Revised Permit to Modify (RPM)

Form MMS-124 - Electronic Version

Lease G16661 **Area** MC **Block** 941 **Well Name** A002 **ST** 00 **BP** 02 **Type** Exploratory

Application Status Approved **Operator** 01819 ATP Oil & Gas Corporation

Pay.gov Amount:	**Agency Tracking ID:**	**Pay.gov Tracking ID:**

General Information

API	608174115202	**Approval Dt**	09-MAR-2012	**Approved By**	Mark Hasenkam
Submitted Dt	06-MAR-2012	**Well Status**	Drilling Active	**Water Depth**	4000
Surface Lease	G16661	**Area**	MC	**Block**	941

Approval Comments

Correction Narrative

This revision is to provide for the inclusion of additional perforations to the upper lobe of the "B" sand.

We started the already approved "B" sand completion operations over the weekend and are currently through step 8 of the approved procedure. We've added the revisions in red to the approved procedure (attached).

Permit Primary Type Completion

Permit Subtype(s)

Change Zone

Operation Description

Procedural Narrative

ATP hereby requests to temporarily isolate the C&D Sands and move up hole to complete the B sand.

Please see attached Procedure, Wellbore Schematics, & log.

Subsurface Safety Valve

Type Installed SCSSV

Feet below Mudline 3974

Shut-In Tubing Pressure (psi) 5138

Rig Information

Name	Id	Type	ABS Date	Coast Guard Date
NABORS 202	50399	PLATFORM		

Blowout Preventers

Preventer	Size	Working Pressure	--- Test Pressure --- Low	High
Annular		5000	250	3500
Rams	13.625	10000	250	5700

Date Commencing Work (mm/dd/yyyy) 13-FEB-2012

Estimated duration of the operation (days) 25

Verbal Approval Information

Official	Date (mm/dd/yyyy)

Questions

Number	Question	Response	Response Text

Revised Permit to Modify (RPM)

Form MMS-124 - Electronic Version

Lease G16661 **Area** MC **Block** 941 **Well Name** A002 **ST** 00 **BP** 02 **Type** Exploratory

Application Status Approved **Operator** 01819 ATP Oil & Gas Corporation

Questions

Number	Question	Response	Response Text
1	Is H2S present in the well? If yes, then comment on the inclusion of a Contingency Plan for this operation.	NO	
2	Is this proposed operation the only lease holding activity for the subject lease? If yes, then comment.	NO	
3	Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	YES	
4	Are you downhole commingling two or more reservoirs?	NO	
5	Will the completed interval be within 500 feet of a lease or unit boundary line? If yes, then comment.	NO	
6	For permanent abandonment, will casings be cut 15 feet below the mudline? If no, then comment.	N/A	

ATTACHMENTS

File Type	File Description
pdf	Log Section
pdf	Proposed Wellbore Schematic
pdf	Current Wellbore Schematic
pdf	BOP Schematic
pdf	CT Schematic
pdf	MASP Calculations
pdf	Procedure

CONTACTS

Name	Jennifer Johnson
Company	ATP Oil & Gas Corporation
Phone Number	713-403-5511
E-mail Address	jljohnson@atpog.com
Contact Description	Regulatory Technician

Revised Permit to Modify (RPM)

Form MMS-124 - Electronic Version

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et seq. Requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. MMS uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB Control Number. Public reporting burden for this form is estimated to average 11/4 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.

ATP Oil & Gas Corporation
MISSISSIPPI CANYON Block 941, Well No. A002
OCS-G-16661

WELL DATA

WD:	4000’
RKB to Mudline:	4145’
Status:	The well has the 7-5/8” tieback run to surface with 10-3/4” x 7-5/8” outer and inner riser respectively.
Type well:	Oil
PBTD:	17,930’ MD/13,770’ TVD
Drive Pipe:	36” @ 4328’ MD
Cond:	28” 218# X-56 @ 4,823’ MD
Surface:	22” 224.2# X-80 @ 5,881’ MD / 5,881’ TVD
Surface liner:	18” 94# X-80 @ 6,728’ MD / 6,698’ TVD, TOL @ 4,840’ MD
Surface liner:	16” 84# L-80 @ 9,258’ MD / 8,541’ TVD, TOL @ 4,749’ MD
Intermediate:	13 ⅝” 88.2# HC Q125 @ 12,618’ MD / 10,714’ TVD
Drilling liner:	11¾” 65# HCQ125 Hydril 513 @ 16,620’ MD / 12,830’ TVD, TOL @ 12,224’ MD / 10,490’ TVD
Production liner:	7 ⅝” 39# C-95 @ 17,927’ MD / 17,927’ TVD, TOL @ 11,981’ MD / 11,981’ TVD
Tubing:	4 ½” / 12.75ppf / 13Cr-95 / BTS-8
Tree:	13 ⅝” 10K, Dril-Quip Surface Tree
SCSSV:	Schlumberger TRC-II-10 @ ±8,132' MD
Current Perfs:	Upper Yellow “C” Sand: 17,464’ – 17,520’ MD / 13,422’ – 13,465’ TVD Lower Yellow “D” Sand: 17,627’ – 17,714’ MD / 13,547’ – 13,614’ TVD
Approved Perfs:	Yellow “B” Sand: 17,302’-17,401’ MD / 13,310’-13,374’ TVD
Proposed Perfs	Yellow “B” Sand: 17,140’-17,198’ MD / 13,178’-13,222’ TVD
Completion Fluid:	13.3 ppg $CaBr_2$ brine

WELL STATUS

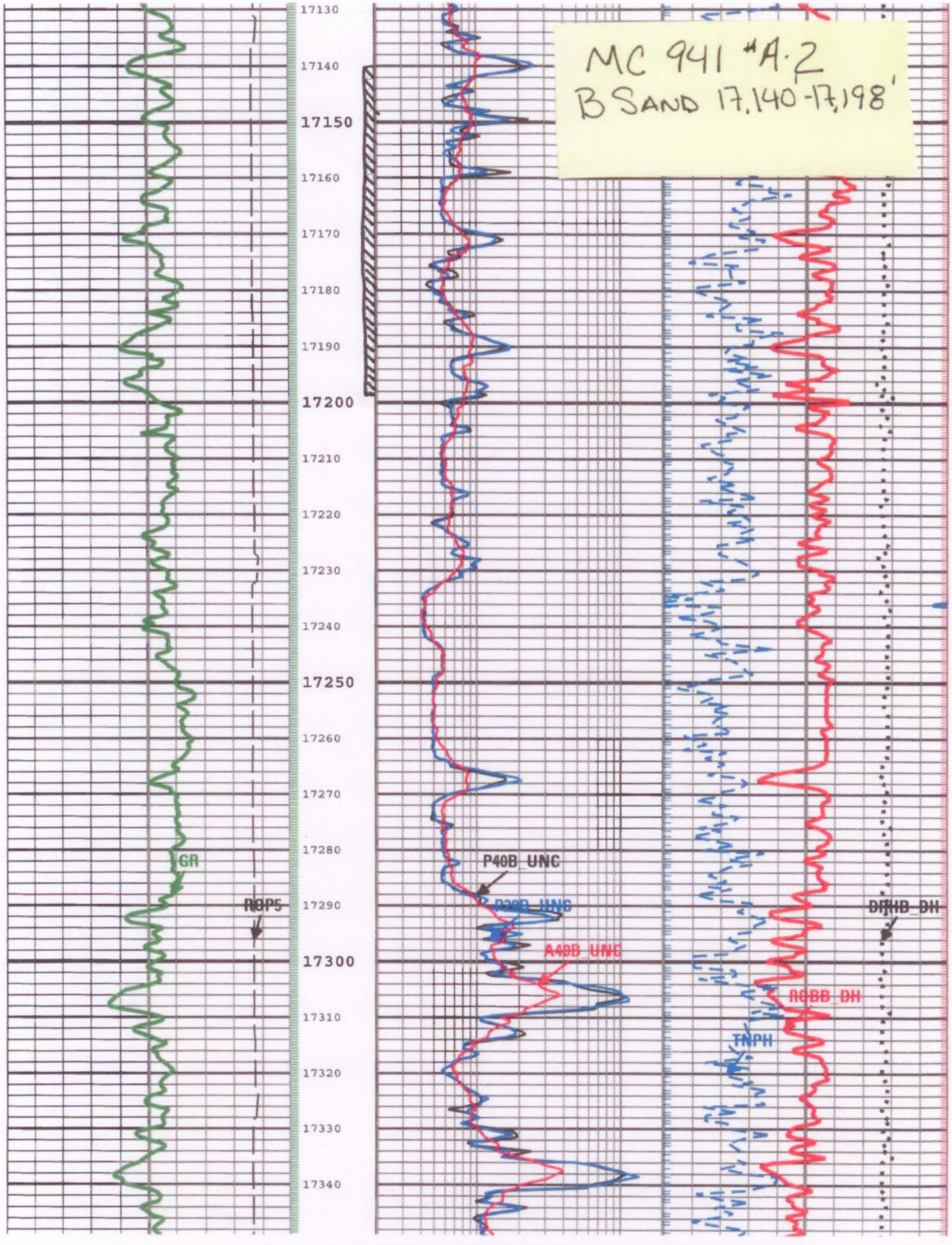
Well No. 004 was drilled in August of 2011 with a PBTD of 17,930’ MD/ 13,770’ TVD and renamed A002. It was originally thought that the “B” sand was a gas sand, but recently acquired MDT data obtained in the MC 942 #2 ST 001 has shown the “Yellow B” sand to be oil bearing ATP would like to temporarily isolate the C & D sands and move up hole to complete the B sand. The procedure to perforate the lower lobe of the Yellow B Sand (print in black) was approved by the BSEE on February 06, 2012 with the work currently ongoing. This revision which is being submitted for approval (additional steps in red) is to provide for additional perforations for the inclusion of the upper lobe of the Yellow B Sand.

RECOMPLETION PROCEDURE

1. Skid rig over slot #6. Secure rig.
2. R/U 3-1/16" 10M flanged riser from top of X-mas tree to rig floor.
3. R/U on 7-5/8" annular casing valve and pressure test 7 5/8" casing to 5200 psi for 30 minutes on chart.
4. R/U slickline and RIH with gauge run in preparation to close the sleeves in both the "C" & "D" sands. RIH with 2.313" shifting tool and close all sleeves. POOH.
5. Record SITP. Bleed off 1000 psi from SITP to negative test sleeves, monitor for 30 minutes to insure that the sleeves are closed and holding. If necessary, make another run with shifting tool. Have a 2.313" "X" plug and junk basket on location in case sleeves will not test.
6. P/U slick line tubing punch tool and RIH. Perforate 4 ½" 12.75# 85KSI 13cr tubing at 17,350'. POOH and R/D slick line.
7. Have 2-1/16" 10M companion flange with 1502 ½ union on 7-5/8" annulus casing valve and run hose to kill line rigged up while performing slickline work. Reverse circulate 13.3 ppg $CaBr^2$ while taking returns through gas buster and into 100 bbl surface tank. Have company on location to polish and separate oil & saltwater from tubing returns. Once completion fluid is at surface, divert flow to mud pits and reverse circulate a minimum of 2 tubing volumes (530 bbls) and filter to less than 30 NTU's. R/D riser and slickline equipment.
8. Open well and monitor for flow for 30 minutes, if no flow is observed, install BPV in tubing hanger and N/D surface tree.
9. Test BOP stack to 250/5700 psi on stump prior to N/U.
10. N/U 13-5/8" 10M BOP stack configured with VBR's. Install 2-way check valve prior to testing BOP lower flange connector to 250/5700 psi.
11. Pull 2-way check valve and latch onto tubing hanger using THRT. Pull tubing hanger to rig floor and disconnect control lines. Have spoolers rigged up along with tubing running equipment.
12. Start POOH and L/D 4-½" tubing. Utilize tarp over slips and pressure wash tubing as it comes out of the well. Have thread inspectors check tubing prior to L/D and make sure all tubing has protectors. R/D tubing handling equipment.
13. P/U TCP guns with packer plug and TIH to 17,410. Set packer plug and set guns on depth using the top of the SLB Quantum packer @ 17,410 as a correlation. Perforate well from 17,302' to 17,401'. Monitor pressures for 15 minutes. Open packer by-pass and monitor for losses. If no losses are occurring, reverse out below packer for 1.5 tubing volumes. If losses occur, consult with Houston office for LCM pill design. Spot pill and POOH.
14. P/U Overshot and VACS tool along with a magnet and TIH to recover packer plug at 17,409'. Latch & POOH with packer plug.
15. P/U GP assembly and TIH on 4-½" DP. Snap in and out of packer at 17,410' and space

out for frac job. R/U 4” frac iron. Set packer at 17,208’ and establish positions. Pickle pipe as per procedure. Have frac boat on location prior to finishing pickle job.

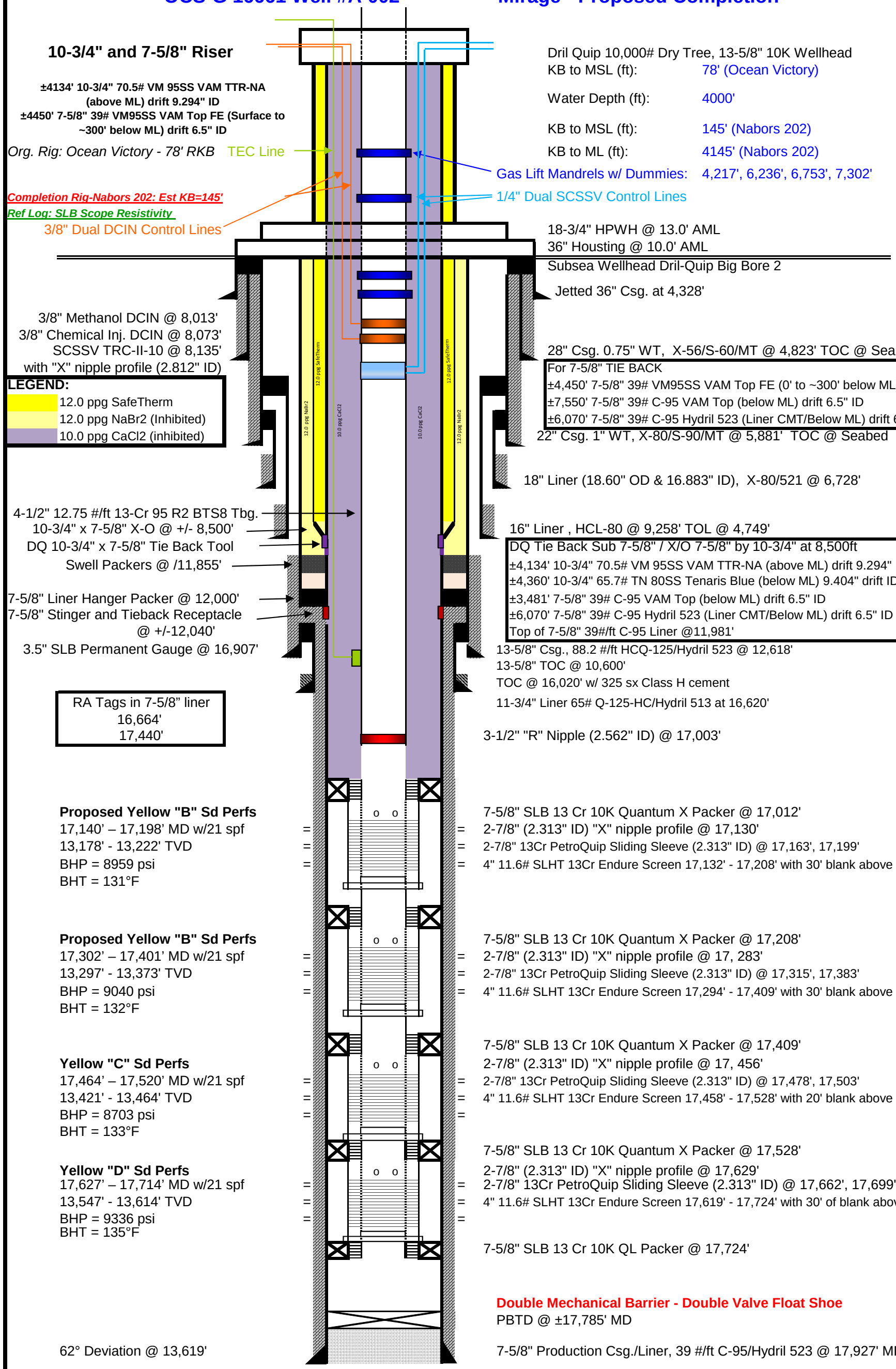
16. R/U frac boat. Flush and test lines as per procedure. Pump acid and follow with frac as per procedure.
17. POOH w/ 4.5" work string and L/D wash pipe.
18. P/U TCP guns with packer plug and TIH to 17,208’. Set packer plug and set guns on depth using the top of the SLB Quantum packer @ 17,208’ as a correlation. Perforate Yellow B Sand from 17,140’ to 17,198’. Monitor pressures for 15 minutes. Open packer by-pass and monitor for losses. If no losses are occurring, reverse out below packer for 1.5 tubing volumes. If losses occur, consult with Houston office for LCM pill design. Spot pill and POOH.
19. P/U Overshot and VACS tool along with a magnet and TIH to recover packer plug at 17,208’. Latch & POOH with packer plug.
20. P/U GP assembly and TIH on 4-½” DP. Snap in and out of packer at 17,208’ and space out for frac job. R/U 4” frac iron. Set packer at 17,012’ and establish positions. Pickle pipe as per procedure. Have frac boat on location prior to finishing pickle job.
21. R/U frac boat. Flush and test lines as per procedure. Pump acid and follow with frac as per procedure.
22. POOH w/ 4-½” XT-43 DP in doubles.
23. R/U tubing running equipment and start running 4-½” production tubing as per schematic. Verify production seals in seal bore.
24. Land tubing hanger and set BPV in hanger. N/D BOP. N/U X-mas tree.
25. R/U SWT (surface well test) equipment for flowback.
26. While R/U SWT equipment R/U slickline unit and RIH with gauge run. POOH. P/U shifting tool and RIH and shift the sleeves in the “B” sand open. POOH .
27. Flow “B” sand as per ATP recommendations.
28. If necessary, rig up 1 ½" coil tubing equipment and jet well in with nitrogen.
29. Release well to production.


MC 941 "A-2
B SAND 17,140-17,198'
17130
17140
17150
17160
17170
17180
17190
17200
17210
17220
17230
17240
17250
17260
17270
17280
17290
17300
17310
17320
17330
17340
GR
RGP5
P40B_UNC
P30B_UNC
A40B_UNC
RGBB_DH
TNPH

ATP Oil and Gas Corporation

Mississippi Canyon Block 941

OCS-G 16661 Well #A-002 Mirage - Proposed Completion



10-3/4" and 7-5/8" Riser

±4134' 10-3/4" 70.5# VM 95SS VAM TTR-NA (above ML) drift 9.294" ID
±4450' 7-5/8" 39# VM95SS VAM Top FE (Surface to ~300' below ML) drift 6.5" ID

Org. Rig: Ocean Victory - 78' RKB TEC Line

Completion Rig-Nabors 202: Est KB=145'

Ref Log: SLB Scope Resistivity

3/8" Dual DCIN Control Lines

Dril Quip 10,000# Dry Tree, 13-5/8" 10K Wellhead

KB to MSL (ft):	78' (Ocean Victory)
Water Depth (ft):	4000'
KB to MSL (ft):	145' (Nabors 202)
KB to ML (ft):	4145' (Nabors 202)
Gas Lift Mandrels w/ Dummies:	4,217', 6,236', 6,753', 7,302'

1/4" Dual SCSSV Control Lines

18-3/4" HPWH @ 13.0' AML
36" Housing @ 10.0' AML
Subsea Wellhead Dril-Quip Big Bore 2

Jetted 36" Csg. at 4,328'

3/8" Methanol DCIN @ 8,013'
3/8" Chemical Inj. DCIN @ 8,073'
SCSSV TRC-II-10 @ 8,135'
with "X" nipple profile (2.812" ID)

28" Csg. 0.75" WT, X-56/S-60/MT @ 4,823' TOC @ Seabed

For 7-5/8" TIE BACK
±4,450' 7-5/8" 39# VM95SS VAM Top FE (0' to ~300' below ML)
±7,550' 7-5/8" 39# C-95 VAM Top (below ML) drift 6.5" ID
±6,070' 7-5/8" 39# C-95 Hydril 523 (Liner CMT/Below ML) drift 6.5" ID

22" Csg. 1" WT, X-80/S-90/MT @ 5,881' TOC @ Seabed

LEGEND:
- 12.0 ppg SafeTherm
- 12.0 ppg NaBr2 (Inhibited)
- 10.0 ppg CaCl2 (inhibited)

18" Liner (18.60" OD & 16.883" ID), X-80/521 @ 6,728'

4-1/2" 12.75 #/ft 13-Cr 95 R2 BTS8 Tbg.
10-3/4" x 7-5/8" X-O @ +/- 8,500'
DQ 10-3/4" x 7-5/8" Tie Back Tool
Swell Packers @ /11,855'

16" Liner , HCL-80 @ 9,258' TOL @ 4,749'

DQ Tie Back Sub 7-5/8" / X/O 7-5/8" by 10-3/4" at 8,500ft
±4,134' 10-3/4" 70.5# VM 95SS VAM TTR-NA (above ML) drift 9.294" ID
±4,360' 10-3/4" 65.7# TN 80SS Tenaris Blue (below ML) 9.404" drift ID
±3,481' 7-5/8" 39# C-95 VAM Top (below ML) drift 6.5" ID
±6,070' 7-5/8" 39# C-95 Hydril 523 (Liner CMT/Below ML) drift 6.5" ID
Top of 7-5/8" 39#/ft C-95 Liner @11,981'

7-5/8" Liner Hanger Packer @ 12,000'
7-5/8" Stinger and Tieback Receptacle @ +/-12,040'
3.5" SLB Permanent Gauge @ 16,907'

13-5/8" Csg., 88.2 #/ft HCQ-125/Hydril 523 @ 12,618'
13-5/8" TOC @ 10,600'
TOC @ 16,020' w/ 325 sx Class H cement
11-3/4" Liner 65# Q-125-HC/Hydril 513 at 16,620'

RA Tags in 7-5/8" liner
16,664'
17,440'

3-1/2" "R" Nipple (2.562" ID) @ 17,003'

Proposed Yellow "B" Sd Perfs
17,140' – 17,198' MD w/21 spf
13,178' - 13,222' TVD
BHP = 8959 psi
BHT = 131°F

7-5/8" SLB 13 Cr 10K Quantum X Packer @ 17,012'
2-7/8" (2.313" ID) "X" nipple profile @ 17,130'
2-7/8" 13Cr PetroQuip Sliding Sleeve (2.313" ID) @ 17,163', 17,199'
4" 11.6# SLHT 13Cr Endure Screen 17,132' - 17,208' with 30' blank above

Proposed Yellow "B" Sd Perfs
17,302' – 17,401' MD w/21 spf
13,297' - 13,373' TVD
BHP = 9040 psi
BHT = 132°F

7-5/8" SLB 13 Cr 10K Quantum X Packer @ 17,208'
2-7/8" (2.313" ID) "X" nipple profile @ 17, 283'
2-7/8" 13Cr PetroQuip Sliding Sleeve (2.313" ID) @ 17,315', 17,383'
4" 11.6# SLHT 13Cr Endure Screen 17,294' - 17,409' with 30' blank above

7-5/8" SLB 13 Cr 10K Quantum X Packer @ 17,409'

Yellow "C" Sd Perfs
17,464' – 17,520' MD w/21 spf
13,421' - 13,464' TVD
BHP = 8703 psi
BHT = 133°F

2-7/8" (2.313" ID) "X" nipple profile @ 17, 456'
2-7/8" 13Cr PetroQuip Sliding Sleeve (2.313" ID) @ 17,478', 17,503'
4" 11.6# SLHT 13Cr Endure Screen 17,458' - 17,528' with 20' blank above

7-5/8" SLB 13 Cr 10K Quantum X Packer @ 17,528'

Yellow "D" Sd Perfs
17,627' – 17,714' MD w/21 spf
13,547' - 13,614' TVD
BHP = 9336 psi
BHT = 135°F

2-7/8" (2.313" ID) "X" nipple profile @ 17,629'
2-7/8" 13Cr PetroQuip Sliding Sleeve (2.313" ID) @ 17,662', 17,699'
4" 11.6# SLHT 13Cr Endure Screen 17,619' - 17,724' with 30' of blank above

7-5/8" SLB 13 Cr 10K QL Packer @ 17,724'

Double Mechanical Barrier - Double Valve Float Shoe
PBTD @ ±17,785' MD

62° Deviation @ 13,619'

7-5/8" Production Csg./Liner, 39 #/ft C-95/Hydril 523 @ 17,927' MD

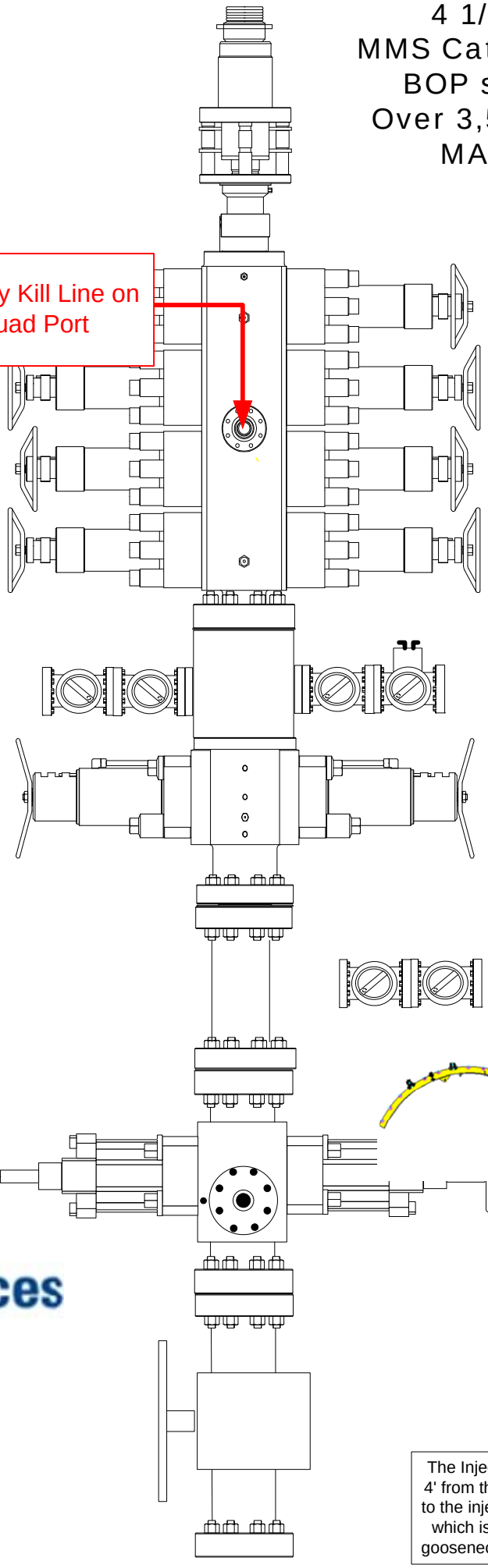
39° Deviation @ 17,970'

T.D. = 17,970' MD

TOC @ TOL @ 11,981' MD

3/5/2012

4 1/16" MMS Category 2 BOP stack Over 3,500 psi MASP



3 1/16" stripper CH 36 Pin Bottom 15 Kpsi working pressure (fixed to injector head) 580 lbs. Component Wt.

CH 36 Box x 4 1/16" 15M Flange

4 1/16" Bore Quad Stack Blind, Shear, Slip, Pipe Rams From Top to Bottom 15 Kpsi Working Pressure 2,800 lbs. Component Wt.

Kill Line Detail Diagram for Quad BOP Kill Port 2 1/16" 15M flanged full opening plug valves. Outside valve is Remote

4 1/16" Bore Flow Cross 2 1/16" 15M flanged full opening plug valves at each exit remote control outside valve on return side 15 Kpsi Working Pressure 375 lbs. Component Wt.

Pipe ram 4 1/16" Bore 15 Kpsi working pressure 865 lbs. Component Wt.

4 1/16" Bore 15 Kpsi working pressure flanged spacer spools if required by customer.

Kill Line Detail Diagram for BS BOP Kill Port 2 1/16" 15M flanged full opening plug valves.

4 1/16" Bore 15 Kpsi Blind Shear ram 1600 lbs. Component Wt.

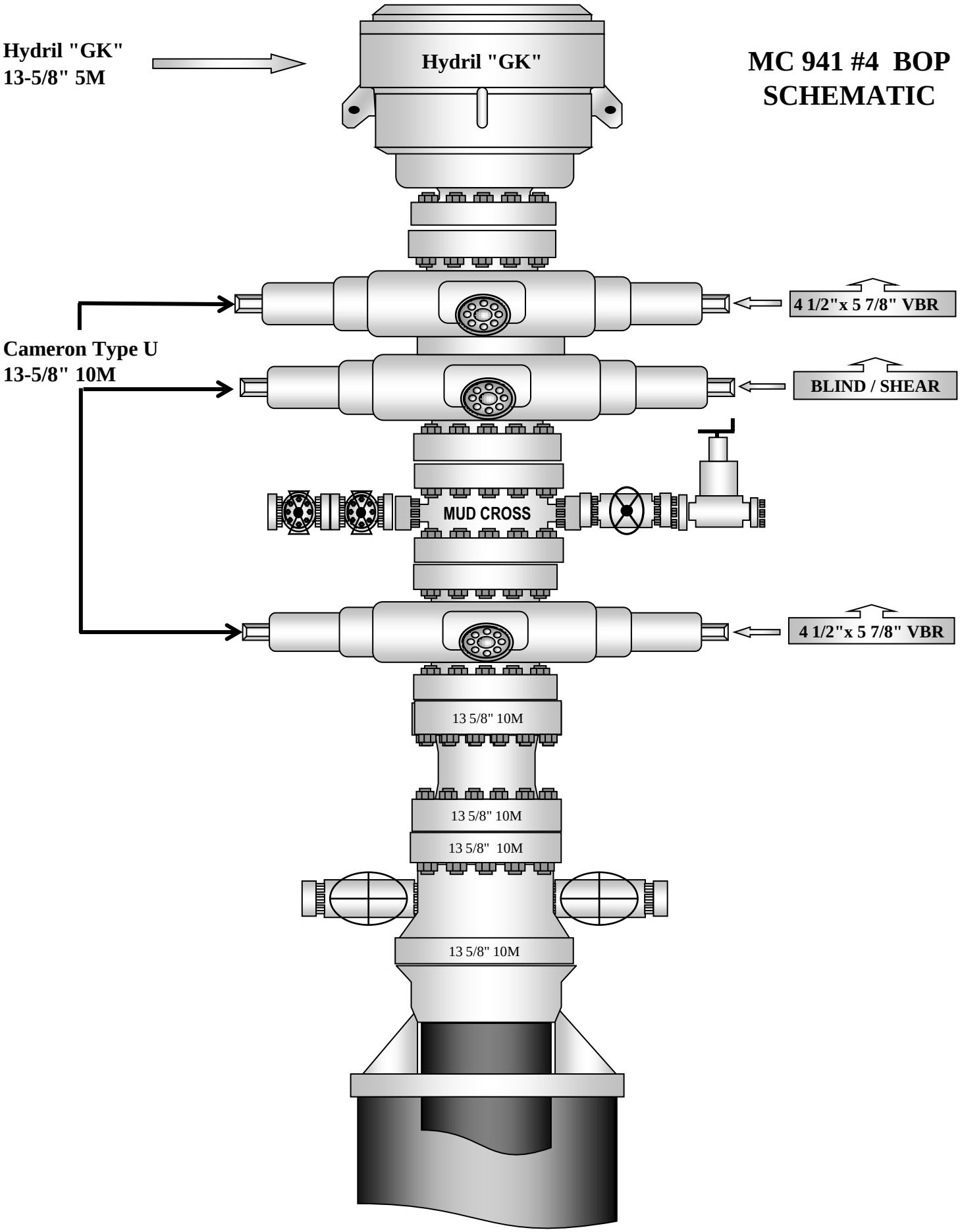
Coil Tubing Services
A Schlumberger Company

4 1/16" 15 Kpsi manual gate valve

Stack mounts to top of Tree or X over

The Injector is 8 ft tall. It is 4' from the top of the slings to the injector. It has a base which is 4 ft by 4 ft . The gooseneck has a 72" radius

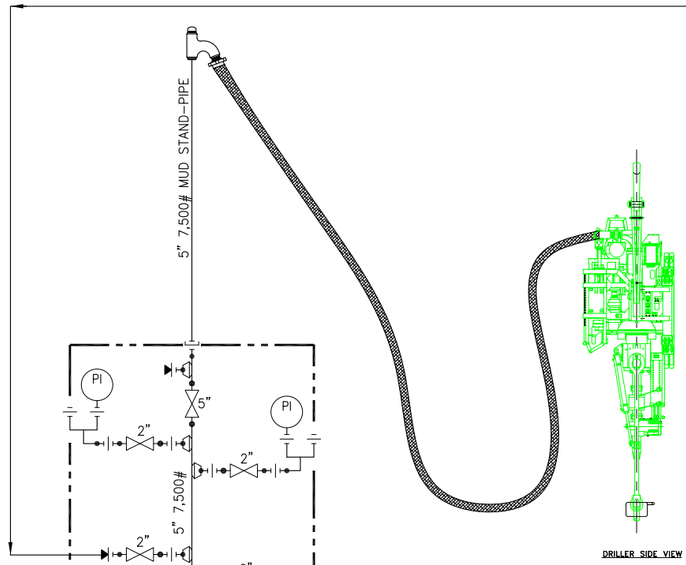
MC 941 #4 BOP SCHEMATIC

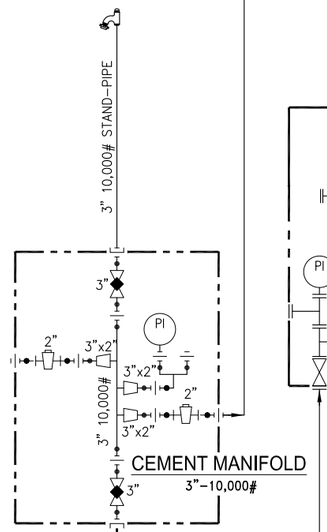


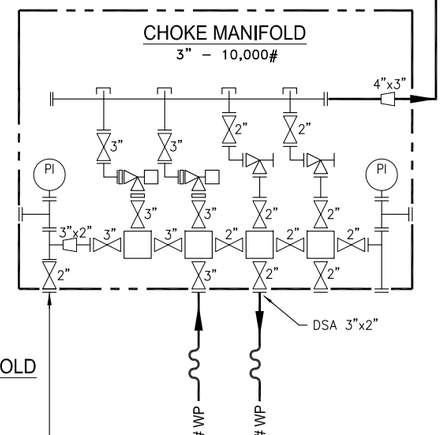
T. DeRanger 3/18/2011

REFERENCE DRAWINGS

CHOKE MANIFOLD	NOC-202-4037
CEMENT MANIFOLD	NOC-202-4029B
STAND-PIPE MANIFOLD	NOC-202-4025B
H.P. MUD PUMPS	NOC-202-4012







TO MUD/GAS SEPERATOR

3"-10,000# WP

3"-10,000# WP

DRILL FLOOR

DRILL FLOOR

DRILL FLOOR TRUSS

ACTIVE MUD TANK

MUD PUMP SUPPORT

5" FLEXIBLE HOSE

7.00"OD x 5.125"ID RMT

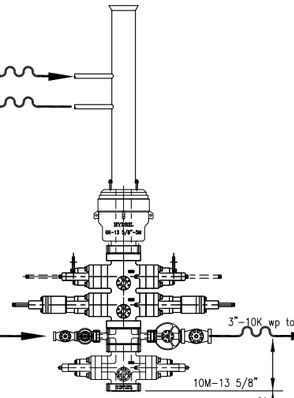
FLEXIBLE HOSE

FLEXIBLE HOSE

FLEXIBLE HOSE

FROM TRIP TANK — 3" FLEXIBLE HOSE

TO TRIP TANK — 4" FLEXIBLE HOSE



3"–10K wp to CHOKE

10M–13 5/8"

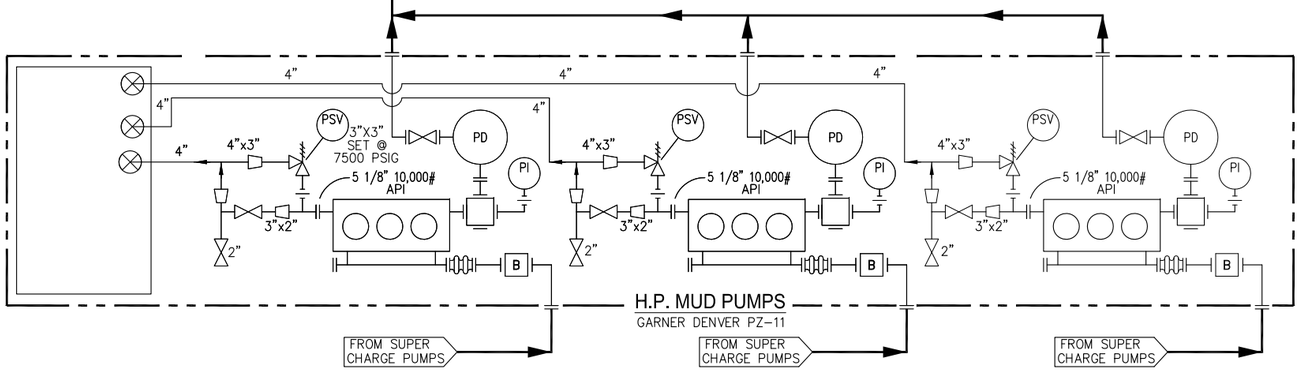
OPERATOR

BOP STACK

FLEXIBLE HOSE

3"-10,000# WP

CEMENT UNIT



SYMBOLS LEGEND

- SUCTION LINES
- DISCHARGE LINES
- FLEX / VIB. HOSE
- FLOW ARROW
- SUCTION
- DISCHARGE
- DRAIN
- FLANGE
- EXPANSION JOINT
- 7.5 / 10 HP AGITATOR
- MUD HOPPER
- SUCTION STRAINER
- PULSATION DAMPENER
- HYDRAULIC CHOKE
- MANUAL CHOKE
- PRESS. RELIEF VALVE
- PRESS. SENSOR
- MVT — MUD VOL. TOTALIZER
- PG — PRESS. GAUGE
- WELD CAP
- CONC. REDUCER
- UNION
- VITAULIC COUPLING
- BUTTERFLY VALVE
- BALL VALVE
- CHECK VALVE
- PLUG VALVE
- DRESSER COUPLING
- GATE VALVE
- MUD GUN
- SUCTION VALVE
- HAMMERSEAL UNION

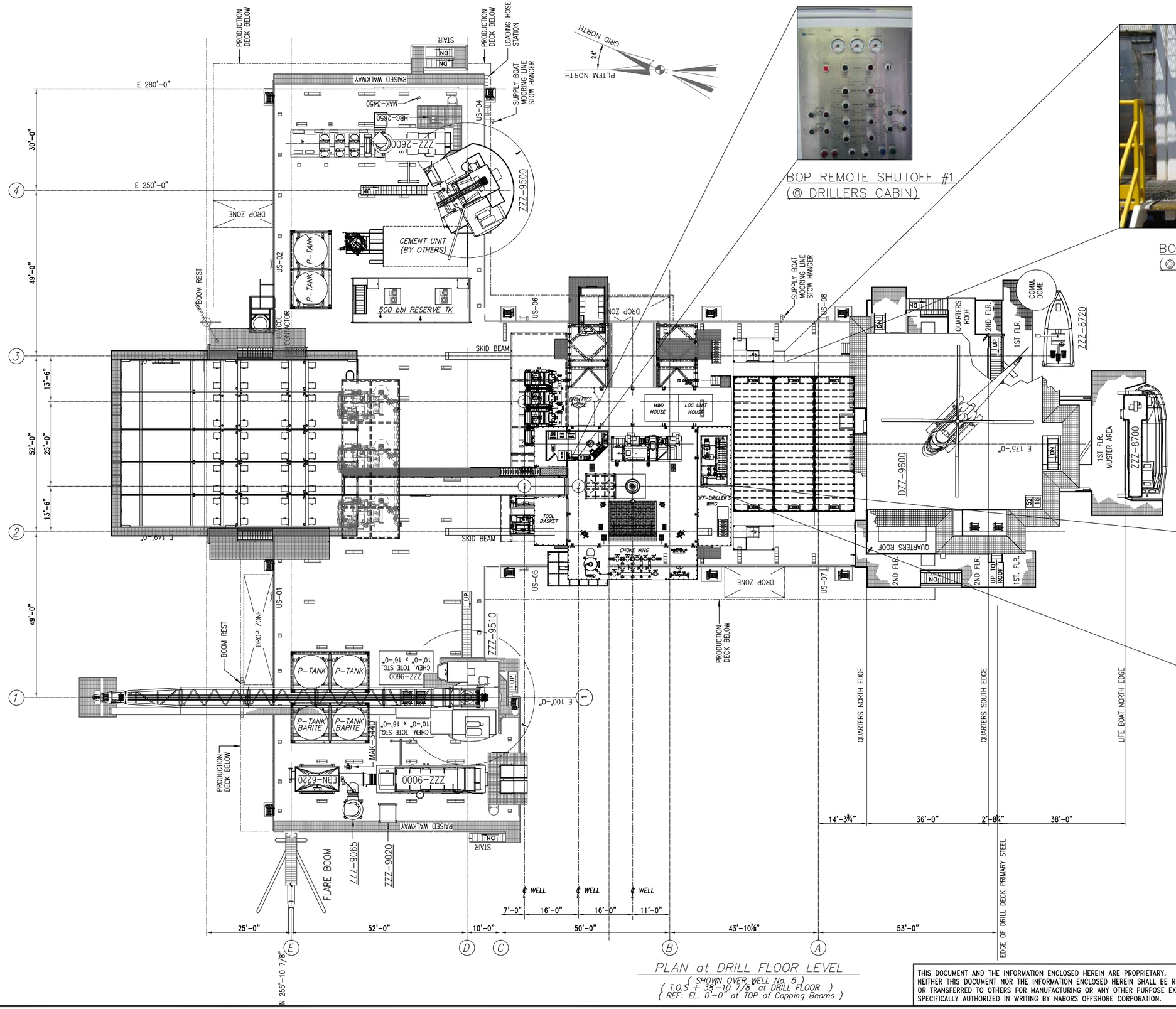
REV	DESCRIPTION	DATE	BY
2	UPDATED BOP	7/29/10	CJH
1	REVISED BOP	7/28/10	CJH

NABORS OFFSHORE CORPORATION

TITLE © COPYRIGHTED — 1 OF 1
NABORS RIG MODS 202
HIGH PRESURE MUD
SYSTEM SCHEMATIC

DATE 11/26/08		SCALE NONE	
DRN. BY ARD		RIG 202	D
APP.	DRWG. 202–4002	REV. 2	

G:\NOC-Gulf\Houston\Engineering\1-NEW MMS NTL2010-N05\MODS202\location of bop remotes & accumulator\202-0012-01.dwg Jun 14, 2010 - 6:45pm



PLAN at DRILL FLOOR LEVEL
(SHOWN OVER WELL No. 5)
(T.O.S + 38'-10 7/8" at DRILL FLOOR)
(REF: EL. 0'-0" at TOP of Capping Beams)

BOP REMOTE SHUTOFF #1
(@ DRILLERS CABIN)

BOP REMOTE SHUTOFF #2
(@ QUARTERS ON MAIN DECK)

BOP ACCUMULATOR

REV	DESCRIPTION	DATE	BY
0	INITIAL RELEASE	6/13/10	CJH

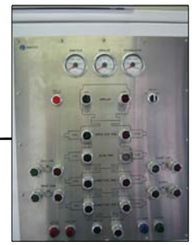
NABORS OFFSHORE CORPORATION

TITLE: GENERAL ARRANGEMENT OF MODS 202 BOP CONTROL EQUIP LOCATION

1 OF 2

DATE	SCALE
6/13/10	1/8"=1'-0"
DRN. BY DMB	RIG M202
APP.	DRWG 202-0012
	REV. 0

0 5 10 20 30 40 50 SCALE IN FEET



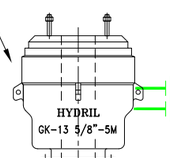
REMOTE
CONSOLE #1
(@ DRILLERS CABIN)

REMOTE
CONSOLE #2
(@ MAIN DECK)

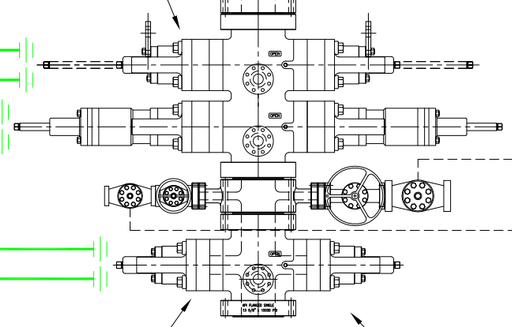
SPARES

1" STAINLESS STEEL
ARMOR BRAIDED

HYDRIL



DOUBLE RAM



SINGLE RAM

NABORS DWG # 202-8021

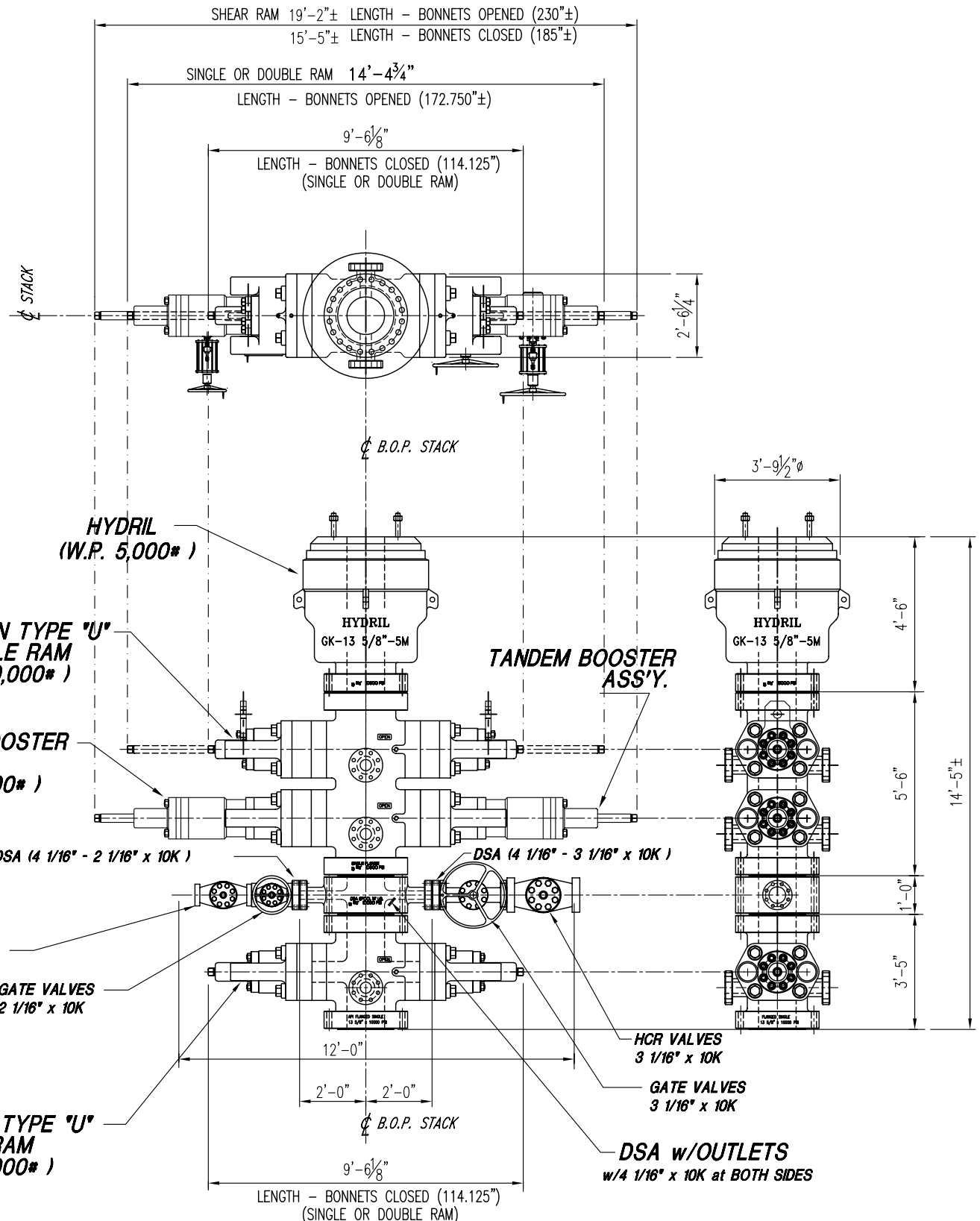
REV.	DESCRIPTION	DATE	BY
2	REVISED BOP	7/29/10	CJH
1	REVISED BOP	7/28/10	CJH
0	INITIAL RELEASE	6/13/10	CJH

NABORS OFFSHORE CORPORATION

TITLE © COPYRIGHTED 2 OF 2
NABORS RIG MODS 202
BOP ACCUMULATOR SCHEMATIC
10,000# PSI STACK

DATE 6/13/10 | SCALE NTS
DRN. BY DMB | RIG 202 | B
APP. | DWG 202-0012 | REV 2

G:\NOC-Gulf\Houston\Engineering\1-NEW MMS NTL2010-N05\MODS202\bop accumulator schematic\202-0012-02-REV-2.dwg Jul 29, 2010 - 1:35pm



13 5/8" - BOP STACK

(W.P. 10,000#) (w/ 12" SPOOL)

REV	DESCRIPTION	DATE	BY
2	CHANGE CALL-OUT OF DRILLING SPOOL TO DSA w/4⅛" OUTLETS	9/22/2010	CJH
1	CHANGE HCR & GATE VALVE FROM 3⅛" TO 2⅛"	7/28/2010	CJH
0	ADDED DESCRIPTION FOR VALVES	7/28/2010	CJH

NABORS OFFSHORE CORPORATION

TITLE © COPYRIGHTED 4 of 4
13 5/8" B.O.P.ARRANGEMENT
10,000 # W.P.
w/ 12" (DSA) STUDDED DRILLING SPOOL

DATE 5-14-08	SCALE 1/2"=1'-0"		
DRN. BY SN	RIG 202	A	
APP.	DRWG. 202-8021	REV. 2	

ATP Oil & Gas Corporation
Mississippi Canyon Block 941
OCS-G 16661 Well No. A-2

BOTTOM HOLE PRESSURE CALCULATIONS

Yellow B Sand Perfs
17,302' MD – 17,401' MD
13,310' TVD – 13,374' TVD
Mid-Perf – 13,342'
BHP = 9040 psi
BHT = 132 deg F
Pore Pressure at Mid-Perf = 9040 / 13342 / .052 = 13.03 ppg = .6776 psi/ft

MASP CALCULATIONS

7-5/8" to Surface & Production String

w/ Surface Production Tree on the Wellhead
Yellow B Sand

Maximum Anticipated Surface Pressure (MASP) during flowback

Anticipated BHP in MC 941 OCS-G 16661 #A-2 "Yellow B" Sand is expected to be 9040 psi with an oil gradient of 0.31 psi/ft. The calculated BHP gradient is 0.6776 psi/ft or 13.03 ppg EMW pore pressure. MASP at the proposed perforation midpoint of 13,342' tvd is:
With a 95% oil (.3 psi/ft) & 5% gas (.15 psi/ft) mix
Fluid column gradient = (.95).3 + (.05).15 = 0.2925 psi/ft
With 100% hydrocarbons at surface:

MASP = (0.052)(13.03)(13,342) – (0.2925)(13,342)
= 9040 - 3902
MASP = 5,138 psi (At the Surface Wellhead

Casing Test Pressure = 5200 psi

BOP Test Pressure = 5200 +500 = 5700 psi