from Robson
- e) notes from TOH

①

Process 9 question format

for each question

- 1) Summary of ~~mod~~ current approach TOH
- 2) elaboration BP
- 3) Q&A all

1) ~~pressure~~ pressure measurements

objective: get all pressure measurements in BOP stack  
and ~~mod~~ diagnose condition through initial  
mud injection

②

- require functionality of C/R valves and lines
  - minimize risk of hydrates
- pressure taken in both lines at gooseneck and rig
  - accurate & visual with recording 15cc interval
- all Rams in current condition - except maybe ~~close~~ close  
Coring shear
- order likely TOP to Bottom, except open/open
- observe Kirk vent
- ~~mod~~ Calibrate lower pressure transducer via observation  
of upper pressure
- control injection pressure below limits of burst disks
  - size in ~~mod~~ mud
- basic approach
  - slightly overpressure
  - open & static ~~mod~~ P measurement
  - flow mud at 2, 4, 6 BPM
- timing runway

## 2. Run location

- Same as our daily summary
- color coded as exhibit 2
- will not open test room until explicit decision and likely after test series

## 3. Scenario and decision logic

### Steps

- 1) assemble all data from stand
- 2) assemble review team meeting
  - establish gross likelihood of success (go/no go)
  - assess mud injection likelihood
  - assess erosion potential
  - verify pressure control methods
  - lay out final kill process (where, sequence, etc)
- 3) make ~~some~~ kill decision
- 4) observe everything

Loss time?

Dynamic model

## 5. Service team engagement

- identify our concerns
- ~~assess~~ use data to assess concerns (time =
- ~~organize~~ organize feedback in parallel

minimize with

## 4. Observations during kill

### Observations

1. pressure at Rig + governor
    - ~~maintained~~ maintained under loads + pressure relief at Rig
  2. Rate of mud injection
  3. Completions mud in
  4. Kill rate ~~and~~ observation + rise
- Central theme: deviation from a ~~generally~~ generally decreasing pressure with mud volume

5/24/

Alex Su  
~~David~~ - email in good  
Garmin - via telecon  
Ray - via telephone  
Gabe - print

5:30p

~~5:30p~~

6+7

around flow for

①

time resolved pressure at each location

②

set up

③

fluid 7 at 20,000 B/D

a) BP on LBS

④

get a new calc done

5/25/10 Pre-meet

Questions on pressure measurement

1. pre check on valves hydrate formation
2. Curves in Selzer city
3. Bridging agents
4. Pressure measurement  
no Po d after  
not permanent
5. Run action

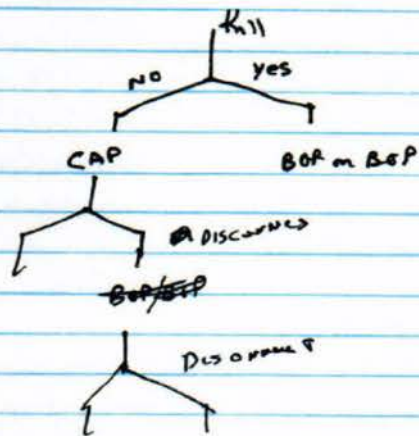
Other plans

1. LMRP cap

2. produce when choke & full line  
- take a week to reconfigure

Schedule

Today: ~~measurements~~ pm  
Tomorrow: Top Kill  
+ 24 CUT  
+ 48 finish CUT  
+ 12 hr Cap ready





1. Is there a drill pipe

yes - evidence radiography, flow restriction in pipe nose

2. Where are the impedances, what magnitude  
at every run except

test run lower

pipe run 2 nominal

pipe run 1 nominal + case shear

Blind ~~run~~ much less

proceed with  
upper pipe joint  
hydrovalve  
with de

3. Is flow annular in drill pipe

flows in <sup>BOP</sup> annulus assumed

indeterminate in drill pipe - high noise

4. Test run with

indeterminants but could be

5. mud in lower annulus

indeterminants

but if flow possible, two phases, temp

6. RISK on test run

flow at test run for nose

crimp at top by casing shear will prevent ?

will store mud

go ahead + set, then check lower

related to erosion and ~~process~~ process for injection

necessary  
but  
try

7. Do there any reason not to kill

erosion

over pressure

hydrate wear out

what is procedure

8. junk shot

not

## Charge

Pressure is down @ BOP 2344

- base of reaction above
  - " " below
  - residual mud below gage
  - gage bad
- strip pressure at a constant injection

Hint vent

- some charges not correlated

measure

- Vent from graph comparison
  - State pressure measurement
  - $\bullet$
0. Diagnostic
  1. Mud - heavy with congl
  2. no ~~bit~~ junk or cump if no down side
  3. plan B upon condition surface

Telcom 5/29/10

3. pressure  
consistent with system size

limited flow  
continued production, containment / no shut in  
moderate flow

will get timeline  
assume long term since  
assume moderate production possible

- 1. ~~discuss~~
- 10. disconnect Coflex to mouse @ 4000
- 2. two cuts
  - a) close to B. cur @ shear
  - b) saw at river
- 3. @ 4000 into position

cap ~~over~~ over LMPF Wednesday next week

Lab Team

- a) flow
- b) CMPR cap  
revis

5/30/10

- 1) flow
- 2) cut & cap — area for focus
- 3) schedule process

Lab Team — night containment process

M

I cut & cap ops

- 1. analyzing seal
- 2. pull drill pipe flow to tell
- 3. grinder to clear
- 4. section down cut  
well bit

5. verify  
water jet

6. elevation or samples of

7. <sup>during flow</sup> ~~retreat~~ <sup>analysis</sup> ~~flow~~ <sup>lower</sup> ~~flow~~

II — long term containment & saw

III — analyzing flow summary

IV — relay well

V — operational

5/31

Flow call Scum + Houston

Call  
Call  
Call

1. reference

- a) 1700 p/s for Saturday
- b) ~~the~~ pressure number from Friday Hill
- c) prior well + data
- d) visual of well kind
- e) new slide

2. observation

Slide 4

Other

3. Flow explanation

4. conclusion

well pipe pressure drop

- 1) drill pipe flow limited
- 2) runner did not allow flow erosion
- 3) rupture device carry little flow
- 4) fracture pressure at bottom

6/3/10 ~~revisi~~ refig wells discussion

- revisi on
- will intersect
    - first annulus (will casing)
    - will casing
  - primary recovery + few inches
  - will intersect at 27 in casing above annulus

Plant W

3 areas

- long term development
- best cap for stable containment
- underwater storage

Senior call

- what is stability
- rate of material
  - rate of hydrate formation
- focus on best cap

6/4/10

Senior call

- get details of Cape - logie
- get details on flow rate
- fraction of gas liquid, water
- stability
  - recovery
- improved cap design - engage
- stiffness - near package dimensions
  - engage on design
  - check value at top of riser
- flow capacity
  - separator
  - flow

815

Review of press pkg

overall role of Soc

1. Comment - provided endorsement to BP's ability to elements the to
2. Prolid - strongly encouraged
3. —
4. ~~the~~ supporting development of options which can contain oil more effectively including better casing and providing hydro fracture
5. ask question = monitor progress and evaluate effectiveness as this proceeds
6. Team has been actively engaged in the independent analysis of the containment options to evaluate the effectiveness and require for development of options from

The team conducted an extensive <sup>structural</sup> stability analysis to assess the stability of the riser system ~~to~~ in support of the choke/call series

The team conducted an independent set of flow analysis to ~~document~~ ~~the~~ explain the oil and mud flow during the choke/call series. The procedure ~~the~~ on understanding of the operational limits of the containment system was provided

Callum Mike Butts 6/4/10

7:00P Top cap

1 3/4 cloud

3 open 3:30am since

Capacity limited

2 website 64th

80 64th → 90 m/side

10,000 Bed

~ 12KBP

morning LOS ~ 15,000 Bed

2 PM flow wind to Ry

back to 30

7:00 Back

Chn

\* Time lost movie on video @

\* focus on current cap

\* hurricane

6/5/10

Steve Chn

- focus on flow capacity and timing

4:00 Sebastian call

- get calculations set up

- VERT

- post sheet

- how much more impedance on well than

- organize info

6/5/10 Mary

Q4000 - 6-7K

Banner + personnel

flow @ pps

separator 12,000

tanker OK

6/5/10

7:00P = 9:00 AM EDT

Video on site  
for high def

6/6/00 Telecon

Q 4000  
Data

Station

24 hr volume - midweek - midweek 10500 o.i

average rate 14,400  
second drive in parallel  
some shut down  
lost production

maybe 18,000 oil BPD  
top caps stowed in place  
still awaiting water flows

Q 4000

DST equipment 50% complete

2-3 day more needed  
pressure test - well thru  
mux cable reconnected

expand line trying to get 9M

limit by flow capacity

5000 bpd 40 million standard equivalent } 1,000 T

8000 Bpd is limit

as extension

Could get to carry flow capacity with process eqpt  
long term = 12

vessel will arrive 6/15

lock down

⊙

Top hat

will likely leave as long as possible

will get pressure measurement at least at top of chree

get suggestion on requirements

\*  
\*

Pressure readings

OK

get federal data report (Tom + Marcia) add flow  
visual

\*

term for BOP ~~control~~ integrity

on DOE site?



6/6/10 Nelson Hunt W.  
How to proceed

1. get format established
2. BP fill in
3. Team review
4. Peer review
5. on website

forward:  
this copy

long term

analysis + data

B

20%?

Conc.

1. after ~~the~~ ~~completion~~ cogency & redundancy at surface
2. alternative to ~~some~~ ~~flow~~ ~~max~~  
insert flow hot top
3. ~~the~~ ~~copy~~ #4 design description and improvements, special slip pressure
4. pressure data case @ science team & lab team
5. ideas and data to BP
6. long term containment plan & reviews

Relief wells

Risk of ~~the~~ blow out  
when cement - consider ~~the~~ then central  
vertical ~~flow~~ ~~firm~~

- \* set up science call with BP for relief wells  
kick at intersection of numbers

analysis results 6/6/10

Goal LNL

SNL 10-15 PSI

1 = 40,000 15 = 130,000 oil  
one hole;

LNL collection data down

pressure at top hat

48,000 w/o pressure assumption

0.16 psi, some mixture

LNL 1300 psi exit

15 psi top hat

8800 Bpd in new; 84000 total

2 phase flows

1-PSI 35,000 Pipe 8600

*differentiated across  
top hat*

1-10 PSI

40000 80000 Bpd

6/7/10

Telecon

Cabinet mtg

Concern over capacity

line

Connection with BP then that allow

72 hours for plan to get more than 25,000 per day

BP heads up to Dept, Andy - today

*with casing*

1st of government directives on containment

Data set

outline

State

Calc #1

*Control on  
ROP for  
future  
ops*

PDF

Margie cell#

Marcia - Margi

where to put it up

Data Summary from Deep Water Horizon

4. ~~Flow~~ BOP ~~Stack~~

Margi:

• BOP Configuration

1 image + pressure



Margi:

• Pressure in BOP  
type, metadata

State Diagnostic S/P  
966 connection



3 ~~Flow in Process/Survey Collection~~ Containment system  
 Margi: - Specific description 2-4 FIT + 1  
 Marcia: - RITS system data (get from) P M  
 Margi: - LMAP top cap  
 Margi: L data (graphic)

I

• Description of System  
• General System

3-4 Slides

Tot

II

Timeline of interest  
RITS  
real time

1 slide; 7 center

Marcia

III

Well CONFIGURATION  
one slide  
 casing config

Tot

VI

Video imagery  
~~video~~ TBD

Marcia

action

- get CIO link from DOE
- • get person at Sordia
- Review
  - BP (Art Wells)
  - ~~Houston~~ Houston (Margi)
- disclaimer

6/9/10

Flow rate discussion at WH

Marcia  
old river

20-40 KB/day  
25-30 KB/day

Post river cut

Scott Barton team says high team revenue

Pages will have estimates

- phone team looking at post river
- model team only at end of month
- W+OE

pre cut and post cut

25,000 - 50,000 for pre cut

DOE

concern over

pressure measurement  
vent  
method

6/10/10

Science call

Steve Chow

BP to capture > 15000 barrels

renewing agreement on stopper's agreement

Flow team data release rough today

3 methods

\* need summary of design input

pressure measurement - need

a) method ~~OK~~ OK

b) 24 hour requirement

Cap analysis flow

1. Values
2. outside density
3. EOS
4. uncertainty



power point summary  
3 appendices

Richard Lynch

6/10 Gage

ASCROFT  
m.c. Daniels

- a) transfer only
- b) pressure gage  
can we find one

Talked to Buster  
go with  
consultant Buster

6/12 comments on pressure gage procedure

1. don't ~~need~~ need 24 hours  
1 hr at 150 psi is OK
2. need accurate measurement of height of gage above part into ~~oil~~ <sup>top hat</sup>
3. need best estimate of fluid. inside tube to gage best if  
close to density of water
4. need to ensure that ~~option 2~~ option 2 does not damage  
part from centrifugal weight (noted in procedure)
5. option 3 even with two lines unless valves the fluid  
in both are known to be the same
6. why not take an option with transducer located ~~where~~  
the gage is in option 1

6/12 ΔP w/f

|                 |       |        |       |
|-----------------|-------|--------|-------|
|                 | after | before | read  |
| 2250            | 2250  | 2250   | QU    |
| <del>4400</del> | 4250  | 2560   | UK    |
|                 |       | 2620   | UC    |
|                 |       | 3240   | UK    |
|                 |       | 3620   | BTRom |
|                 |       | 4400   |       |

Current 4100

$$4400 - 2560 = 1840$$

f g h

6/13/10

SCIT, ARNE, DOUG, D  
DREW@LUM.SJU

Set up for flow calc

- idea 1) problem statement - HOUSTON SCIT
- 2) picture of system component - HOUSTON PERFECT @ 11/1/90
- 3) problem description  
Ball valve - HOUSTON  
Sketch decoupled - HOUSTON  
Verbal description
- 4) analysis approach  
1. assumptions EOS  
2. defining eqns  
3. method of solution  
Common  
Common  
Wayne Pressure Temp common  
Name average density  
Viscosity  
Void Factor
- 5) ~~results~~ results Tables  
1.  
2.  
3.  
- Doug
- 6) sensitivity analysis  
flow eqn on parameter  
Analysis  
do 3 psi  
pressure  
Sant area  
Temperature  
Loss factor  
Skat  
vent

HOUSTON

Real pressure  
Temp in TOP HAT +  
Seal configuration  
Max

Table  
Doug slide

± fluctuation 1  
 MAX-MIN  
 ± 160-210  
 HOUSTON ± 31  
 2.0  
 1.0-3.00 F  
 -3.00  
 2.7 3.0  
 2.3, 3.3  
 2.8

- 1. EOS
- 2. moment eqn
- 3. results

6/14/10 Lab call re gas

① 
$$\begin{array}{r} 53,000 - 80,000 \\ 25,000 \quad 50,000 \end{array}$$

difference  
bottom to top

② 
$$\begin{array}{r} 25,000 \quad 45,000 \\ \quad \quad 32,000 \end{array}$$

Ⓐ 30,000 - 60,000

Ⓑ 35,000 - 55,000

Ⓒ ~~30,000 - 60,000~~  
best guidance is 35,000 - 60,000 ✓

② more data to region ✓

③ get better estimates

page 42

uncertainty is magnitude of velocity

③  $0.45 \text{ m/sec} \times 1.6 = 32,000$

omar  
large eddy  $\Rightarrow$   $\frac{45,000}{42,000, 49,000}$   $1.06 \text{ m/s}$   
PIV

NETL  
PIV (video) pre 80,000  
CFD  
Turbulent jet theory

① Labs / DOE 20,000 - 80,000

~~② 20,000 - 80,000~~

② ~~35,000 - 45,000~~  
35 - 45,000

③ 50 - 80 NETL

6/16/10

- ① 1) pressure measurement, send a sketch
- ② 2) Cops - any
- ③ 2) Cops - set of questions for BP | + information package
- 3) Cha summary

note on PPS

discussion on flow

- ④ \* flow calculation of annulus via drill pipe  
pressure drop in pipe room  
estimate

how much flow could be total

- ⑤ drawing of flex joint

- ⑥ have a nit down with T-mom on flows



6/17/10 empty on Cap options

2 options regarding { Flex joints  
Flange connection - primary

or Hold if flex joints overheat  
risk of installation

visibility

ready end of June 1st week of July

can install FCS

\* Check leak at mod boost valve during <sup>cap</sup> ~~air~~ <sup>air</sup> ~~amplifier~~  
= R<sub>2</sub>

\* get technical integrity assessment of F100 joints  
- parallel analysis

\* <sup>get</sup> info Top Hat # 10 will be in stand by

\* pressure below run  
isolation plan  
locking P, T measurement

\* dynamic measurement discussion

6/17

# BP call

22000

impact on phone at LMRP

## LMRP

2 options

flex joint flange

contracted with Chevron to put on

Harry with lead

Relief well

DD3 at only 15236 ft line by Saturday  
drill Tuesday next well

1. Schedule of Shuttle water

4 Overhead tool

8 Total Barrel, note

65 million Barrels

### Schedule

6/27 high level of production

within top hat

3 range

- slow overhead tool
- Harry cup 7/15

But - 4m bore flange - ready 7/1

get on call with BP with grade / topic

stability of tilt, higher tolerance pressure loss

6/18

BP telecon  
operation

|       |                    |             |
|-------|--------------------|-------------|
| 24 WQ | 16000 art          | 33.9 mcr 30 |
|       | 9269 Q4000         | 17m         |
|       | <u>25295 total</u> |             |

log to up Q4000

3 vort spec Calc  $3 \times 3 \frac{2}{4} \frac{2}{4} = \frac{28}{4} = 7 \times 3 = 21, id^2$

reported more important  $5 \frac{1}{2} \frac{2}{4} = \frac{5 \frac{1}{2} \times 2}{4} = 21, id^2$   
upper part only spec choke

LMAP  
reviewer design review

Helix producer in next step  
end of month 6/27  
hooked up to mud system

Rekey well

11 7/8 casing on DD3  
drill out Monday  
1st rekey operation on Tuesday  
about 100 feet away  
from 1600 feet from TD

18 inch casing on DD2

LMPR reviewer  
relationship need detail on design  
helpful

3 key

- a) design of cap
- b) shut in
- c) time of change

see  
conv

I SHUT IN VS STEP DOWN  
out of options  
Paul + TOH

II Top Hat #10  
get details

III Pressure in Top hat  
Conjain coordinate

- 1) output of reflex joint
- 2) designation + system
- 3) flow designation by shut
- 4) learn below
- 5) Kill pipe annular
- 6) + Top Hat #10
- 7) Fluid flow character  
from crack

①

6/18/10 HOUSTON Telecon

✓ RFI

✓ RFS

RFA/RFI

Result of analysis

analysis

Tasks for team

project mgr POC for each team

other Decisions

Relay needs

Contracting during storm

Integrate with suppliers  
request for info

3) areas

a) ~~RFI~~ cap + Top cap #10

b) a shut in

c) Timing

d) discussion

Formal Form area/critical ~~to~~ <sup>quantity</sup>  
draft info

- 1) design of project ~~scope~~ ~~scope~~ system; Assurance + ~~RFI~~
- 2) impact on info system
- 3) draft of awarding agreement
- 4) ~~where~~ access & entry

Lab team = review

peer review by scientist

6/19/10 Telecon BP 866 820 5753 Code 510 6276

Enterprise went down vent @ Flame arrestor 8:23 p  
restated 30 min ago

Q4000 over 10,000 24hr = 10,106 , new limit 10,600  
Both 24552 47.4 SMCF erosion + burner

Permanent river  
pressure test (on C)

Low pressure system next week on build out

DO3

11 7/8 count tonight  
ranging Tuesday

DO2 18 inch connecting

MS  
MMS diagnostic aty

Scenic call

1) FCS

- A) flux joint
- B) instrumentation
- C) leaks
- D) drill pipe

Funding & indemnification

3 info requests

2 project plans

2)

6/20

(get agreement that for these 2 topics we will be the only  
requester of information)

Bernard

disposant 14000 gal yesterday, want to up it

containment 0630 antipom smooth quarter

24HR 11047 ~ 16000 BPDavg

10,000 @ Q 4000 9994 B in 24 HR

enterprise lightning tower

small storm coming

Q4000 adjusted flooding

install parking pile for bridge

Total 24000 @ BPD

next option in study for mid July

EMRP developing system  
flux joint change

hand letter: will respond  
~~setting up~~ team for ops

Blackberry

running server runs for permanent runs

taskbar 6/24  
rely well  
DOS

11 7/8 lines corrected

Q + A

6/28 operation of next runs

6/21/10

Kent Puseum

a) 1) get program movement relay from direction letter

2) get a person to integrate detail Bob - school sign runs

b) direction letter - get replaced; one integrate

c) get well storage

d) pulling LMAP cap

6/21/10

Dir: Chm

SLV  
Rud O  
Arno M  
Marcio M  
Den Leistikow  
Missy Owens

6/18/2010 3:11 pm

### Clarification of 6/19/2010 directive

Could we get

Local vs central control

1. RFI <sup>only</sup> ✓ - info provided to C/C
2. RFA <sup>a) done</sup> <sup>b)</sup> ~~review~~ board on operational impact ✓ design deployment/questions
3. ~~Cost~~ Court ground approval timeline <sub>4 hours</sub>
4. ~~all~~ operational procedures approved by Court ground ✓
5. Response by BP, have committed
6. Close out
7. POC for court ground?
8. Final review for decision on RFA
9. attend all BP design reviews
10. ~~also~~ coordinate all federal requests

### Interpretation of 2nd directive element

local vs central

Dir, Pete Gautier

RFI <sup>only</sup> info - Rick Brennan for OSCG, copy & site access

Consolidate all into RFI from other federal  
 a) releasable  
 b) not releasable  
 run all through Rick Brennan  
 concern over sensitive info  
 operational impact <sub>loss & smv</sub>  
 permanent movement - write up send to Rick

Director = RFI  
 get RFI to Rick  
 add other options  
 get closed ideas

5

6/21/10 Houston team discussion

General process

- 1) requirements
- 2) key questions
- 3) analysis
- 4) peer review
- 5) report

6/22/10

BP mtg

disposal

going well

containment

Enterprise ~ 1514 will lighter now, down for 45 min

@ 4000 10,270

deck temperature OK 104F

Crack 64 °F

25,836 @ 52.2 SCF

den leader going to mid july

Capping Stack

flange test

Riser for Helix produced in progress

Relief D03

drilled out will go ~ 250 feet drill, about 100-150 away

1st casing run tonight

D03

18 inch steel casing

June 28 ~ 400K +

Helix produced connection thru mid manifold

Rigell well

E&I owner, laying pipe is difficult

stringer well, low pressure, working balance to secure flows

5-10 range

David Meyer

not letter to E&I for help

Mancha

Helix quarter ~ mid pass pumping

peer review on relief well later this week

design review on cap tomorrow



6/22/10

actions

- clarify communication on RFI with other agencies
- sort out broad logic
- get info rly from BP
- get relief well review started

Senior call

1. ~~Summary~~ Focus areas

- a) next cap
- b) well shut in / integrity
- c) timing of cap change
- d) relief well
- e) alternative containment

report wed 6/30

2. Status of info request

- a) 6/19 direction
- b) process movement

- Cap - - - -  
relief integrity  
logic / cap change  
relief well  
alt cont

3. Plan for reviews - see agenda

- a) cap
- b) flow / integrity
- c) relief wells

6/22/10

VP

discussion

1-5 teams

Sheldon  
Dody

Info system  
internal  
public

lead role

adm support

6/23/10

BP call

? ETO for FCS earliest date

Timing of decision on use

depends on flow capacity ~ 50,000 BBLs Barrels

Comment on "edge" of safety

visit to gulf - only

watch going over edge

Containment

27,097 total collection 54 TMSCF

16668 Est

10429 Q4000

disposal

7 gal/min; no real VOC

permanent rain

fabrication complete

pressure testing now

hook up 6/24

manifold down

6/29 hook up complete

Helix produce 6/25 in phase (never produced before)

DD3

testing mud system

strengthen hooked up

last stage is to be sure debit first (10-20 days)

peer review next Tuesday

50 hours/shot  
variable  
20 hours on  
shell pipe  
6 hours  
new technology

use of peeling cap

Killing no! but cement yes

decision

whether and how to change cap

- Kill

6/23/10

Team meeting

1) FCS

contain report out instrumentation OK

2) Integrity test

on track

stop down test desired

(add)

Early Huron

re Kill

long term containment

terminal containment

6/24/10

BP call

Top hat pull off

right move, valve closed

on @ 6:30 p, pressure 7130, full 9:00 p  $\approx$  15000 new

8329 Enterprise

1,000 down resolution on Q4000

8537 Q4000

16866 TAP1

11.7 msf

pressure testing of riser system

move to location next 24 Hr

this morning

June 29 target

relief well

raising operators

getting water  $\approx$  this am

new tool for inside drill pipe looks good

Sealing cap

a) Bolt on flange

indirect production riser

end of match

6/25/10

BP call

866 820 5753 Code 510 6276

Call Wednesday Sloger is coming together

BP presentation + Tom or Steve

Tom - outline for meeting, copy other chrs, that will work

Program

where we are  
what mission  
how much

Operational review

2x BR

|       |      |            |
|-------|------|------------|
| 15879 | 36.1 | Enterprise |
| 7946  | 19.6 | Q          |
| 23734 | 54.7 | Total      |

B.3 river

permanent river + connection to mud mangrove  
permanent river hooked to section pile  
will engage boundary  
mud mangrove to river being hooked up  
target Tuesday site for Helix

Riding well

1st range result = more range 70-80 feet  
did detect original well bore 70 feet  
pulled tool, drilled to 16400  
2nd range run tonight no wireline  
will use old Whetrop tool  
good run don't get aggressive  
20 days of range + set pipe

6/25/10

Kurt Weller

Who should go D DC  
w/o BP? Kurt Weller

3) where we are

4) what are key decisions

2) what are the key elements

General configuration

~~specific~~ applications of key Technologies

1) How we are working together

5) How are working to get decision

6) Best choices

1) aware

2) engaged

3) agreed

not on agenda  
surface X

Steve Chu

1) non nuclear option conventional design  
get facts of part  
interaction ~~with~~ Herald Tribune  
good examples

Science call

Sheldon

USGS present getting  
real boundary of acceptable  
looking reactivity analysis

Harrison - Don O'Connor

Setby response on nuclear  
look at ~~the~~ literature  
single case

Steve Blech

Meek Eng Review 4hr  
Flag joint look OK  
interaction OK give report  
recommendations but not OK  
small out

Doug B

assemble folks

Log.c

INFO

6/26 BP call

Captain

24, 548 B 24162 54.5 MSCF

20 minute outage on Q 4000

Rain system 1

river complete and free standing  
some difficulty w gauging in Hub to COP  
could have 24 hour impact

DD3

2nd ranging run  
signal stronger  
replace drill pipe  
drill 1900 feet, with Bat Rock

DD2

~~run~~ running 16 in casing

Tropical storm alex

5% change of tropical storm, under 8-12 ft sea  
night at least of enterprise + Q 4000  
4 days away, may not need to move

6/27/10 BP Call

no voc's

deposits 8 gal/min

making much contact

1/2 hour down on enterprise

contaminant 244'

22 758 B0 52.9

river continuation

lights on enterprise early - need to get done first

5 ft sea on Tuesday

some slippage to Jan 30

making made at different down

rely ~~on~~ well

16546 ft DD3

40 ft away

preparing to run drill pipe tool

DD2 16 in casing being run

making much

1 wire line

2.

3 contaminant

Weather

alex with toward miles

rough 8' sea

Flange cap

• 7/3 install  
earlier

6 5/8 coming in KWK

7 would cut cross over  
Norge for 7 inch 8 or 9 inch crossover  
piece in KWK 11 feet

5000 PSI limit in manifold

get names of our team on relay.

1. presentation

Breakout Breakout

question for class

Feedback

6/27/

flow calc Team get configuration of at beginning  
flow into ~~8900~~ 8900 level

\* Allocation for transfer in BOP

2000 psi depletion uncertainty

get needed

3 uncertainty  
gauge  
depletion  
hydro team

\* diameter of rupture disc

calculate time rate for build up

2:00 - 3:00 P <sup>Houston</sup> for same call

new top hat

6/28/10

BP call

Safety - no VOC issues

Enterprise

Q

interruption lightning storm 1 hour

lighter 73,000 barrels, leave at 5 ft sea

Weather

6 days down 4 feet, today down 8 feet today

4 feet = cut off level

priority - on going containment ① lightning

Q will continue

② maybe 10-12 feet

Enterprise better than 12 feet

③ bring HP on

need 3 days

build out of subsea

connection of flexibles to HP

QCDC phase need 3 foot sea

Relief wells

not ~~affected~~ affected by weather

PD3 ranging WSAB successful 16 ft  $\pm$  5 feet

drill stud 300 feet

do BoP test, will do wireline

900 feet left

300

300

300 slaw, set pipe 7 days, range

DD2 16 in casing set

Wed meeting

US BP way forward

refine agenda 30 people

Introduction

● Presentation

Discussion

\*



6/29/10 BP call

no VOC issues

high sea state 7' & rising

23400 oil in -

8087 Q ~ 1 hour lightning

Small movement of TOP hat (sea state)

River #1 connection on 12000 at Jim to mod

Western heavy affect

Continue up to 6 days

Relief well

16900 feet went 375 ft

rising 16 ft to 5 at 16525

drill again on Saturday

002 16 inch run

7/2/10

BP call

1 866 819 7823

586 7631

Overnight 7' sea Top hat moving

24 hr 25154 BO 58.1 MSCF

8236 Q4000

waiting on weather for subsea

1) flt to connect wire to COP

2) lighter anticipated this Saturday

3) 12000 ft at well

4) Buoy to help production

all start Saturday

new lower pressure fl2 area

Relief well

17446 003 ~ 12600 6 ch range

5 ranging run

last 150 feet 6 ranging runs scheduled

7 day of drilling/ranging

5-7 days run casing

Guarantee

800 860 2442

28899

7/2/10

7/3/10 BP

HSE

Sys over 15-20 knots  
High VOC'S, need to adjust dependent  
one accident in garbage ship  
Containment

25221 56.1 MSEK  
16992 37.4  
8299 19.5

Pressure Blue POD

will be back up to yellow  
put jacket on 5° to 4° for flex joint  
pressure on riser through CDP manifold  
new lighter enterprise  
some of flexible on  
Permanent riser all done now connect to manifold  
thru flex line to helix - 3' foot seal well 7/7-8 for helix

Relief well

17525 feet 17600 - 75  
will go 75 feet  
6th casing run  
17824 is casing point

another

17210 true depth 50 feet.

Seismic line upon start

Capping stack in off shore

7/4/10 866  
BP call 819 7823 586 7631

Softy - one VOC expansion, 1 foot air

Sea state 20-25 knots, 6-9 ft j. better now  
could not lighten off enterprise  
will proceed down

Containment

25198 57M SEK

Blue POD up

main from jacketing of flex joint  
can now use 3 riser steel  
no program on manifold  
will begin back up @ helix

Relief well 17725 ft 13.5 feet from well  
casing by 7/7,8 one week

7/5/10 BP call

Safety - no injuries

Contaminant

24959 BO 56.9<sup>M</sup> SCR ses

Blue Pod at Surge

Riser System #1

a) final connection to MVD rigged

Take 2 cranes on BOA  
one down

b) QCOE hook up

64 bolt flange

take good weather

c) make up connection for riser #1

start 2/8

Relay well 17710 DD3

well

7th rigging run

W&A B not good, will do wire line

160 feet away from casing point

7/6/10 BP call Andy

Safety - 2 incidents dropped object into sea, Cascade cable broke

Weather - get worse

#16 moving into gulf

6-8 ft seas

10-15 ft seas thru Wednesday

moderate thru Thursday

Friday - 6 seas OK

Contaminant

lighting complete, OK for day

24,982 57.1

Blue Pod testing complete

dead man function not working

reinstated tomorrow

QCOE .64 bolt hook up

hook hook on 1200' flexible within hour

Sunday 7/11 started for Helix

Relay well

17710 rigging 12 1/2 feet away

7/20 ready to drill out; 10 days to drill & cement

6 day 7/9 - 7/15 good weather

riser inspection

7/6/10 Seismic call

7/7/10 BP call Decision Discussion on Sealing cap +

Seam still up ~ 7 feet 10-12 over mile

16530  
24769 57.5 MSCF

Blue Pod testing complete

Riser  
no program

Relief

17746 ft + drilling  
17780 plan ranging  
with one connection tool (#9)

17874 = casing point

Slide 3 Note of Sealing cap

4 Two options  
Seismic 12 day weather window  
Parallel 8 days  
3-4 days

5 Relief very end of July for kill

6 move forward  
start well string July 16-17

7. Pro's + cons  
15,000 B at low depth

8 Risks  
don't impact Helix

7/8/10 BP call 866 819 7823 586 7631

9:30 Gov 1 800 860 2442 ~~integrated~~ 63005

APPY HSE good reporting, just acid; some VOC DDZ

6-7 ft seam going down 3 ft by Friday

24574 BU 57.6 SCF

moving ahead

1200 ft seam picked up; hook to marginal, midday Friday

Blue Pod Friday

more 40 ft enterprise

move off Friday end of day

Helix run @ CDC hook up, on Sunday

Relief well

17780 ranging run #9 done  
+30 = range #10

Solomon worst case - no hook up

Tom Hunter

2/9/10

Well integrity test why in Houston  
2 reasons to question integrity

1) where did mud go

2) pressure is roughly that of ~~the~~ leaking at the 18 in steel

why still good

1) no evidence of release

Shot in procedure

first shot @ 4000 + Entegris

Close choke in increments

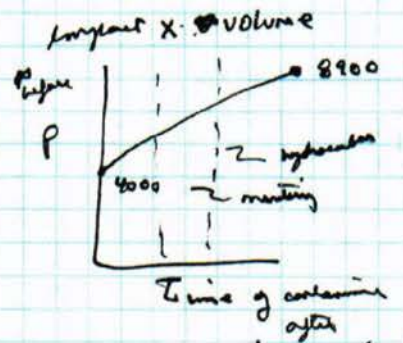
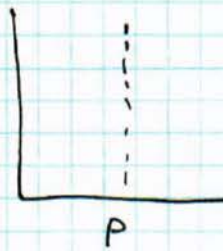
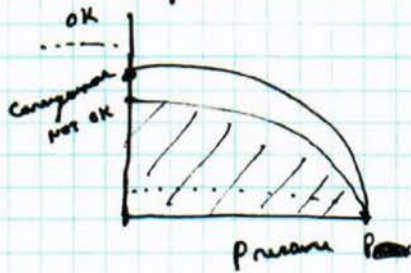
Pressure depletion

9350 - 11350 range

1. well proved
2. low pressure decision 6hr
3. high pressure decision 100hr
5. #1 monitoring well shut test down
6. middle TSD
- 6.

1) get absolute top pressure

2) flow would be largely through hydrofracture or fault



3) evidence of flow changes  
Sensors from ROVS

4) observable of flow after formation would be ~~possible~~ <sup>sensors</sup> or

5) it is not too late if you observe flow out into gulf

6) can see ~ 10,000 Barrels injection by sensor  
~ 24 hours latency

7) temperature can be a surrogate for flow out? how valuable is this

8) monitoring may be essential

7/10/10 @66 819 7823 586 2631

Topher off @ noon today

24792 / 57.3

sea 2-3 feet thru 7/20

1200 ft jump hooked up to pressure held

Blue P00

Solman

Relay

17810 1510 ranging

hole open

next 30 ft 17840 ranging 1511

47/8 Friday

002

47/8 15763

Helix lander 100% by midnite Sunday

Top hat off first.

30,000  
41x6  
7000 PSI

7/11/10 866 781 2495 5907809

HSE some evidence UOC - no more

weather good for 7 days

Depression 120

Continuum

Relay off 141500

15200 / 35.2

Q string at 8000

shut off plan

2340 p Bolts off

flange off

Blow plane away

lock 2 pipes

install modulus

Today

7 700 S.

Capping stack 2nd

75 tons, pressure integrity test Early  
Today

Helix

all engaged, any pipe work

noon start up 2-3 day ramp

up to 14 m60

Relay well

6.1 feet core + 15 - 11 2 1/2 degree 17810 -> 17840 range 11  
if another 8/1 ball of core 8/15

7/11/10

Relig well RFI response

① does see option to cement from macarudo  
given mud kill - is it a good idea

BP views is to cement upon kill

will always wait for stability

first cement?

is well really dead?

decision point — cement or not

do we shut off access from ODS with first cement

collapse down ~~where~~ where are they and  
where do they go

② installing 17" liner in cut of ODS

③ weight of cement  
containment  
leverage out LB

get 5 or less decision

7/12/10 BP call

no

Weather - good - 7/18

Q 8235 / 19.5

Estimate

TH 7 & 8 staged for collection

Balls torqued

Spill safe hook, cut cable

Stair 400 meters from well  
lowering at 90/mg

Cap stuck 10:20 in for latching

Seismic run

stage for test

start 6:00 am tomorrow

Helix start up

well open, COP managed fluid in 1 1/2 hours

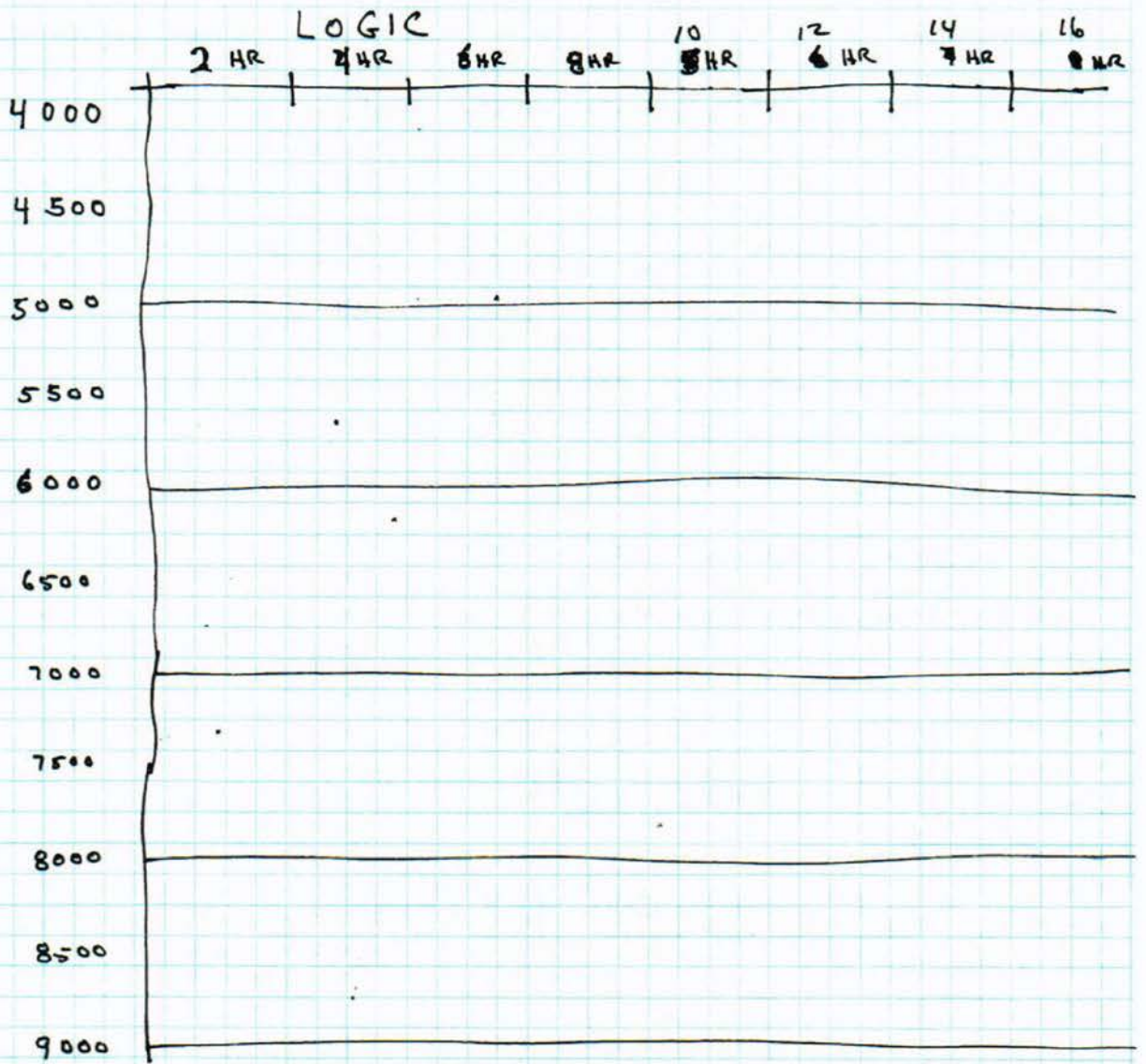
003 v

4.4 feet away

more ranging

Casing on Sunday





7/13/10

Seismic cell

Shell and mudstone patterns for fracture

limited sand to stop

18 in shoe 5300 psi fracture pressure

monitoring: leak

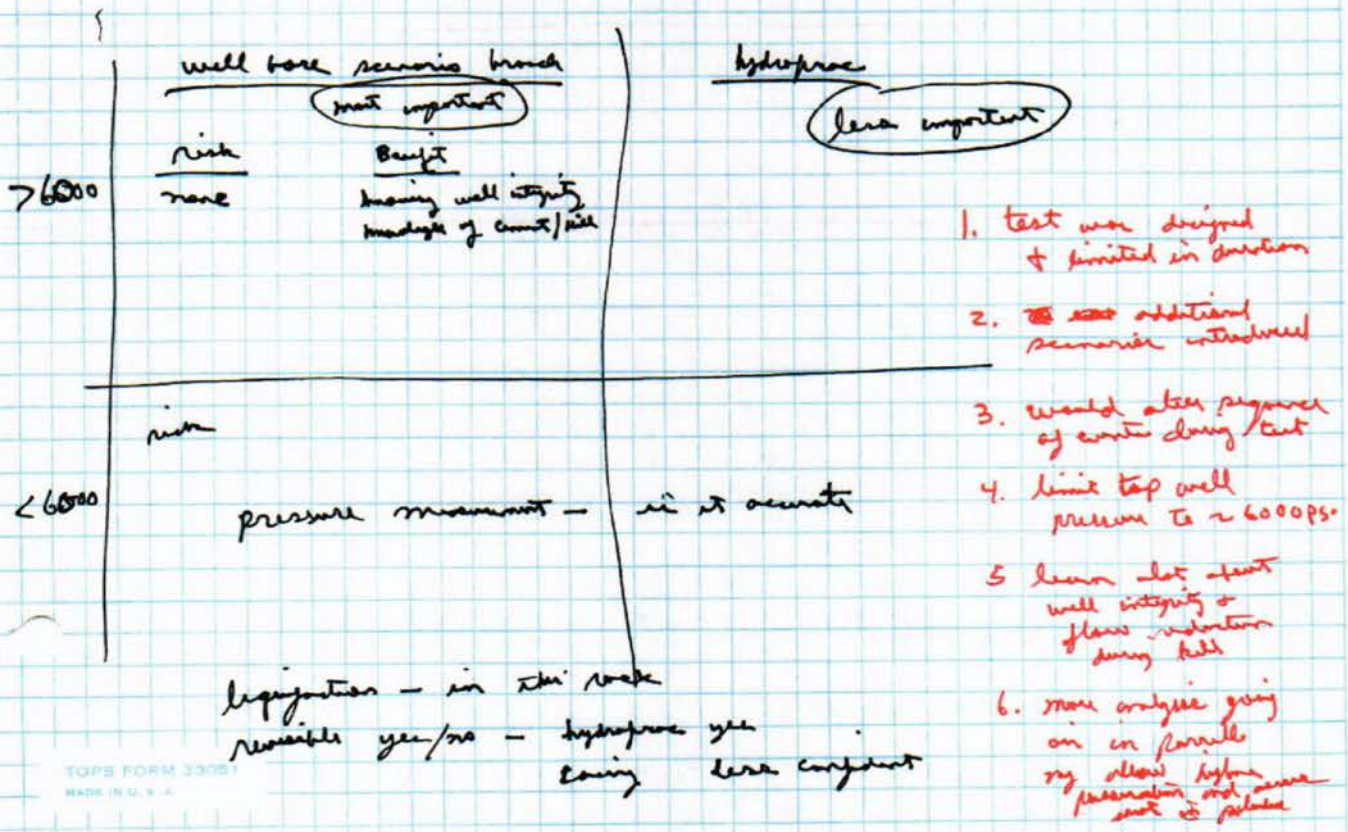
- ① - can leak in seismic scan
- ② - listening at BOP box
- ③ - ROV inspection
- ④ - ~~flow~~ S-mat scan several weeks

fracture around well bore

transient measurement?

slow shut in vs

terminate at 6000 psi  
up down



TOPS FORM 33051  
MADE IN U.S.A.

- ① describe scenario  
a) estimate  
b) =
- ② describe range of parameters w.r.t scenario  
value  
flow
- ③ assemble evidence of comparable phenomena
- ④ assess against macrodo well & lithography
- ⑤ qualitatively assess risk weigh ~~against~~ against gain  
is it reversible
- ⑥ collect ~~judgments~~ judgments
- ⑦ conclude

1. Pressure rating on:
  - 16 and 18 line hanger
2. Well logs
  - min logs, interpretation
3. pressure curves

pressure relief in annulus  
~~relief~~ relief at top in in hanger 18"  
 3500 from above  
 1500 from below  
 16" 6500 from above  
 5000 from below

7/14/10 BP call

ops - no injuries or VOC  
 weather - 2-3 feet 7 day look good  
 constraint Helix 12,000 50 psi above ambient  
 Q 7087

relief well  
 suspended until well integrity  
 then drill to casing point  
 17874 = casing point  
~~upstream gate - no~~

Industry call

Charles W.  
 Paul SA  
 Mark S.  
 Paul Sackert  
 Tom  
 Flemings  
 Kate Herr  
 /

Exxon/Mobil

important to communicate risk  
 agree on calculation, could be looking at 18 in steel  
 if line at top goes to bottom 22 = 6360 not apt  
 casing integrity different 22's 18 = 6680 so...  
 caption low leg in apt joint

\* 22 inch steel, 18 in hanger strength

3500 From above, 1500 from below  
 require steel @ 18 in to be closed 3500 = 6300  
 at BP

Barite plug  
 3 feet well plug annulus .05 barrels  
 low probability  
 cost very probability

Barite Disc  
 could go at pressure at 7000 psi

close monitoring  
 + ability to shut down

channel potential

not to covered with that if short  
 low volume  
 can terminate if needed, long term different  
 hours OK

7/14/10 (Cont)  
Summary

- monitor essential
- manage time with valid test
- internal observation
- ~~loss~~ of up of flow release of  
if flow goes down
- added at bubble point
- .....
- enhanced containment if necessary

Key features

- Barite plug
- Best disk number
- 18 hanger
- 18 inch ~~shear~~ shear

injection

- ROV visible 2 at sea floor
- ROV speed
- Pressure up or level
- No observed Bubbles Transients

Shell

not concerned over Barite plug -

if disc is ruptured

shut in 4100 PSI at 18 shear

if zone is open, don't know how much can take

will erode into channel

may not be full

if occurred will take time  
leak time

no plug = 18 shear

if shut in + only flooded in 18  
flow will stop in short down

conclude

already looking, did calculation  
more or over

Peter Fleming

if 18 inch shear is compromised, shut in will tell  
limit time

Mark

3rd top well

could have gone in fracture @ 18 inch

if go back to 6000, additional risk

Summary

Decision - Barite plug 18 hanger ... are real

can do damage not done

~~can't flow more up to limit~~

will need to limit time

~~BP~~

BP meeting on 2/14/10

Seismic - looker clear

12000 B well limit of wells  
20000 B well be wells

\* conclusion by BP - no observation greater than 12000 B  
Can do again

REV monitoring

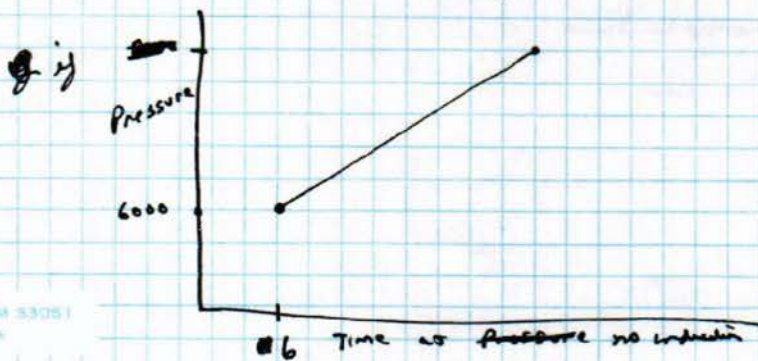
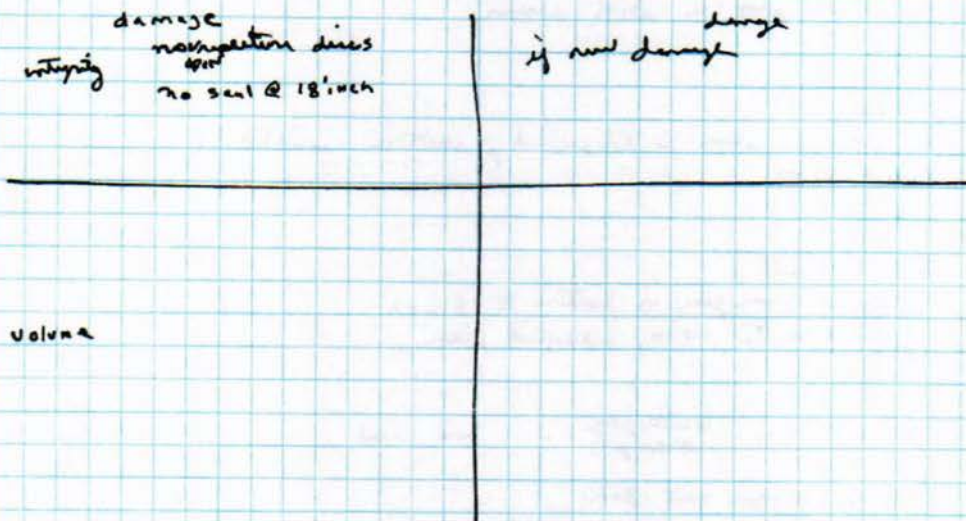
6 REV ~~data~~ dedicated - 2 well be right e well head  
+ other doing test

Coating & Hangers

18" hanger Total to 5000 psi - 6500 ps + 1500 = 8000psi  
Coating 9500 psi  
22" 8400 mud behind

Boresite - oil will flush out boresite that is retained

Rupture Discs - BP says ~10,500 psi  
Today



~~light pressure~~  
~~if no new damage~~

7/15/10 BP call  
Safety same VOC'S moved  
Sealing Cap  
Proceed  
4:00p Stock room  
replaced gasket 5:30pm today  
next open chokes  
shut well  
shut Q + Helix

Containment  
Q 12 P } 23 = 24K  
HP 10 P }  
antiqui has TAG  
pull up river

003  
4.9 ft away

7/16/10 BP + same call

WIT feedback  
BP = stable with low depletion ①  
planets !!

- US
- ② • flow out 18 inch shoe
  - ① • no new damage
  - ② ③ • depletion
  - ③ ④ • all evidence is on seismic based
  - ④ ⑤ • surface expression is too late

Carol

8/22

How

Call of Gov

2:30 position for 3:00

Decision:

- OK for 6 hr if
  - a) monitoring
  - b) seismic
  - c) anomalies (no)
  - d) NDAA

focus  
B contour

- 1. river casing flow
- 2. 18 in shoe
- 3. could uniquely determine flow leak, depletion + leak area
- 4. are consistent on aquifer for data
- 5. seismic is good, but next test will check if detection is good
- 6. if seismic chance is good for recovery

TOPS FORM 3303  
MAY 1988

7/15/10

Science call

1. Science ASAP
2. test duration of 12 hours
3. detailed analysis of depletion  
- Lab + BP
4. Job estimate of flow and losses
5. Research
6. Control monitoring  
- ROV  
- ROV Smart
7. maximize production

7/16/10

2:00 Houston sci call

no science evidence  
still ring pressure  
no negative indication  
could match full integrity  
110 ~~million~~ million barrels

- Reasons:
- 1) assume small leak not
  - 2) keep well closed - no ~~pollution~~ pollution
  - 3) better for hurricane
  - 4) top kill integrity

Leak flows can't tell w/o depletion

depletion w/o aquifer  
- why not gauge depletion  
- why not water in production



6:30 am  
7/17/10 BP regular call 866 781 2495 590 7809

Safety 1 spot and no VOC's

weather #22 some circulation  
10 days from gulf

Relay well ranging 12 1.9° 1.8 ft - a  
24 ft to net casing  
from test  
tendency now 98/2

WIT

PSI

Building 6745 +143 from start in  
Seismic processing - nothing  
all over  
ROV team - gas bubbles from  
nitrogen from cement  
direction is OK  
will delay 2nd riser  
some attention

7:00 am Science Cell

operational update

6750 PSI 2 PSI/hr

Seismic

comparison + difference

3rd line + NW/SE over

Well head

• Cement return volume looking

36 inch casing  
will get sample

\* NOAA PICES data  
Relay well for record

Principal call

SCI feedback

Weekend call with industry

go to 24 hour increment in decision, 12 hour on sci

depletion assumption

4:00p next call

7/17/10

WIT call 2:00p

NOAA PI&ES

working well as a technician  
no natural background in this scan  
\* Set up info system  
10 w.g. package

Seismic

not proving to reservoir  
staying at top  
7/13, 7/16 all processed  
next line not be a repeat of 1st  
no visible difference 7/13 vs 7/16

8:00p Hamilton

Principal call  
data looks good

Big questions

1. depletion  
water drive

Load scanning - need to review

WIT call at 4:00p

|          | CDT   | EST  |
|----------|-------|------|
| Scan WIT | 12:30 | 2:30 |
|          | 2:00  | 3:00 |

4:30 science call

Common not to have aquifer drive  
not many reservoirs

water drive

what is the impact of water collection

a) what can we do?

- 1) Seismic scan - get new team
- 2) get BP data on seismic
- 3) BOP

8:00p Sci

4 attempts in seismic 1 successful too much current  
GC stuck no indication of change  
6 runs of PI&ES

get data down

7/18/10

SCI - BP - WIT

wing higher gas reading

BOP

cannot vent line slowed down

bubble edge of conductor

no hydrates

will test

NOAA

natural seep?

3 km

near rig well

Riser connected

not ~~started~~, need time

restart - from stop flow to start = sand

1-2 days likely; 3 days

unload well to allow old choke/kill to start from a lower pressure

well logic

depressure

start Q, Helix 1.5-3 days

build up flow - open ram

put on extepruge

need clear Pisces guidance

7/18/10

SCI - BP - WIT call

Seismic info

did nearby seep near rig well

from line 2 news

no obstruction

NOAA Pisces

is over head again

is now going over region at well

seep at 3 km away

gas above well head?

noise above well head, not

will send ROV

get coordinates onto system

no issue with access

\*

mobility

1x aquifer - but fit 40K

2x aquifer - but fit 60K

but fit

Start up/Cont  
3-6 days  
interference  
from seismic

12 hrs  
upto 24  
if anomalous

7/18/10 Science/BFP WIT call

Log of Pisces

Seismic

line 1+2  
two times Topaz

"outstanding" data may not want to charge strip

SONAR

more detail

look at nearby seep

Pisces location accuracy  $\pm 175$  meters

since seep identified could be nitrogen bubble

ROV went to exact position didn't see anything

- 2) we do have a bubble stream
  - 1) the detection in Pisces will detect
  - 3) we don't know exactly where it is
  - 4) it could be the well
- likely to be the well bore = BP

Detailed Seismic

7/16 7/17 comparison no difference

one anomaly probably pre-accident  
will need to compare with original 3D

no change between 7/16 & 7/17  
about 1 km

width of line detection  $\pm 80$  m

$$\lambda = 1900 \text{ m/s} \times 45 \text{ kHz} = 80 \text{ meters}$$

#1's = pre 7/16, 7/17

2nd 7/18 done  
poured

#2

No suggestion of gas

RFA

Pisces 1st

2 line 1+2 2nd

calibrate crew ship 3rd nicola

Modeling

- current pressure can supported by a reasonable set of variables
- can we use pressure time data to differentiate high & low level
- gage

7/19/10 BP Call regular Some #  
wade #22 still biggest threat  
north of Puerto Rico  
Gulf next few days, likely stopped storm

Monitoring  
now 11 + 7

Integrity  
Pressure continuing to build  
ROV watching, odd going up higher  
Seismic looking good

going forward  
Pisces stayed offshore  
2 more seismic

Capping stack  
in main body - metal to metal  
gas leakage concerning  
gas bubbles per record

what next  
given 6800, margin to kill  
assume well can do 8000  
have developed method  
will recommend

allow better diagnostics - Thursday @ 4000 on Friday  
1000 - 2000 Barrels

casing in relief well, not cemented  
hydrostatic control plan

003

at casing point 17962  
pilot rigging none 4 feet away  
will run

run casing unbanding  
will get number end of July start 6-7 days  
casing chemistry, kill

contingent  
after Tuesday, each day will be delayed by seismic

\*

SET UP SCI MTG TO REVIEW  
SANDWICH?

7/19/10 Sci/BP call

①  
gas  
in new  
BOP

gas bubble 14% methane  
leak or capping stack  
30-80 bubbles/m, v/c on 5X

all in flange between cap and FCS  
occurred in last 48 hrs

Seismic

have line 1  
ready for line 2

line 1 6 tones 5 present  
2 3 tones

8 lines in 4 days

\* Need mtg on monitoring path forward

Seismic

line 2 good first run  
no observed features  
option to look at 2000 3D data  
more confidence  
no observable change since 7/13

②  
Seismic

Seismic

Swamp in 3Km + v/c  
likely saw well } feature 1  
deep at well

③  
Seismic

\*

if 2nd leak we couldn't see if within 100 meters

\* → Kate - in the corner good in region of well

④ Monitoring  
vs comparison of 25 meters could  
see evidence

⑤ analysis

don't agree on interpretation working to resolve differences  
at next conv

⑥ Hydro Kill

setting up review process for Sci team review

Call tonight 9:30 EDT  
~~10:00 PM~~

need close out for anomalies

gt

TOPS 33051  
MADE IN U.S.A.

7/19/10 Evening 8:00 p Houston  
Sci + BP

BP  
Tina  
Mirsha  
Kate

bill lin pressure 6811  
1 PSI/hour

Flow

horner plot slightly up  
more meeting

late @ phase

no support 40 B/m.w for leak =  $5 \times 40 = 200$

Seismic

line 1 and line 2 run

2 line tomorrow

3rd line over sep approval

12 line done all but one interpreted

USGS agree (Kathy) no mammalian

ROV sonar

test run over at air can at pretest run  
675 kHz

saw signal @ 40 meters

need more confidence in ROV sonar  
have more pieces coverage

Analysis

lead out more complete (not consistent logic)

close out case of anomalies

BP ~~did~~ did a July 1 case

Gov seismic

Center plate

Estimated maximum about 85 hours

Sands are compartmentalized, likely to have acquired drive

Bill Shedd

7/20/10 BP regular call

Monitoring  
the anomalies  
more seismic interpretation

rely well  
opening hole, now casing tonight

static kill

containment

Weather

#22 increasing 80% to be tropical storm, likely hit  
now in good shape Sunday morning

what are options

① 003 longest time

may not run casing to leave Saturday

counting + casing = 48 hours

3 + 5 + 5 = no casing = leave on Saturday

② static kill

not a good idea to go without casing

Q also will want

collet yellow

(deferred)

③ containment system

run #2 to BOP

continue

\* Decide to depressurize Wednesday night

Last time to depressurize

focus on decision to leave

then do ST



7/20/10

Kill plan  
standard plan

- ① 2 cements
  - a) annular
  - b) flow

Check line only - no change in plan

Kill available for containment

- ② Pressure @ Shell
  - a) leak
  - b) leak

1-2 BBL/min

max exceed 8000 psi

- ③ operational impacts

why DD3 casing  
need cement + casing?

- ④ time of pressure

Cement not a must do

- pressure / annular ⑤

\* decision on casing vs annular  
in DD3

WIT BP - SC1

Pressure ~ 1 psi/hr  
6825

Leak

new leak in old BOP  
upper annular BOP  
may have gas cap  
Bubble count not changed

80/min per leak

new = 2E  
need diff. with  
2D until 6/13

Seismic

more + better processing

line 3 pickup today

14 / 11  
steps - completed / processed

2F + 1G today

\* Can do seismic tomorrow

Sonar

doing test collection, getting a gas bottle reference source

need Pisces + ROV

No need  
inhibition  
mainly on casing

another ship on way for Gas Bottle

{ Can see annular  
leak

will shift to Pisces - - NO!

narrow down on processing can get better accuracy, line split

Analysis

horn plot

if leak?

if depletion?

if aquifer drive?

Decision: 2 seismic tomorrow

ROV + Sonar in field

TOPS FORM 237  
REV 01

7/20 Principle

weather update

if 5% change will begin moving ship now 2-3%  
net production 200 EST 8:00 net

2 paths  
fill

lead  
on one

24 hour OK now; standard timing  
decision on monitoring

\*

7/20 Seismic/BP WIT

6834 psi

Sample

14% CI, nitrogen net

Seismic

Sonar

will change to Gunter

Analysis

could agree on ~1800psi depletion

gaze may be predictable in weather

can assess leak as ~5 MBPD

5-10 GPD head

0-5 BP head

Decision point

Seismic analysis

if 150 ft x 20 ft

case = 0.6 - 1 days if circular

= 6.5 - 10 days if elliptical

Taken about a week to see ~5,000 - 6,000 B/day

likely earlier  
of leak

Decision point

\*

Sonar

many passes

6 bright out of 5 maybe hydrate

{ no obstructions

more passes

Gunter 1700 Tomorrow

7/21 BP call

866 782 2983  
620 6111

Weather

track may be elsewhere

Containment

have done nice cement

STEP out

- 1. DO3 back, run casing 1 day after 2 days static kill  
could double 6 am - 3 days from now; Saturday  
2900 over to manifold - 3 days

Static kill done by 12:00 p Sunday  
9:00 am

area where top kill will impact relief well

\*

send note to principals about results of seismic call  
still thinking on key decision

7/21

Static Kill why  
will it work or likely  
what could go wrong  
how could it impact other

me

flow annulus vs casing  
pressure at casing vs (X)  
a potential impact  
true response of pressure

$$\frac{13.2 \times 2.2}{8} = 3.6$$

$$\frac{17.6}{13.2} = 1.33$$

$$\frac{4000}{1.4}$$

$$\frac{2647}{5000}$$

- 1) experience in other wells  
hydro carbon vs sand  
yes
- 2) storm = 2 week delay  
8 days, 2 days away
- 3) pressure in manifold?  
can we get them
- 4) test case open?
- 5) mud + cement? in DO3
- 6) relief well impact
- 7) diagnostic summary
- 8) impact on containment
- 9) how to we get flow into

13.2 b/gal  
mud

all choke side  
1700 depletion  
assumed

Stem OK  
Katie OK  
Duck in early  
not as abundant

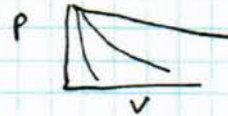
George  
on test OK  
also again after annulus

Doug  
OK, cement?

Alex mid OK  
Will OK  
Kevin OK

2nd call

1. annulus vs casing diagnostic
2. can we make an estimate of depletion
3. could we get top kill + annulus by DO3
4. Go/no decision



865 297 1124 438 553

- ① Maximize diagnostic
- ② go/no go exp cement
- ③ pressure response
- ④ Government step - who

9/21/10

Evidence to support staging

monitoring  
during

often no return at all for post reling.

Post

absence for monitoring  
absence for action

if observed

open

closed

\*

DD3 will kill from ~~the~~ bottom  
extreme case will result in kill

7/21/10 11:4M call WIT

pressure still rising 6848

Sonar

TOPZ #2 done

M&Kola engine problem -- likely

/12 line done /11 processed

no sound

one ~~small~~ small, no change @ 2000 feet

not indicator of impact

no velocity dip in any of 11 processed

more info - no ~~type~~ impact

\* Tommorrow monitoring

20 lines

Gunther near field ~~2000~~

Sonar

high ~ 95% coverage

other well consistent with this well

good cover - good signal - no observation of concern

7/22/10 BP call 866 782 2983 620 6111

Weather  
23% of tropical @ site  
003 will decide when  
a) 11500 @ noon  
b) weather ~~at~~ @ noon, pull  
c) stay litest - earliest evening  
stem ready to be batch  
Q4000 will go afternoon  
Saturday noon arrival  
August 1, 2 if unmatch  
Wed, test Thursday

WIT  
3 passes of seismic  
2 for today  
center day trials  
6863 mining  
no negative indicators

Contaminant  
no change  
- weather

Static kill;  
dynamite

WIT BP/sci call  
Pressure 6862 < 1 PSI/hr  
Temperature check if same ROV

Hydrophone  
good data system  
which can go over stern  
80 days  
need to arrive

Seismic  
line 2 done, 1 in progress  
all other proceed  
Nuclear now approved, ready  
line 4 300 meters to north east-west  
line 5 priority

more data  
no anomaly

Gov ✓  
BP ✓

analysis

Tomorrow  
line 1 & 2  
line 1 & 2 } 5 runs  
line 4

+ Gutter at least 1 & 2 2 runs  
all yesterday at week station  
start 2130  
PACES Friday

ROV's Sunday AM BACK out 32 hours  
No real time data for 32 hours  
6

Sonar all PACES all data in - no anomalies  
Gutter being checked out - weather & problem  
most OK tomorrow

No new data - @ well  
PACES = no matches

7/23/10 BP call

Weather Bonnie

6:00p last site division

Transman detatch 6-8 pm

DOZ detatch 11pm

} 10-12 day impact

Q4000 detatch LOIS & pull yellow pod, leaving today  
some seismic impacted

geophone on seafloor

Trying acoustic on pressure

Storm 2 am Sunday, on hole Saturday night

Schedule

mid monday start

Tuesday run river - Sunday (next) back to clean up hole

DO3

Static Hill - wed Thur ~~next~~ following week

monitoring

Pressure 6876 1/2/hr

Visuals - no worse bubble

GURTER - some problems, not in field

PISCOS - back in port - Aug 2

TOPAZ - ORR

Biscrow - in key west Tuesday 7/29, replace GURTER

NOAA  
stop 6:00 p

vessels Tuesday, wed  
Sat, Sun, Monday

Black

SONAR 7/24-26

Seismic 7/24-26

ROV 7/24-26

ACCESS

SONAR

Temp

} open up on 27

Thur = 29  
Wed = 28  
Tue = 27

Stim

① BOP d 3.2.7

② Flow cell depletion

③ new pressure in SDT

④ Seismic run after storm  
with marshy  
on 7/27

⑤ DOE server down 6pm - Sat  
6am - Sun

other area

- replacement for Mast Regen
- reform rigids
- cyber security
- energy efficiency

help with  
Puzle  
like that

7/23/10 WIT SCI/BP

Status of OP's

002, 003, Enterprise

↓ ↓  
Delayed

Q4000 - detached  
yellow pod will pull beam tank on

Seismic vessel

Sonar

GIWTER will move off

ROV ships

24 hour prior

Pressure/walk haul

6881 PSI

Leava  
Bubbles - more from BOP stack

TEMP  
study

Anomalous  
only new - more bubbles  
new 1/2 hour

Seismic

1+2 yesterday, loaded

Both ships run

#4 run by N. Kala

#3 yesterday

#5 will be priority

Sonar  
• Early Tuesday

GIWTER will make a pass today

Bigelow

Platform

Seismic

Monday

one ROV, monitor pressure, T, and hydrophone

Modeling

New statement on question 1, 2, 3  
and #4 to include Seismic, Sonar

New Name  
No anomalous gas ✓

only new data  
No anomalous

test  
of  
sonar?

try for  
seismic

good  
beats

\* decision

BP call 7/24/10 7:00 am

Weather

36 hours ahead of schedule

max. temp

BOA deeper + challenge

Ride out

no anomalies

no ROV routine monitoring

DD3 6 hours away

will move on  
over river, latch on  
sunday, monday start

cont. Wednesday (next)

run seismic line with TOPAS prior to @4000 & yellow red (#8)

mid day monday latch & run on DD3

more weather coming

Contaminant bill out, maybe monday

- \* Oil companies will set up \$1 Billion fund for leak containment etc
- industry consortium
- need technology development with national labs } offered by BP
- ack and labs, good words

BP call 7/25/10 7:00 am 866 782 2983

Weather

Storm thru

Monitoring

2 ROV monitoring pressure same ~ 6900, no anomalies

25% cover

DD3 & DD2 will move

DD3 1000 feet away with lower river & ~~start~~ latch tomorrow

will run TOPAS E/W seismic, pull ROV off for 4 hours

@4000 will follow - next two days

Setting up HP again

2800 complex at line will be priority  
will need to sequence with seismic

plan is good still

run liner on DD3 ~ setting earlier

State bill Tuesday/Wednesday (next week)

not  
for cap  
could be  
1/2 psi/hr

BP call 7/25/10 7:00 am 866 782 2983 620 6117

Weather forecast looks good < 5 feet 10 day good

full monitoring initiated

pressure 6914 no visual rate change in bubble

no anomalies

lim 4 today

@4000 has latched yellow red

DD3 latched by noon, then check out hole

DD2 24-30 down behind

TOPAS p.c.s 100% ready

Contaminant bill spend on 3 in OPS

Seismic staying with THAS

State bill Tuesday/Wednesday

revised schedule sent out - when issued



7/26/10 Sci/BP WIT call

2:45?  
WASH 3

BP

pressure 6918 PSI

ROV Sensor  
force to full

Samples 77% nitrogen

\* stop collecting @ cannot unless rate change  
get data in system  
Geosher no anomaly

Sample

BP line 4 this am

line 5 yesterday  
sample analysis from Q4000  
processed image nothing indicated

Geo ✓

new (3)  
analysis  
no  
anomaly

21+1/18/17

(Geo) line 5 no anomaly  
very encouraging

Some

no  
Pisces  
anomaly

full access of Pisces & Goutier  
will look at releasing 1 more  
hidden sample test ~~is~~ not done, will retest  
Goutier - no data  
Pisces - max on 3km to SW, 4.0m didn't see anomaly

Analyzer

good meter

must be less than 5 mbd BP  
10 mbd would be detectable

good estimate of about 1m/ hour plot Geo  
complete pressure match B  
agree with BP

will find acoustics

good method to see changes  
low frequency + high frequency

7/26/10 Sci' Cell Lab Flow analyses

7/27/10 BP Cell

H2O - good one ship dropped off last DP  
weather - no comms < 5 ft - 10 days

WIT

2 lines P0042 + Pisces

All indicators good

Goutier back to fishing ground - on lower

DPB3

displaying river, full ~~river~~ ~~river~~ packer, interval @ 9.10 about

CO2

2600 and good sea

Q - new drill for well

HP - car 30

static kill could be weekend

7/27/10 WIT BP/SCI Call

Pressure 6928 14 psi/24 hr  
no change on hammer etc d

ROV Sonar

no anomalies  
do test this PM, example shown

Leak

no change

hydrocarbon change  
parallel bubbles

Temp = correct

Swim

Topaz line 1 this AM  
working on line 2 - may get it  
Nicola following getting high on  
line

no anomalies  
of camera  
of Gov

~~26/22/18~~ 26/22/18

anomaly near 22 casing - not thought line 5

no anomalies on Wednesday  
2 attempts

1, 2, or 4

Surge Sonar

Pier all good, Biselows on 7/30, P. sees OK 7/29

Thursday no sonar from Surge

make pore

Well had Seismic anomaly  
continuous monitoring  
no data

nothing  
around

nothing

7/28/10 BP Cell 866 782 2983 620 611

7:00 am  
no activity  
Weather - no rain  
WIT - no anomaly  
6937

Relay  
DD3 circulated out, pulling power, am to bottom hill still 8/10  
DD2 better behind  
@ 4000 batched have hooked up  
pumping equipment  
anomaly

Timing  
Event Saturday - static kill Monday Tuesday  
Sunday/Monday possible  
need 3 days to hook up river for containment  
2900 flexible

7/28/10 WIT BP/SCI Cell  
well met  
press = 6942  
Some ~~at~~ ROV - no observation  
Cyanide - no anomaly  
Hydrogen - " "  
Temperature - small specimen  
Bottle cut - stopped will be repeated

Science

none today  
yesterday  
line 1 done by Popaz  
1 + 2 done by Popaz  
data received overnight  
Nikola better resolution than Popaz  
Gas leak at line 4 + line 5  
no observation at 18 with steel  
small jacket @ 22 with casing

Summary (Cyanide & ROV)  
decision tomorrow on Nikola & Popaz

Some  
PISCES showed in last 24 hours  
some with dead specimen anomaly  
consistent with BP observation  
no anomaly

Telecon ant/muda/will 202 287 66 BB

6 groups  
Lehn - PIV  
Mickley - Reservoir  
Guthrie - Nodal, MESA } 4730  
Bower - WH01 } 2745  
Shein - RERS  
R-TE-1 - D+E

VG: by 10:00 am PDF  
Time Friday 12:00 30 ~~12:00~~ Harrison

7/29/10 BP call

HSE - first aid only

Weather - OK next 10 days

Pressure 6951

New Summary

DD3 at total depth

no casing tonight cement on Saturday/Sunday

Saturday late for initial state bill

Q 4000

all pressure tested

Letter from Superior Energy also sent ground Mr Campbell

\*

Day should attend

7/30/10 BP call

Safety

Weather 7-10 days of good weather

WIT

DD3

will run casing Sat/Sun

SDS = ~ Monday/Tuesday; late Monday

Contaminant  
anxiety

State bill

no

① test for bottom hole

② more ~~well~~ steel

③ reduce flow to sea

need to eliminate U tube pressure on sealing cap

④ diagnose well

can

• presurization

largely with injection  
to get formation moving

• cement

need certain signature  
if water, no

7/30/10 10:00 MDT  
WIT BP/SCI Call

Well Base

Pressure continuing up  
Temp back to ambient  
more welder cut around conductor } more samples  
" " out of flange }

Samin

no new interpreted data

\*

awaiting TOPAZ release

look like N.K.1a

- better at nash levels - especially seef (40-80)  
- " operationally USGS named BP ..

Surface Sonar

Test

1 hour on Pisces  $\pm 12.5$  total  $\pm 32$  meters

ROV, pick up good magnetar

no change in amplitude at well head observed

now Bigelow only

7/30/10

① Flow discussion, 0.05 release

PIV

can get the entry surge velocity  
major uncertainty in average velocity + surge  
oil to catch solid

circular cross-section

Range 24-40

BOEPD

~~point to PIV initiation~~  
Post run cut

chart 9

42-49

② Initial Reservoir Calc

did 116 days to 10 years

have depletion pressure  
more pressure well base

Table max 60 LWT

33-63 10-90 mean of 54

some outliers up to 102

get Paul S with this group

③ Nodal term

Looked at various terms up to TGP but in place

- \* May not look at impedance in BOP
- may not look at annular flow + casing flow
- Range based on high versus low areas

Slide 48

Can't figure out scenario 4  
good results to compare with solution

④ WFOI

Beam creation is very irregular

sample 77.9% methane

43.7% liquid 56.3% gas other use ~ 40% liquid

Normal GOR @ 1 bar  
what did other assume

Time = End of Run + BOP Hink

see there and get volumetric # for velocity

59,200 BPD mean if pressure 54000

47,900 - 70,500

⑤ Pavl

depends on compressibility

⑥ DOE ENG

## Summary of Results

|                         |                          |                 |                |
|-------------------------|--------------------------|-----------------|----------------|
| ①<br>PIV                | 24-40<br>42-49           | ○               | at change/kill |
| ②<br>VIRTUAL<br>RESERVE | 33-63<br>54              | 54              |                |
| ③                       | SCAN 1 3 50<br>SCAN 2 84 | 34-60<br>52-115 | 50<br>○        |
| ④<br>WIP                | 59,200                   |                 |                |
| ⑤<br>PALS               | 53-64 Linear<br>51-60    | 58              |                |
| ⑥<br>PALS               | 53 ± 5                   | 53              |                |

- ① depletion vs time
- ② flow vs depletion
- ③ flow at change

7/31 BP call

Weather have 5 days  
no returning OK

DD?

17808 just anomaly  
back normal

17864 depth not OK

run casing this PM

Commit Sunday complete Monday

inject test Monday

State kill only

not today

7/31/10 SDT call  
Oxy blowback lead

Major Question

what is really the injectivity test  
what will have oil do

500 is reasonable

MVD in casing + oil in annulus  
will it pressure anywhere in well

how to stay dead

\* Margin of well components against pressure

Commit

do if casing only

do not if not sure of casing only

stay left of orange (kill string + casing)

\* premature setting of setting  
properly tailor cement

get the response laid out

be sure to flow mud out <sup>into</sup> of formation  
will you get a barrier plug

BP very deliberate decision process  
cement can be formulated

Mud in relief well will raise casing stress 2200psi



2/3/10  
Flow Call

Flow visualization

could be in high 50's at day 45  
with higher oil content

Reservoir initial team  
annular flow 58:KBPD at 1 day  
12% for 1000 psi 52 → 87

NETL

15-20% for depletion

11800 → 10000

Consistent with 60

WADI

got 64000 at day 1 by evening 59 @ 5/1

DOE

53 - 65

8/1/10 BP call 866 782 2983 620 6111

Safety - new first aid, emergency trend

maintaining

no propane, issue at flange, leak on tender side

6980

seminar

2 pages

Sam

8, yellow

Rov

DD3

Bottom rock, Commerce County, complete trends

State Kill

Tomorrow - planned

Review

Pressure profile, count, margin

Weather - 29 & 30 4.5 days on decision time

8/1/10 call SC, +BP

State Kill

3 viewgraphs

Alex ✓

Kate ✓ count?

Dick ?

George ✓

Doug ✓

Steve H ✓

BOEM ✓

need seminar on relief well intercept  
get visiting options

8/2/10 BP call 866 782 2983 620 6111

HSE no news, heat is bad  
weather H29 90% of tropical storm chance likely east coast  
mostly 4 days  
another behind

WIT  
no anomalies, no negative indication  
see report

Relief well

97% completed, complete ready, rig maintenance  
drill out Sunday

Static kill today  
better than count guard  
mid afternoon

Build out

after static kill

not tomorrow morning

(Travel to Houston)

not ready for SOT - valves leak hydraulic in new stack

8/3/10

Static Diagnostic Test

AM ~~wait~~ wait

PM inject mud  
pressure down to below 4000

8/4/10 Decision on Count decision

9:00a met with industry

10:30a met with BP

12:30a met with industry

3:30a met with BP

give approval to commence with count

(return to ABQ)

8/5/10 Count operations

8/6/10

877 225 3244

5

67 3584

BP call

DD3 internet next week end

DD2 standby by

Count

top at 12060

will do main tomorrow

contaminant

modest but wait till relief

8/7/10 BP Coll 877 225 3244 567 3584

Some just air  
Some bubbles  
no emanation

003

2° inclination range now 14 done  
30 ft to be drilled 3.9 ft away +3 ft  
-1 ft

Carry out 100 ft above

Blue Dolphin going back  
if drill exhibit internet = Thursday plan = Saturday  
Contaminant ships ready

State Hill

did test 1439 1454 passed test

7:38 test commenced  
done in 1 hour

Weather watch area around Florida

Current prescription test 1 8:45 a MDT  
passed 10% criteria again  
stabilized near 4664 at well head

8/8/10

no major test  
monitoring no change

\* 4486 well head

2 psi drop since 4:00 p

Seminole today

003

30 ft drill  
will now range 15 thru 16

17969 internet

\* Blue Dolphin released  
to it only, note

Pressure test  
shot BOP in

good

weather

low pressure over Florida  
could be from tropical storm

rich  
will you manage the analysis

look at it

Troy put together P+A

8/9/10 BP Call

Seeing Bubbles out of well

Seismic not today, not interrupted

DD3

17909' 3.8 ft away not run gyps  
run hole to another 30 ft, range, then 30 ft, next, drill  
across now to another below measure about 7 7/8  
could break down, not planned

Contaminant

all study by HPI + Q, not entering

Weather

10-20% over site  
DD3 won't move

pressure

3.9 psi/hr  
will keep pressure up  
4392, may go higher

8/10/10 BP call

operational issue

HSE OK

WIT

4284 psi

DD3 pulled bit, set storm packer 24 hour + 1-2 day if storm

Weather 50% chance impact DD3, will not move off  
will be moved

issue

interest 1 scenario

propose test

~~hydrocarbon~~ hydrocarbon

hydrocarbon in annulus -

mud in annulus - no problem

propose test - near ambient test

Robin  
Dwyer

8/10/10 Sci/BSR call

Scenario for migration if interrupt @ ca 15.8 mil in DD3

gas ahead with ambient pressure - given by Steve Chui

2500 psi 4 hours

begin Thursday

go to major review

8/11/10 BP call 877 931 5478 1899095

HSE same incident

Leakage on system

Tighten up stack

4500 psi 5 psi/hr, bubble @ flange

Choke ride hydraulic

Seismic no plan

mounting failure

DD3

debating storm strategy whether to displace  
set storm packer

contaminant

decontaminating line on Q4000

weather

#34 = depression HS barely depression noted

over site midnight - 4 am

Lower sea state

the ~~sea~~ state at Q4000

NAT tomorrow late

\*

Swim call on Friday

\*

review BOEM before

Relig well

3-4 day before intercept Monday-Tuesday

Iden S logon - relig not relig well question

BR - Curried well in different condition

8/12/10 BP call

4300 psi, 5/6 psi/hr

no anomaly - Temp

DD3

release storm packer

will run back in hole

12 hours to bottom

Decision to start late

to proceed

still in same condition

intercept  
Tuesday line  
if go

Q4000 OK

start test @ 1200 NAT Today

take 4 hours

8/12/10

Sci. Team call P&A process  
review vj's

\* log in well can determine fluid  
need major focus on annular status  
04000 will pull casing string, LMRP, BOP from horizon  
if 20 removed 6 hours  
#4 connector will hook to 22 inch casing  
how to get cement below ~~the~~ injection  
won't

? how do you ensure that cement will go down  
will you pressure without knowing something  
ensure don't rupture between holes  
shoe at 9 7/8 takes 16 # mud

? do we need cement below 12100  
connected <sup>not</sup> / ~~connected~~  
need assurance of cement or connection below 12100

? next lock & down ring  
? drill out cement to between 11 7/8 & 9 7/8 shoe  
cut casing & pull more cut

testing procedure

1000 psi down, at each place  
10% for 15 min why not go to 1 hour

Bottom hole may not put cement in lower annulus

OBSCURE

get ~~cement~~ cement below 11 7/8  
doesn't get below 9 7/8 necessarily

don't allow formation to ~~be~~ interfere with minimum time  
for removal of one BOP to DOZ BOP on records

What is objective of shift

calculation of collapse of casing

calculation of ~~stress~~ uplift of hanger neck

8/12/10 Sci + Industry

Concerns:

- 1) Static Kill indicator would isolated from reservoir casing flow likely  
does not indicate communication on w/ the other
- 2) cement test  
if oil filled depress study on casing
- 3) how do we get oil in annulus if unconnected to reservoir
- 4) BOP removed or not

not right

small rise

more test

- do, part
- continue annulus ✓
- can't determine annulus collection
- do

relief well

- continue - ~~most a certification test on BOP~~
- will work/assist
- allow pressure to higher lower level
- annulus lower reservoir allowed

could do again

3 UPSIDES decrease achieved by relief

- pressure
- cement lower
- fill annulus

remove BOP

- do/dont
- get to state sea water and show for more
- sea water bulge
- need more evidence

river with complete integrity BOP

need certification that for a few days, at ambient, contained

- certification test
- arrived dead annulus before BOP removal, evidence
- cement below 11 7/8 shoe

- lower cement by relief well
- ability to pressure more on top of seal

8/13/10

877 931 5478

1899095

© 2438 PS NAT

11 Barrell

no well integrity anomalies

2465

2673 @ 6:38 p

2696 1:50 a flat

Relief

17864 sitting at 7 3/4 shoe

8/13/10

BP view

STATUS Kill + Cement

Cement in casing  
also in annulus

Relief well could ~~be~~ cause pressure  
not in high

can test stock to cement

then can remove BOP

there ~~is~~ relief well

our view

Test

Relief well

BOP removal

Disagreement

1. hard to mitigate relief
2. relying on hazard list  
and status of annulus  
presumption  
risk of one barrier

1. do what we can agree = Env

2. work ~~two~~ inner

a)

b)

3. DOB will wait.  
will do in any case

Sci Call  
to confirm

My discussion w BP to resolve  
conflict 8/13/10

Andy I, James D, Tom H

800 3204330

210210 #

agreement

time to do that  
cement

can do ~~the~~ test

Thed  
Selzer

830 EDT Tomorrow

+ later tomorrow 10:00 EDT  
same # as above

\*



Principals call

8/14/10 BP call  
no membrane

Bubbles 30/30 minutes

003 + 002 steady by

Weather

25 moving inland, no major impact

discussion agreement at 4 points of guidance to come from Jhad

BP agreed to do Relief well no matter what

8/15/10

Schedule

HSE all OK

WCH

2494 PSI LB PSI in last 12 hrs

60 Bubbles reported

003 steady by

flow from @4000 to HPI to get mud out

HPI operationally ready

ready to flush

Weather

6-8 for Tuesday

no plan for movement

Science Team to Drill Oup yesterday

Got better drive agree with "force relief well" will do in any case

Schedule

~~weather~~ weather will determine

will avoid on engineering for pressure surge

must abandon 002

(4 days)

40 day away from intercept

could drill now, it could be temporary

Schlager raised question and agreed  
run post see Scher + Thad Allen

Can we get schedule even if rough - yes

8/16/10 BP call

HSE only hot shower

WIT 2461 psi 1 psi/hr <sup>HR</sup> <sub>dup</sub> bubbles

NOAA every 2 days

DD3 studying

DD2

doing temporary abandonment

HPI flushed, ready for contain

Q4000 preparing flush for BOP

Weather #5 off Ramona city will see 6-8 ft wave

flush Wednesday not Tuesday

go through night level plan

flaring - will ~~open~~ open lower zone  
may not be able to see danger

\*

will need to decide on length of shut in with pressure

8/17/10 BP call

2424 1 psi/hr

DD3 pulling up to do regulatory BOP call

DD2 procedure for BOP use approved

HPI flushing

Q4000 preparing to flush, will pull horizon, will need to make ready  
containment

ambient test

can start flushing tomorrow

Weather

4-5 day window

hurricane ~ 10 days but not cont

BP ~~calling~~ preparing conclusions

time frame for ambient test

24 OK

48 OK recommended

get set up for 5:00 call

New call # 866 707 3521 ext 424 3866

8/18/10

Sci + Industry (no BP)

Discussion of @samira wrt to decide relief vs BOP removal

choice needed logic

join out legs of BOP

impact of relief well

① competent seal  
get fish onto bit

connected

could lift

② competent seal

unconnected

could lift

wrath seal

connected

X

BOP

③ wrath seal

unconnected

could lift

what is gas content on a club to content

don't raise

Containment

possible for unconnected?

release to sea

500 barrel

To sea

possible for connected?

not necessary,

5000 barrel

To sea

Can we remove H4;

summary

Change from Stability?

successful well test ... 5 days

no but been a foot

focus on operations  
removing fish

looks at ~~position~~ that all complete  
get pipe out - 60,000 max

is steel clear - go for BOP

lock ring in? - no

Working  
pattern

- ①
- ② \*
- ③

Conditions for proceeding w/o BOP first

- cement test + fish period - ... ~~to~~ issue
- all fish removed ~~above~~ horizon stack or ...
- hangar in any condition
- ~~no~~ induced flow from fishing
- no cement in BOP ~~that~~ ~~prevent~~ drill pipe removal.
- conclusion of drill pipe in ~~is~~ cemented in, ending ~~is~~ casing seal

BOP on BOP no risk  
for flow

4 develop plan  
detailed plan

8/19/10 BP call

866 707 3521

424 3866

HSE - no issue

Well logs

begin flowing

ambient 6.36 am

2189 PSI flat

went to 1970 PSI for 45 minutes

was ~~open~~ open to me for a short while

Enterprise getting ready for fishing

DP2 will unblock tomorrow am

7-10 days of good weather

new high level plan will come out

BOP around 26th

order will be coming from yesterday soon

8/20/10 BP call

Same #

HSE - no issue

Well

ambient 2189 no movement, no leaks (bubbles)  
fishing

HP flowing faster

Q4000 flowing getting back ready

Enterprise getting fishing gear ready

DP3 ready

DP2 unblock today

Window weather 7 days

although a low developing in gulf may ~~be~~ wind/thunder

Investigations

lots of people

Howard ~~is~~ in lead

marine Board will be decision made

open water fishing procedure will be done today

8/21/10

BP call

Same #

HSE - nothing a report

ambient test - successful 2189 later but not

open name state clean condition

Container

Q4000 preparing to receive BOP

Enterprise pipe + camera

camera being set up

DP3 ready by

DP2 pulling pipe

Weather deterioration Q40 risk lower

may last 5-7 days

8/22/10 BP call

HSE - nothing

Pressure @ ambient  
some Bubbles

Rev Saver - no anomalies

@4000 ready

Fishing

3 Fish one long loose 13' ft  
one short 18" ft  
one in annular

DD3 steady

DD2 will put BOP down & ready

Weather Tropical storm #6 maybe  
6-10 days

Evidence in a laminar layer

8/23/10 BP call

Andy Back

HSE - none  
well

no anomaly, visuals  
one REM in capping stack is not attached back, will try

@4000 ready  
DD2 BOP ready

Weather

Tropical storm DANIELLE  
likely go north

7-10 days

8/24/10

BP call

HSE - none  
well

pressure ambient, visuals, no anomalies, will double passform  
fill stack with material  
will try to open

@4000 ready

DD3 pulling out hole

DD2 BOP + LMAP ready, rechecked

Weather

#37 looks clear

CAT II in atlantic

5-7 day clear

What are alternatives to fishing  
Remain capping stack - attempt  
LMAP back up & release BOP at bottom

Jim  
Jick

8/24/10 Sci + ind call BOP replacement  
options for going forward

4 options for response of removal of equity BOP

Option 2

long fish, first  
replace capped stock  
chase and return up and down  
open ~~with~~ paying down } open blind shoot  
try and pull } open pipe remove?  
Put alternative together overnight

8/25/10 BP call 866 707 3521 424 3866

Hse - none

Well

no monitor

HP ready

Q700 ready

Enterprise

Ram open

Cap open

DD3 ready

DD2 hatched

Weather

next tropical depression

5-7 day

8/26/10 BP call - in car

fitting progressing

lead out basin plan if fitting stopped

tomorrow?

877-394-1446 1433140#

8/27/10

fitting no progress

proposal to move forward

1. quit fish

2. remove BOP

3. gentle pull

4. open BOP

} all agreed

8/28/10 BP Call

HSE - first aid in hand  
Well

Chen, not on call

disassembling capping stack  
no anomalies  
Choke is off capping stack  
goose neck being removed

② Q4000 ready for horizon BOP  
~~report~~ approved

will attach to LMRP

concern on period of waves, can merge 6ft

① Enterprise pulling jacking tool, will pull capping stack 6-8 hrs  
DD3 in country maybe late morning

③ DD2 has contacted will install new BOP

Capping stack removed Sunday night

Weather  
could be one on east coast  
could have

Camera  
pull eye on web

8/29/10 BP Call

877 394 1446 1433140 #

HSE one first aid  
Well

no anomalies  
rig down  
choke & mill line repaired  
BOP pad removed  
Go/no go - 2 BOP ~~procedures~~ procedures  
Q4000 will run its connector for tests  
Enterprise ~~pulling~~ running connector

DD3 final inspection  
stand by  
DD2 in BOP within 500 feet

Weather  
Erik will track down to Pointe Bar  
has pressure now over new column

Camera my form  
Timeline  
Enterprise will ~~start~~

Q4000 put 9:00P - 12:00P  
Enterprise pull Cap 6:00 AM  
Pull BOP 24 hours, ~~at~~ surface ~ Tuesday  
DD2 ~ final ~~at~~ 24 hours  
Wed AM

legal question  
Camaron want to  
delay capping stack  
not enough inspection  
not done will file

8/30 BP call

Concurrent concern weather  
HSE - none

Well  
no anomaly

Q4000 out depth

Enterprise ready to pull capping stack

DD2 500 feet away

Weather

Eurl north of Puerto Rico, not gulf

#43 starting similar to Eurl

Low in Gulf

New wave height forecast

Slightly faster low on pipe with swell period  
exposed during pulling

Disruptive Rindy

Current 6 feet average 6-8 second period

Mixing clear beds, Enterprise as alt for Q4000

Working ~~and~~ alternate plan

like using riser instead of drill pipe

Conclusion: wait for weather

8/31/10

BP call

Waiting on weather

HSE - three near miss, no

well  
anomaly none

same to

Q4000 connector @ 4500 feet

Enterprise HSE ready

DD3 standing by

DD2 500 feet south

Weather

Danielle dissipated

Eurl major east coast threat

New disturbance like Eurl starting

#44 could become threat to gulf

12-14 days

Status

still concerned with

action mid day Thursday - pull capping stack, Friday = pull BOP



9/1 call while in Lee Cores

9/2 go/no go capping stacking

Well number near

6:00 started

filled first pressure

at storm near

pull at 12-2 pm today 6 hours

Weather

East - east coast

? - wave higher storm

44 - Topical storm track passed Gulf coast

Airm Allen visited yesterday

will pull up all BOP about Saturday late

after BOP on

7-8 days to prepare well before attempt

relief well and equipment

9/3/00 BP call 877 394 1446 1433140 #

HSE near miss,  
well

no pressure Transducer

all weather stopped when capping stack

4:25p yesterday pulled capping stack

5:25a latched

will pull to manual well - now

unlock before noon

002 ready - midnite - midday tomorrow

B04 = subsea for remaining drill pipe

P03 ready

Weather

Gulf looks OK except groove

waves - flat

9/4/10 BP call

HSE - none

DDZ Row watching BOP

Effing stack down on surface

BOP about 500 feet depth

no drill pipe

pull run about now, run nice by Tuesday

Weather

Gaston returning, could be golf short

#45 away from aprin

2 days good

huge progress yesterday

whitch about road -

say whitch confirm

about 926,000 to match

control in any drill pipe

demanded not held over

now good

new BOP hole

pressure total

check bleed down, 6 Ram stack 2 number

High level plan #5

pull run + reserve 4 days

prepare well for intercept

start cement at top of plug  
after fishing old drill pipe

} 3 day + fishing

spot cement

start relief well - about 2 weeks

why

still worried about ~~the~~ dropping casing

decision

relief well will be declaration of dead 15 days + weather

9/5/10 BP call

HSE - none, 500ft ~~run~~ for small screen, hydrate from capping stack

LMP 330 am on surface (new one)

effort today

mud

clean out hanger, lead impression block

for Thursday, if clean start preparation, relief well cement relatively (very cement)

Capping stack on enterprise

Q4000 8:53pm BOP at splash zone

2219 on deck

Winged limit could be pressure

redistribution of viewing

005 in charge

DDZ standing by

Weather

Gaston some more of golf short

5 days away

#46 in golf

Announcement of sequence of relief well

Falazar further being not now

all of us like to see immediate investigation first.

9/6 BP call  
HSE included truck arm + lower  
LMRP splined on DD2  
diplex w/ mud  
causing larger lead impression Thursday  
continue fishing  
Q 400p  
split BOP today  
move to Barge  
DD3  
standing ready  
weather  
storm in south gulf

9/7/10 BP call  
HSE - none  
DD2  
latch LMRP about now @ 4940  
diplex mud  
true impression shown - move from main board  
Q 4000  
not able to work fully - waves  
no drill pipe yet  
move to shallow water  
DD3  
ready  
weather  
Gunton could still be a threat  
no other threats  
may be good 7-10 days

9/8/10 BP call  
no HSE  
DD2  
LMRP hooked up  
will start circ  
Just now  
run lead impression  
fish on Sunday  
Q 4000  
split LMRP on deck  
no matter on monitor  
camera will go inside BOP  
live on internet  
DD3  
function tested shear  
run gyros  
weather  
#47 leaving Africa  
no other lower on gulf  
have 7-10 days

877 394 1446 1433140 #

9/9/10 BP call

New highlevel plan 8.0 issued

HSE - none 5 Barrel spill on DD3 - clean up  
some later repairs

dupload near with mud  
cleaned out down to 1500 ft - no drill pipe in 1500 ft  
new reparing lead immersion block on hanger

BSP

4" and 7 ft piece removed  
long piece with  
Blind shear closed erosion in body  
Casing shear closed  
Blind shear had pin below it

Relay well

45 ft open hole swelling  
some fluids lost  
done wait to have hole

Weather

tropical storm off of Africa  
#48 forming @ over Trinidad -

New schedule discussion

3 scenarios

a) optimization fishing - lead block, 2-3 days, prep

b) +10 days

c) don't fish

if hanger in place  
run lock down shear  
start intercept next well  
don't perforate

Could raise from pressure down 2200 psi

9/22 intercept

9/10/10 BP call

HSE - first and incident,  
DD2

lead immersion block of ideal position

getting drill pipe up

lock down shear running in

should located fish today

set run + trying tomorrow for locating ring

DD3

running in hole with ARWD

04:00

morning BP for shipment

will be on barge for 1 month

weather

I got down grid

#48 @ Trinidad

have 10 days or so

don't have direction

See BSP on monday - that + Kern 5

Sep 22 summit mtg

BP has lesson learned

9/11/10 BP call

HSE - none

Weather -

one of concern in lower gulf perhaps lower

Well  
DD2

9286 ft hit something

top of cement?

top of fish

no infraction

will go back in later

look down later today

start relog well

DD3

at 978 shoe

have drill on

go 30 feet 17931

may run #16 if do intercept = Thursday

perhaps in tomorrow

Q 4000

put on surge in a day or there

9/12/10 BP call

HSE - none

Well

DD2

run and set back down tool

will run lead impression Block to get top of fish

will have ability to measure pressure in well line

DD3

software issue

must run test BOP

Pulling up

drill 30 ft longest drill pipe

may run #16

may not do #17

intercept end - Thursday

Weather

forecast in Atlantic

typical storm in South Gulf

#49 moving from Africa

9/13 BP call

HSE - none

DD2

run LIB 9287 don't know what it is, well need to work

stand by down BOP

DD3

waiting panel software resolution

BOP tested successfully

then 30 ft, ~~at~~ 17939, still well Thursday

Weather

I COR likely open Atlantic

9/14/10 BP call

HSE none

DD3

1:40p drilled to 17939 30 ft during  
ARWD (range while drill), some wire line 2.8 ft away  
interest tomorrow  
will do wire line to confirm  
resume drilling tomorrow

DD2

run work pipe  
logged 9287  
would for 4 feet

Q7000

on dry rock

weather

IGor mid Atlantic  
Juba sum  
#48 units

9/15/10 BP call

HSE none

DD2

working to 9348 47 1/2 ft metal  
milling on something hard

DD3

wire line agreed with ARWD  
2.9' away 17.25' - 0.5' 17939 on time a.m.  
17969 metallog, drilling 22 feet now  
may need more log  
circulate bottom up

weather

IGor & Juba on Atlantic  
Carb - tropical storm - south Gulf

9/16/10 BP call

HSE - none

DD3

877 394 1446 1433140 #

drilled 30 ft G 17967  
17962 lost 14B of mud  
Torque increased as drill  
no sign of hydrocarbon or cement  
drilled to 17994  
4° separation

logging run

DD2 pressure

33 PSI on choke pin now 175  
have communication now between two wells

annular good state

no losses - service not connected  
weather

Some - good 7-10 days

like to start cement tonight

hardened by Saturday

9/17/10

003 17977 - 17984

close indicator on relay tool  
no hydro carbon, no cement  
3 1/2 stages in row  
will squeeze 15 B in v.o 75 B cement, will test tomorrow PM

made decision of intercept yesterday

end of relay well

002

communication  
292 psi up  
will run log.  
run lead impression track

Weather

3 humans  
none impact site  
good 7-10 days

1:15 EDT call w ch

9/18/10 BP call

no incidents

003

count @ 2:00p Sunday  
73 Barrels at 3:52 pm  
Squeezed 2 stages  
20 Barrels into annulus  
600 feet in relay well  
waiting for cure 10:00 pm tonight

002

close line responded to cement well  
pressure stabilized  
will shut off for 400 psi

w call

Cost = minimal  
log range = good

announcement

let Gas lead  
work out on 9:30 EDT call tomorrow

9/19/10 BP call

HSE none

003

good cement pressure 5:24a today - rock solid  
no pressure response in 002  
isolated and done

17279 feet 2 top of cement

002

dropped pressure  
2 psi/hr why?  
will take down on monitor

Weather

7-10 days

Conclusion

1. relay of well done & successful
2. proceed with P & A  
one anomaly to work out
3. well is not large a cement

9/20/10 BP call

DD2

let pressure down to 0  
litter flow  
Bumped (some gas)  
let pressure up - went into 300 range

DD3

will proceed to P+A

Discussion

my email of 2 points

1) unbalanced pressure

2) correct demand

Salyer said we should be sure that we are included in P+A

9/21/10 BP call (last one)

Stetson

thanks all round

agreements on role during P+A

Doug Blankenship to stay on calls

BOEM in decision making