



United States Department of the Interior  
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT  
Gulf of Mexico OCS Region  
1201 Elmwood Park Boulevard  
New Orleans, LA 70123-2394

In Reply Refer To: GE 1035A

April 21, 2017

Mr. Thomas Murphy  
W & T Offshore, Inc.  
Nine Greenway Plaza, Suite 300  
Houston, Texas 77046

Dear Mr. Murphy:

Reference is made to W & T Offshore, Inc.'s (W & T Offshore) right-of-way (ROW) application dated November 28, 2016 and received by this office on December 8, 2016 for Pipeline Segment Numbers (PSN) 18213 & 18214, ROW OCS-G29059. This application was amended with supplemental data via letter dated December 22, 2016 and received by this office on December 27, 2016.

Specifically, W & T Offshore requests to decommission PSNs 18213 & 18214 in-place. Additionally, W & T Offshore requests to relinquish the pipeline ROW OCS-G29059. PSNs 18213 & 18214 have been out-of-service since March 5, 2015 and will be flushed and filled during decommissioning.

In accordance with 30 CFR 250.142, a departure is requested from 30 CFR 250.1010(h), 30 CFR 250.1751(b), 30 CFR 250.1751(c)(d), and 30 CFR 250.1751(e)(f)(g).

The table below describes the Pipeline Segments pertaining to the aforementioned application:

PSN	Size (OD) (inches)	Length (feet)	Service	Origin	Termination
18213	6	92,108	Bulk Gas	PLET Garden Banks Block 293	Platform A Garden Banks Block 72
18214	3	96,241	Umbilical	Platform A Garden Banks Block 72	SS Well No. 2 Garden Banks Block 293

Pursuant to 30 CFR 250.1751, your request to decommission PSN 18213 & 18214 in-place is hereby approved. As a reminder, pursuant to 30 CFR 250.1754, if at any time the Regional Supervisor determines that the pipeline decommissioned in-place is an obstruction, it must be removed.

Pursuant to 30 CFR 250.1000(b), your request to relinquish the ROW No. OCS-G29059 is hereby approved with an effective date of December 8, 2016.

Pursuant to 30 CFR 250.142, your request for a departure from 30 CFR 250.1010(h) is hereby approved. This office acknowledges that the decommissioning operations will not be conducted until September 1, 2017.

Pursuant to 30 CFR 250.142, your request for a departure from 30 CFR 250.1751(b) is hereby approved. This office acknowledges that pigging PSN 18213 is not practical since there is no pigging facility at the subsea pipeline termination assembly or the host platform.

Pursuant to 30 CFR 250.142, your request for a departure from 30 CFR 250.1751(c)(d) is hereby approved. This office acknowledges that the Chemical Spare tube was never placed into service. This line contains environmentally friendly Oceanic SST5007 hydraulic fluid, is connected to the tree J-Plate, and will not be flushed. Additionally, this office acknowledges that the flush and fill operations will not be conducted until September 1, 2017.

Pursuant to 30 CFR 250.142, your request for a departure from 30 CFR 250.1751(e)(f)(g) is hereby approved. This office acknowledges that the GB 293 UTH, was decommissioned-in-place, at Latitude 27° 40.63526 and Longitude 92° 32.05308, during the permanent abandonment of the SS002 well.

As a reminder, pursuant to 30 CFR 250.1753, you must submit a report to this office within 30 days after the completion of the pipeline decommissioning project.

Sincerely,

A handwritten signature in blue ink that reads "Frank Patton". The signature is written in a cursive style with a large initial "F".

(for) Bryan A. Domangue  
Acting Regional Supervisor  
Regional Field Operations



# W&T OFFSHORE

March 10, 2017 \* Revision 3

Mr. Bryan Domangue  
Office of Regional Field Operations  
Bureau of Safety and Environmental Enforcement  
1201 Elmwood Park Boulevard  
New Orleans, Louisiana 70123-2394

Attn: Ms. Angie Gobert, Chief  
Pipeline Section

RE: Amendment to the Application for Pipeline Decommissioning  
**ROW OCS-G 29059, Segment No.'s 18213 and 18214**  
6" Bulk Gas Pipeline and Associated 3" Umbilical Originating at Garden Banks Block 293, Subsea Well No. 2 and Terminating at Garden Banks Block 72, Platform A, OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana

Ladies and Gentlemen:

In response to the Request for Information (RFI) dated January 16, 2017 and as per our conversation, please find the requested changes for Pipeline Segment Numbers (PSN) 18213 and 18214.

### History

On November 28, 2016, W&T Offshore, Inc. (W&T) submitted an Application for Pipeline Decommissioning for Segments 18213 and 18214 (ROW OCS-G 29059). Additionally, this application was revised on December 8, 2016 and December 22, 2016.

### Requested Information

- 1) *Will PSN 18213 be pigged during decommissioning operations? If so, please revise the decommissioning procedure to include the pigging operations; if not, please revise the decommissioning procedure to request either an alternate compliance or departure from 30 CFR 250.1751(b).*
  - a. As pigging is not practical (no pigging facility at the Subsea Pipeline Termination Assembly or the Host Platform (GB 72 "A")), a departure is requested from Title 30 CFR 250.1751 (b).
- 2) *According to our records PSN 18213 and 18214 both lie in a shipping fairway. Has W&T Offshore begun the process of seeking ACOE approval to decommission both PSN 18213 and 18214 in-place?*
  - a. W&T contacted with New Orleans District ACOE Surveillance and Enforcement Section, requested and received a NFAR (No further Authorization Required) stating that both pipelines do not need to be removed as the water depth in the Gulf Safety Fairway ranges from 950' to 1150'.
- 3) *Has W&T attempted to flush & fill the Chemical Spare tube and AMON tube?*
  - a. Per the Revision 2, dated December 22, 2016, specifically page 3 of 5 of the technical application, W&T identified that the Chemical Spare tube was never placed into service. This line contains environmentally friendly hydraulic fluid, is connected to the tree J-Plate and will not be flushed. Attached to the application, please find the MSDS for Oceanic SST5007 hydraulic fluid. The AMON tube was flushed with 2,350 gallons of uninhibited seawater and passed the sheen test.

W&T Offshore, Inc.

Application for Pipeline Decommissioning

ROW OCS-G 29059, Segments No. 18213 & 18214 – 6" Bulk Gas and 3" Umbilical

March 10, 2017

Revision 3

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- 4) As part of BOEM's WQ review, BOEM will request the procedure documentation for flushing and capture/disposal of flushed liquids. I would encourage you to provide this information ASAP to prevent delay in application processing
  - a. This information is Included within the applications.

This revision provides for the following changes:

1. Technical Write-Up (Revision of UTH Procedures and Alternate Compliance Request)
2. MSDS
  - a. Oceanic SST5007 Fluid
  - b. Transaqua DW
3. UTH Assembly "As-Left" Photo
4. Umbilical Cross Sections Schmatics
5. Flushing Documentation
  - a. PL Segment 18214
  - b. PL Segment 18213
6. NFAR (ACOE, New Orleans District)

The Umbilical end at GB 293 (Pipeline Segment 18214) was disconnected from the subsea tree and the UTH laid on the sea floor with an umbilical flushing plate installed. This end remains at the seafloor elevation, as per the departure request in our November 28, 2016 submittal.

Should you have any questions regarding this application, please contact Lea Ann Hover, Regulatory Analyst at 713.513.8646 / email: [lhover@wtoffshore.com](mailto:lhover@wtoffshore.com) or Kathy Mueller, Regulatory Analyst at 713.624.7320 / email: [kmueller@wtoffshore.com](mailto:kmueller@wtoffshore.com).

Sincerely,



Lea Ann Hover  
Regulatory Analyst

LAH/slf  
Enclosures



Application for Bureau of Safety and Environmental Enforcement  
Approval of Decommissioning of Pipeline

Date: 11/28/2016  
Revision 2: 12/22/2016  
**Revision 3: 3/10/2017**

General

Data Requirement	Required Data
Operator	W&T Offshore, Inc.
Address	9E Greenway Plaza St 300 Houston TX 77046
Regulatory Contact and Telephone	Lea Ann Hover: 713-513-8646 / Kathy Mueller: 713-624-7320
Technical Contact and Telephone	Alan Greig: 713-297-8014
Segment Number	18214
Originating / Receiving Locations	GB 72-A / GB 293 PLET
Nominal Diameter	3"
Production Code	UBEH
Approximate Length	96,241'
Approximate Volume	Hydraulic tubes: 5,400 Gallons Chemical tubes: 8,527 Gallons
Max Water Depth	2,091'
Application Fee	N/A



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Code of Federal Regulations (Data Required)

Data Requirement	Required Data	Reference CFR or NTL	CFR or NTL Paragraph
Reason for the operation	The umbilical was placed out of service on 03/05/2015. A request for extension to flush and fill the umbilical was approved until May 1, 2017.	250.1751	(a)(1)
Proposed decommissioning procedures	See following procedure and enclosed supporting documents.	250.1751	(a)(2)
Length (feet) of segment to be decommissioned	96,241' – 750' = 95,491'	250.1751	(a)(3)
Length (feet) of segment remaining	All of the segment will be decommissioned in place, except the removal of the 750' umbilical riser.	250.1751	(a)(4)

Notice to Lessee's (Data Required)

Data Requirement	Required Data	Reference CFR or NTL	CFR or NTL Paragraph
No NTLs are applicable to this application	N/A		



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Procedure

CFR Requirement	Procedure	Reference CFR or NTL	CFR or NTL Paragraph
Pig the pipeline, unless the Regional Supervisor determines that pigging is not practical;	Pigging of the umbilical tubes is not practical. See "Flush the pipeline" below.	250.1751	(b)
Flush the pipeline	<p>Umbilical chemical injection tubes and AMON tube, with the exception of the Chemical Spare tube, will be flushed by pumping 1 volume of uninhibited seawater. See the below tube volumes:</p> <p>Tube 2: CIT – 2,209 gallons            Tube 3: AMON – 2,209 gallons            Tube 7: CID1 – 950 gallons            Tube 8: CID2 – 950 gallons</p> <p>The Chemical Spare tube was not placed into service, not connected to the tree j-plate, and contains environmentally friendly Oceanic SST5007 hydraulic fluid and will not be flushed (see MSDS).</p> <p>Umbilical HP, LP, and Hydraulic Spare hydraulic tubes contain environmentally friendly Transaqua DW hydraulic fluid and will not be flushed (see MSDS).</p> <p>W&amp;T suspects a solid plug within a 17.500' segment of Tube 2: CIT, closer to the UTH in GB 293. The tube was plugged in June 2013 due to chemical incompatibility between methanol and paraffin inhibitor. See the below Alternate Procedure Request to decommission the umbilical in place.</p>	250.1751	(c)
Fill the pipeline with seawater	See "Flush the pipeline" above	250.1751	(d)
Cut and plug each end of the pipeline	<ul style="list-style-type: none"> <li>The GB 72-A umbilical end will be cut from the umbilical riser, at the seafloor, and both ends</li> </ul>	250.1751	(e)



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CFR Requirement	Procedure	Reference CFR or NTL	CFR or NTL Paragraph
	<p>capped with an epoxy filled PVC cap.</p> <ul style="list-style-type: none"> <li>The GB 293 umbilical end will remain connected to the Umbilical Termination Head (UTH) with the umbilical flushing plate installed.</li> </ul>		
Bury each end of the pipeline at least 3 feet below the seafloor or cover each end with protective concrete mats, if required by the Regional Supervisor	<ul style="list-style-type: none"> <li>The GB 72-A umbilical end will remain at the seafloor elevation, due to the water depth being greater than 200'.</li> <li>The GB 293 umbilical end will remain at the seafloor elevation, due to the water depth being greater than 200'.</li> </ul>	250.1751	(f)
Remove all pipeline valves and other fittings that could unduly interfere with other uses of the OCS	The GB 293 UTH, was decommissioned-in-place, at Latitude 27° 40.63526 and Longitude 92° 32.05308, during the permanent abandonment of the SS002 well.	250.1751	(g)
<p>30 days after decommission pipeline, submit a written report to the Regional Supervisor that includes the following:</p> <p>(a) A summary of the decommissioning operation including the date it was completed;</p> <p>(b) A description of any mitigation measures you took; and</p> <p>(c) A statement signed by your authorized representative that certifies that the pipeline was decommissioned according to the approved application.</p>	Submit report to BSEE that meets the requirement of 250.1753	250.1753	(a), (b), (c)





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**Alternate Procedure Request**

Per CFR 250.141 (a), see the below alternate procedure request to CFR 250.1751 (c)(e)(f)(g).

GB 293 SS Well #2 Umbilical Termination Head (UTH) metadata:

Lat. 27° 40' 38.731" N,

Long. 92° 32' 03.848" W

Water depth: 2,091'

UTH height above natural bottom: 6'-6" (see enclosed general arrangement drawing)

UTH max area extent: 2' x 6' 12 sq. ft. (see enclosed general arrangement drawing)

UTH weight: 3,000 lbs

**CFR 250.1751 (c) Flush the pipeline**

Segment 18214, CIT umbilical tube, alternate procedure:

- Decommission the CIT umbilical tube in place without flushing and filling with uninhibited seawater. CIT consist of approximately 1,810 gallons of xylene within the unplugged segment and 415 gallons of a polymer plug within the plugged segment. The polymer plug is from incompatibility with methanol and paraffin inhibitor.

**CFR 250.1751 (e) Cut and plug each end of the pipeline**

Segment 18214 alternate procedure:

- At GB 293, leave the umbilical connected to the UTH.

**CFR 250.1751 (f) Bury each end of the pipeline at least 3 feet below the seafloor or cover each end with protective concrete mats, if required by the Regional Supervisor**

Segment 18214 alternate procedure:

- At GB 293, leave the umbilical uncovered and connected to the UTH.

**CFR 250.1751 (g) Remove all pipeline valves and other fittings that could unduly interfere with other uses of the OCS**

Segment 18214 alternate procedure:

- At GB 293, decommission the UTH in place.



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**JUSTIFICATION**

Segment 18214 justification for CFR 250.1751 (c), (e), (f), (g):

Personnel Safety Risk	Flush the Pipeline, Cut, Plug, Bury Remove	Decommission in Place
	<p><b>CFR 250.1751 (c)</b></p> <ul style="list-style-type: none"> <li>• <u>2,820</u> man-hours are required to:               <ul style="list-style-type: none"> <li>○ loadout the additional equipment for umbilical recovery,</li> <li>○ additional travel to GB 293 UTH,</li> <li>○ recover umbilical onto reel,</li> <li>○ additional travel to GB 72-A,</li> <li>○ offload additional equipment for umbilical recovery.</li> </ul> </li> <li>• <u>2,808</u> man-hours for tug and barge to transport the reeled umbilical to Panama City, FL, and back home.</li> <li>• <u>780</u> man-hours are required to offload and cut-up the umbilical for scrap.</li> <li>• Considering the recovery of the umbilical from the seafloor onto the motor vessel, the size and weight of the reeled umbilical, and dockside transfer to the transport barge there are considerable personnel safety hazards associated with handling this equipment offshore and onshore</li> </ul> <p><b>CFR 250.1751 (e), (f), (g)</b></p> <ul style="list-style-type: none"> <li>• <u>556</u> man-hours are required</li> </ul>	<p><b>CFR 250.1751 (c)</b></p> <ul style="list-style-type: none"> <li>• Personnel safety risk eliminated by not recovering and scrapping 17,500' long umbilical segment and flushing the 1,810 gallons of xylene with seawater. Instead, decommission the umbilical in place on the seafloor.</li> <li>• The unplugged segment is estimated to be 1,810 gallons of xylene.</li> <li>• The plugged segment is estimated to be 415 gallons of a polymer plug.</li> </ul> <p><b>CFR 250.1751 (e), (f), (g)</b></p> <ul style="list-style-type: none"> <li>• Personnel safety risk reduced by decommissioning the GB 293 UTH in place.</li> </ul>



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	<p>to:</p> <ul style="list-style-type: none"> <li>○ additional travel to GB 293 UTH,</li> <li>○ disconnect the GB 293 umbilical end,</li> <li>○ cap the umbilical end,</li> <li>○ cover the umbilical end,</li> <li>○ retrieve the UTH,</li> <li>○ set and secure the UTH on the intervention vessel,</li> <li>○ additional travel to GB 72-A,</li> </ul> <ul style="list-style-type: none"> <li>• <u>4</u> man-hours to transport the UTH to the scrap yard.</li> <li>• <u>16</u> man-hours are required to offload and cut-up the UTH for scrap.</li> <li>• Considering the additional offshore time, there is an increased personnel safety hazard associated with recovering the UTH from the umbilical end.</li> <li>• <b>6,984 total man-hours for CFR 250.1751 (c), (e), (f), (g)</b></li> </ul>	
Personnel Safety Mitigation	Flush the Pipeline, Cut, Plug, Bury Remove	Decommission in Place
	<p><b>CFR 250.1751 (c)</b></p> <ul style="list-style-type: none"> <li>• Avoid from recovering and scrapping the 17,500' long umbilical segment, because of the plugged CIT tube.</li> </ul> <p><b>CFR 250.1751 (e), (f), (g)</b></p> <ul style="list-style-type: none"> <li>• Avoid from cutting, capping, and burying the GB 293 end of the umbilical.</li> <li>• Avoid from recovering and scrapping the UTH.</li> </ul>	<p><b>CFR 250.1751 (c), (e), (f), (g)</b></p> <ul style="list-style-type: none"> <li>• The GB 293 seafloor location is uninhabitable by humans (divers) due the water depth 2,091'.</li> <li>• Provided metadata for BSEE / BOEM and navigational databases.</li> </ul>



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Environmental Safety Risk	Flush the Pipeline, Cut, Plug, Bury Remove	Decommission in Place
	<p><b>CFR 250.1751 (c)</b></p> <ul style="list-style-type: none"> <li>• <u>112,795</u> lbs of carbon dioxide would be released into the atmosphere by diesel fuel burn from the intervention boat to recover the 17,500' umbilical segment from the seafloor and onto a reel.</li> <li>• <u>1,152,122</u> lbs of carbon dioxide would be released into the atmosphere by diesel fuel burn from the transportation tugs to transport the reeled umbilical to Contractor's dockside scrap location Panama City, FL and travel back to South Louisiana.</li> </ul> <p><b>CFR 250.1751 (e), (f), (g)</b></p> <ul style="list-style-type: none"> <li>• <u>45,208</u> lbs of carbon dioxide would be released into the atmosphere by diesel fuel burn from the intervention boat to recover the UTH from the seafloor and transport to dockside scrap location in SE Louisiana.</li> <li>• <u>537</u> lbs of carbon dioxide would be released into the atmosphere by diesel fuel burn to scrap the UTH for steel recycling.</li> <li>• Marine life sacrifice due to seafloor disturbance and loss of habitat. Common marine life and coral in 2,000' water depth in the Gulf of Mexico is Red Bream, Conger Eel, Scorpionfish, Sea fan,</li> </ul>	<p><b>CFR 250.1751 (c)</b></p> <ul style="list-style-type: none"> <li>• Carbon dioxide emissions would be reduced by not recovering and scrapping 17,500' long umbilical segment and flushing the 1,810 gallons of xylene with seawater. Instead, decommission the umbilical in place on the seafloor.</li> <li>• Potential future release of xylene is minimized by multiple barriers within the umbilical. Xylene is contained within 0.75" ID x 0.1" WT, 12,500 psig MAOP, Super Duplex steel tube, enclosed with Fiber Tape and 0.2" of Polyethylene outer sheath. This material is not susceptible to corrosion and deterioration.</li> </ul> <p><b>CFR 250.1751 (e), (f), (g)</b></p> <ul style="list-style-type: none"> <li>• Carbon dioxide emissions would be reduced by decommissioning the UTH in place.</li> <li>• Mechanical umbilical isolation, provided by the UTH, is better containment than PVC caps.</li> <li>• No remaining source of hydrocarbon or chemical exposure: <ul style="list-style-type: none"> <li>○ the GB 293 UTH will be disconnected from the wellhead and the wellhead removed during</li> </ul> </li> </ul>



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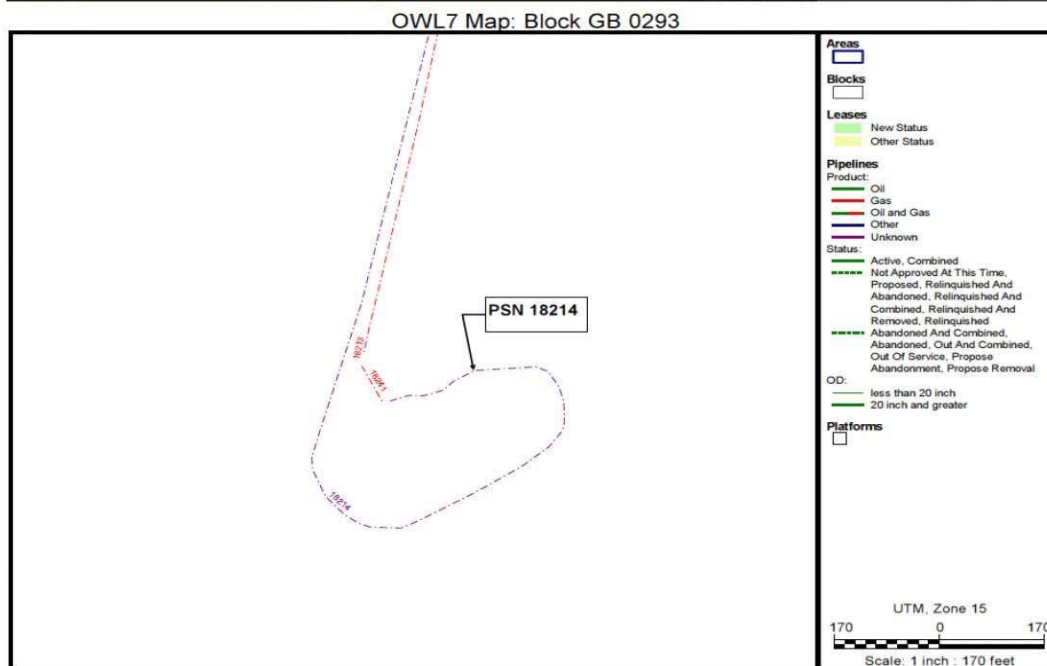
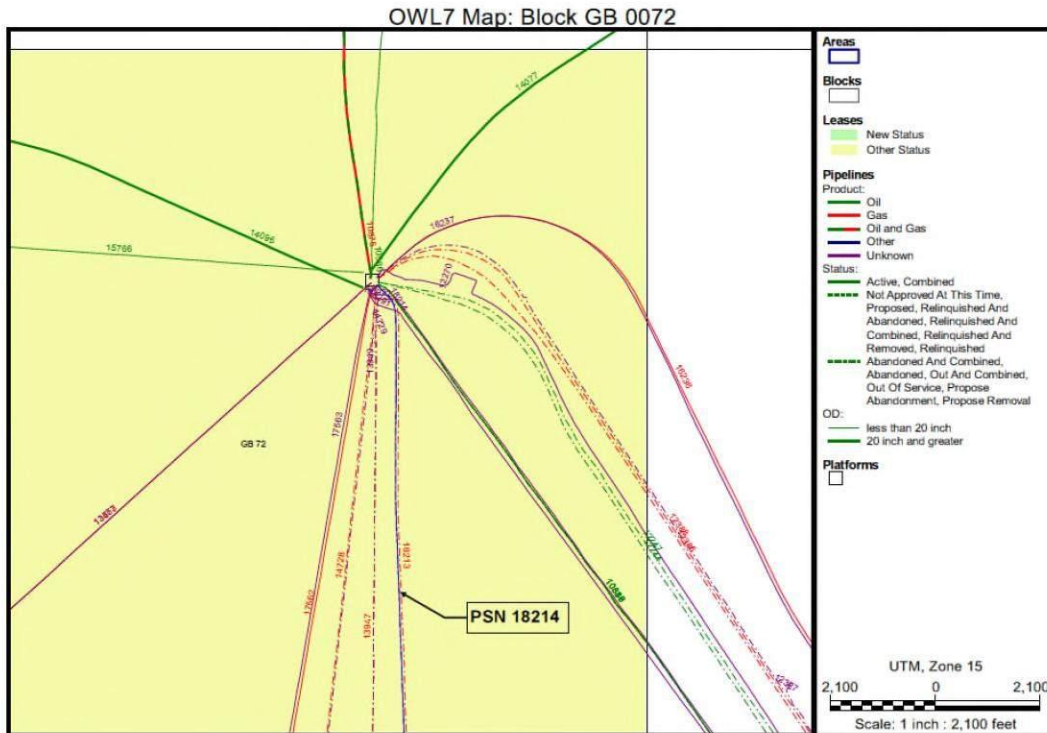
	Glass sponge, Cup coral, Shortbeard codling, Armed nylon shrimp, Living Lophelia (white), Gaper, Thorny tinselfish, Rosy Dory, Zigzag coral, Goosefish, Bluntnout grenadier, Blackbelly rosefish, Squat lobster, Darwin's slimehead (Lophelia.org).	<p>the well P&amp;A.</p> <ul style="list-style-type: none"> <li>○ The umbilical will be disconnected from the riser at GB 72-A the production platform.</li> </ul> <ul style="list-style-type: none"> <li>• Seafloor disturbance and marine life loss of habitat would be eliminated.</li> <li>• May create a seafloor obstruction for future user of the site. See mitigation below.</li> <li>• The UTH makes up 0.01% of the total umbilical sqft.</li> </ul>
Environment Safety Mitigation	Remove	Decommission in Place
	<p><b>CFR 250.1751 (c)</b></p> <ul style="list-style-type: none"> <li>• Avoid from recovering and scrapping the 17,500' long umbilical segment because the CIT tube is plugged.</li> </ul> <p><b>CFR 250.1751 (e), (f), (g)</b></p> <ul style="list-style-type: none"> <li>• Avoid from cutting, capping, and burying the GB 293 end of the umbilical.</li> <li>• Avoid from recovering and scrapping the UTH.</li> </ul>	<ul style="list-style-type: none"> <li>• Provided metadata for BSEE / BOEM and navigational databases.</li> </ul>

**Calculation Data**

- 1 Gallon diesel burn = 22.38 lbs CO2
- Intervention vessel diesel burn = Travel = 170 gal/hr, DP = 120 gal/hr
- Tug boat diesel burn = 55 gal/hr
- Intervention vessel travel to/from GB 293 = 12 hrs each way
- Intervention vessel cut, plug, bury pipeline and retrieve UTH = 8 hrs
- Unload UTH at scrap yard = 2 hrs each
- Onshore scrap UTH = 8 hrs
- Personnel on Intervention Vessel = 47
- Tug boat (and barge) total travel days to loadout, offload, and return home = 39 days

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OWL Map



# Oceanic SST5007

## Oceanic SST 5007 and Oceanic SST 5007M Umbilical Test and Storage Fluids

### General Description

The Oceanic Umbilical Test and Storage Fluids are designed to protect steel umbilicals from corrosion during storage and pressure testing. These water-based fluids are compatible with MacDermid's range of water-based fluids. Oceanic SST 5007 has proven to be particularly successful in chemical injection lines for inhibiting corrosion, freeze protection and is mild toward injection chemicals.



Oceanic SST5007 M (Modified) is designed to encounter water and aid in hydrate inhibition in the wellbore hence bringing the glycol and water mix near optimum freeze points. Glycol. Please refer to the properties below to determine the correct fluid for your specific application.

### Application

The fluids are designed for use neat with no dilution. The line for storage should be free from other chemicals before installation but small quantities of other Oceanic water-based fluids or water will not be detrimental to the storage capability.

### Material Compatibility

Kerosene, diesel, hydrate inhibitors, brines and many other materials have been tested. Please contact our Sales or Technical Staff.

### Maintenance

It is important to ensure the terminations of equipment are closed to prevent leakage of the VPI and to prevent ingress of contamination. If the fluid were to be open to the atmosphere there is sufficient VPI present to not significantly diminish over time but the vapor density above the fluid will be reduced and therefore moisture from the outside air could cause corrosion. MacDermid would recommend a sample of the fluid be examined every six months. MacDermid Offshore Solution staff can do this or offer advice on test procedures



## Physical Properties

	SST5007	SST5007 M
MonoEthylene Glycol	40%	60%
Appearance	Clear Pink Liquid	Green Mobile Liquid
Viscosity (cS) @ 0°C = 32°F	7.70	12.28
5°C = 41°F	6.02	9.69
10°C = 50°F	4.82	7.81
15°C = 59°F	3.94	6.40
20°C = 68°F	3.27	5.33
25°C = 77°F	2.76	4.50
30°C = 86°F	2.36	3.85
35°C = 95°F	2.04	3.32
40°C = 104°F	1.78	2.90
Specific Gravity @ 15.6°C (60°F)	1.055	1.080
Pour Point	-23°C (-10°F)	-46°C (-50°F)
Bulk Modulus (Nm <sup>-2</sup> x10 <sup>9</sup> )	2.80	3.15
pH Valve	11.4	11.2
Corrosion Inhibition	Liquid and Vapor phase (VPI)	
Biocide activity	Wide spectrum activity	

## Environmental Profile

Both Oceanic SST 5007 & Oceanic SST 5007M are environmentally friendly and are approved according to US E.P.A. GMG 290000. Please contact our US Technical Staff for Gulf of Mexico documentation.

Information given in this publication is based upon technical data gained in our own and other Laboratories and is believed to be true. However the material is used in conditions beyond our control thus we can assume no liability for results obtained or damages incurred through the application of the data presented herein.



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**1. Product and company identification**

Product name                   Castrol Transaqua DW  
 MSDS #                         457369  
 Historic MSDS #:             0000000022  
 Code                            457369-US65  
 Product use                    Hydraulic fluid .  
                                   For specific application advice see appropriate Technical Data Sheet or consult our company representative.  
 Supplier                        Castrol Marine Americas  
                                   P.O. Box 4518  
                                   Houston, Texas 77210-4518  
                                   USA  
 EMERGENCY HEALTH INFORMATION:     1 (800) 447-8735  
                                   Outside the US: +1 703-527-3887 (CHEMTREC)  
 EMERGENCY SPILL INFORMATION:     1 (800) 424-9300 CHEMTREC (USA)  
 OTHER PRODUCT INFORMATION        1 (866) 4 BP - MSDS  
                                   (866-427-6737 Toll Free - North America)  
                                   email: bpcares@bp.com

**2. Hazards identification**

Physical state                 Liquid.  
 Color                         Yellow.  
 Emergency overview         WARNING !  
                                   HARMFUL IF SWALLOWED.  
                                   INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS.  
                                   CAUSES EYE AND SKIN IRRITATION.  
                                   MAY CAUSE RESPIRATORY TRACT IRRITATION.  
                                   CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.  
                                   Harmful if swallowed. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Contains material that can cause target organ damage. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.  
 Routes of entry               Not available.  
 Potential health effects  
   Eyes                         Causes eye irritation.  
   Skin                         Causes skin irritation.  
   Inhalation                 Vapors may cause drowsiness and dizziness. Can cause central nervous system (CNS) depression. May cause respiratory tract irritation.  
   Ingestion                 Harmful if swallowed. Ingestion may cause gastrointestinal irritation and diarrhea.  
 See toxicological information (section 11)

Product name	Castrol Transaqua DW	Product code	457369-US65	Page:	1/6
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				Language	ENGLISH.
			(US)		(ENGLISH)

### 3. Composition/information on ingredients

Ingredient name	CAS #	%
Ethylene glycol; ethanediol	107-21-1	20 - 25
Triethanolamine	102-71-6	1 - 5

### 4. First aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.
Inhalation	If inhaled, remove to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Notes to physician	Treatment should in general be symptomatic and directed to relieving any effects. Note: High Pressure Applications Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

### 5. Fire-fighting measures

Fire/explosion hazards	In a fire or if heated, a pressure increase will occur and the container may burst.
<u>Extinguishing media</u>	
Suitable	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	Do not use water jet.
Fire-fighting procedures	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Hazardous combustion products	Combustion products may include the following: carbon oxides (CO, CO <sub>2</sub> ) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO <sub>2</sub> etc.)
Protective clothing (fire)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### 6. Accidental release measures

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
<u>Methods for cleaning up</u>	
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Product name Castrol Transaqua DW

Product code 457369-US65

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(US)

(ENGLISH)

**Small spill**

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**7. Handling and storage**

<b>Handling</b>	Put on appropriate personal protective equipment (see section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
<b>Storage</b>	Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
<b>Other information</b>	DO NOT ADD NITRITES TO THIS FLUID.

**8. Exposure controls/personal protection****Occupational exposure limits**

Ingredient name	Occupational exposure limits
Ethylene glycol; ethanediol	<b>ACGIH TLV (United States).</b> C: 100 mg/m <sup>3</sup> Issued/Revised: 5/1995 Form: Aerosol
Triethanolamine	<b>ACGIH TLV (United States).</b> TWA: 5 mg/m <sup>3</sup> 8 hour(s). Issued/Revised: 9/1994

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Some states may enforce more stringent exposure limits.

<b>Control Measures</b>	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
<b>Hygiene measures</b>	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.
<b>Personal protection</b>	
<b>Eyes</b>	Avoid contact with eyes. Safety glasses with side shields or chemical goggles.
<b>Skin and body</b>	Do not get on skin or clothing. Wear suitable protective clothing.
<b>Respiratory</b>	Use adequate ventilation. Do not breathe vapor or mist.
<b>Hands</b>	The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or S.O.P. for special handling instructions.

**9. Physical and chemical properties**

<b>Physical state</b>	Liquid.
<b>Color</b>	Yellow.
<b>Specific gravity</b>	1.04
<b>pH</b>	8.7
<b>Viscosity</b>	Kinematic: 0 mm <sup>2</sup> /s (0 cSt) at 40°C
<b>Solubility</b>	Soluble in water.

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				(US)	Language
					ENGLISH.
					(ENGLISH)

## 10. Stability and reactivity

Stability and reactivity	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Not available.
Incompatibility with various substances	Not available.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

## 11. Toxicological information

### Acute toxicity

#### Classification

Product/ingredient name	IARC	NTP	OSHA
Triethanolamine	3	-	-

#### IARC :

3 - Not classifiable as a human carcinogen.

#### Other Toxicity Data

Ethylene glycol: Ingestion of ethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, convulsions and death. The estimated human lethal dose is approximately 1 ml/kg (about 1/2 cup for an adult). Vapor from hot operations or an aerosol can cause eye and respiratory irritation. Birth defects were reported in laboratory animals fed ethylene glycol repeatedly in large amounts. Based on these studies, there may be a potential for birth defects following ingestion of ethylene glycol by pregnant women.

Contains material that may cause target organ damage, based on animal data. Target Organs: liver and Kidneys.

#### Other information

Alkanolamine: This product contains an alkanolamine. In all metalworking fluids containing amines, there is a potential for forming nitrosamines which are animal carcinogens. Therefore, no nitrites or related nitrosating agents should be added to such compositions.

#### Potential chronic health effects

##### Carcinogenicity

No known significant effects or critical hazards.

##### Medical conditions aggravated by over-exposure

Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

## 12. Ecological information

### Ecotoxicity

No testing has been performed by the manufacturer.

## 13. Disposal considerations

### Waste information

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

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## 14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

## 15. Regulatory information

### U.S. Federal Regulations

United States inventory (TSCA 8b) All components are listed or exempted.

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.  
**SARA 302/304 emergency planning and notification:** No products were found.  
**SARA 302/304/311/312 hazardous chemicals:** Ethylene glycol; ethanediol; Triethanolamine  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Castrol Transaqua DW: Immediate (acute) health hazard, Delayed (chronic) health hazard

### SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Ethylene glycol; ethanediol	107-21-1	20 - 20
Supplier notification	Ethylene glycol; ethanediol	107-21-1	20 - 20
CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):	CERCLA: Hazardous substances.: Ethylene glycol; ethanediol: 5000 lbs. (2270 kg); Phosphoric acid: 5000 lbs. (2270 kg); sodium hydroxide: 1000 lbs. (454 kg); Diethanolamine; 2,2'-Iminodiethanol: 100 lbs. (45.4 kg);		

### State regulations

Massachusetts Substances The following components are listed: ETHYLENE GLYCOL; TRIETHANOLAMINE

New Jersey Hazardous Substances The following components are listed: ETHYLENE GLYCOL

Pennsylvania RTK Hazardous Substances The following components are listed: 1,2-ETHANEDIOL; ETHANOL, 2,2',2"-NITRILOTRIS-

California Prop. 65 California Prop 65: No products were found

### Inventories

Canada inventory	At least one component is not listed.
Europe inventory	All components are listed or exempted.
Australia inventory (AICS)	At least one component is not listed.
China inventory (IECSC)	At least one component is not listed.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	At least one component is not listed.
Philippines inventory (PICCS)	At least one component is not listed.

## 16. Other information

Label requirements WARNING !  
HARMFUL IF SWALLOWED.  
INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS.  
CAUSES EYE AND SKIN IRRITATION.  
MAY CAUSE RESPIRATORY TRACT IRRITATION.  
CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

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			(US)	Language	ENGLISH.
					(ENGLISH)

HMIS® Rating :

Health \* 2  
Flammability 1  
Physical Hazard 0  
Personal protection X

National Fire Protection Association (U.S.A.)



History

Personal protection 09/23/2009.  
Date of previous issue No previous validation.  
Prepared by Product Stewardship

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.

Product name Castrol Transaqua DW

Product code 457369-US65

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Version 1 Date of issue 09/23/2009.

Format US

Language ENGLISH.

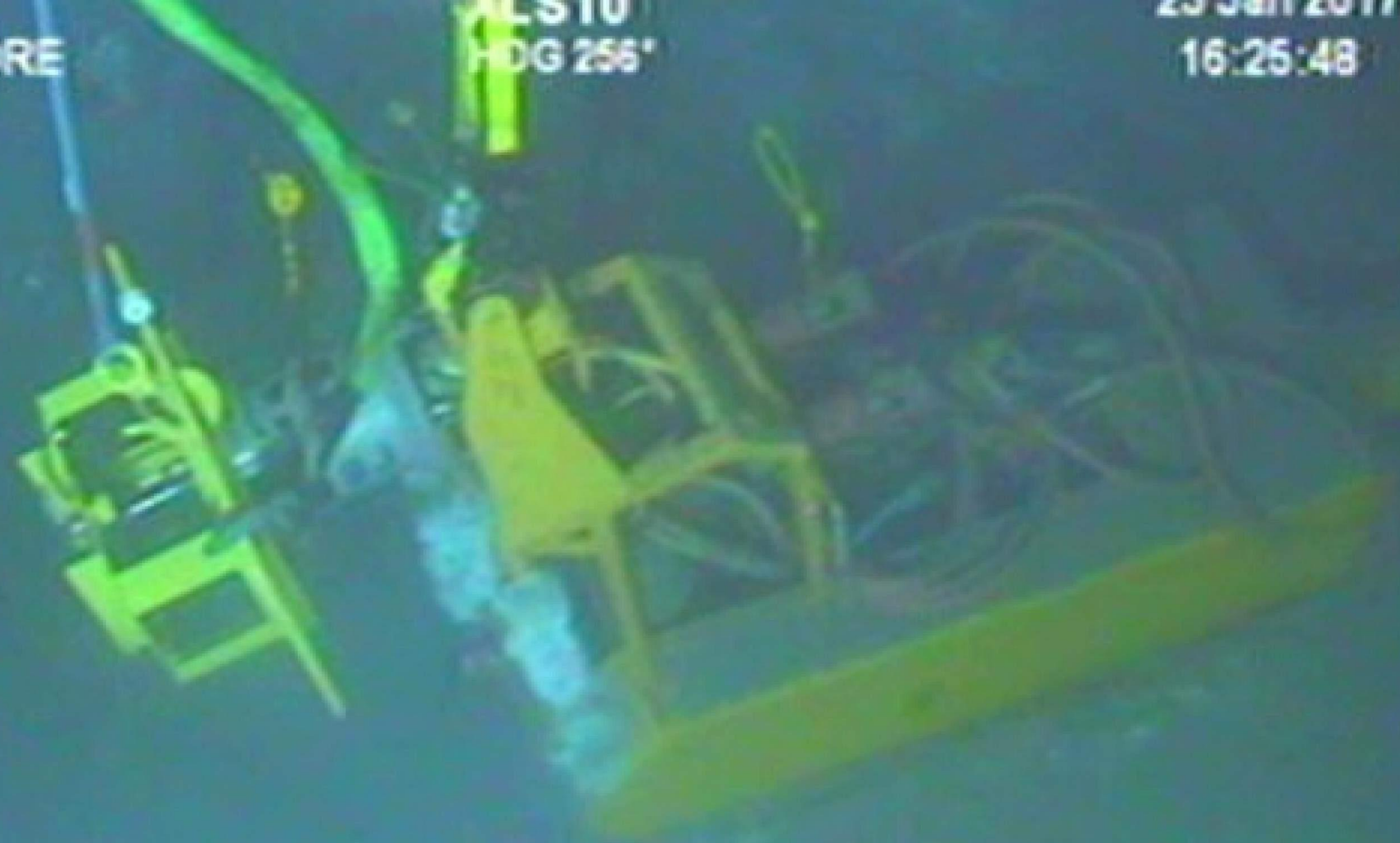
(US)

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ALSTO  
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23 JAN 2017  
16:25:48

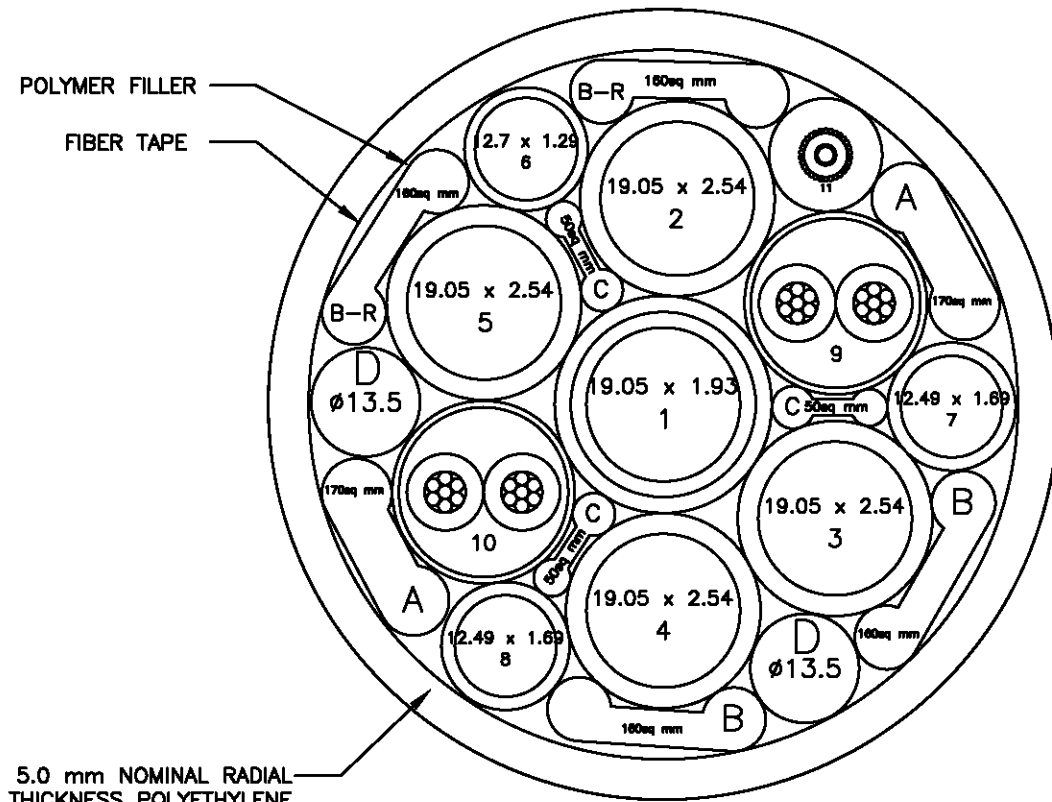


GB 293

Helix / W&T

Depth: 2075 ft

UMBILICAL CROSS-SECTION



SECTION A-A

NOTE :-  
FIBRE TAPE IS AN OMUS OPTION, THIS MAY BE OMITTED OR REMOVED DURING PRODUCTION

LINE NOS.	NO. OFF	HOSE/CABLE/TUBE TYPE	BORE SIZE	MAX. WORKING PRESS. OR VOLTAGE/WAVE	LINE FUNCTION	SHIPPING FLUID
1	1	19.05 I/D X 1.93 W/T-SW	19.05 MM	10,000 P.S.I.	LP	TRANSAQUA DW
2	1	19.05 I/D X 2.54 W/T-SW	19.05 MM	12,500 P.S.I.	CIT	OCEANIC SST5007
3	1	19.05 I/D X 2.54 W/T-SW	19.05 MM	12,500 P.S.I.	AMON	OCEANIC SST5007
4	1	19.05 I/D X 2.54 W/T-SW	19.05 MM	12,500 P.S.I.	HYDRAULIC SPARE	TRANSAQUA DW
5	1	19.05 I/D X 2.54 W/T-SW	19.05 MM	12,500 P.S.I.	CHEMICAL SPARE	OCEANIC SST5007
6	1	12.70 I/D X 1.29 W/T-SW	12.7 MM	10,500 P.S.I.	HP	TRANSAQUA DW
7	1	12.49 I/D X 1.69 W/T-SW	12.49 MM	12,500 P.S.I.	CID 1	OCEANIC SST5007
8	1	12.49 I/D X 1.69 W/T-SW	12.49 MM	12,500 P.S.I.	CID 2	OCEANIC SST5007
9-10	2	16MM SQ. T.P.	N/A	1.0/3.0/(3.6) KV	POWER	N/A
11	1	12XSM FIBERS	N/A	SM 12 FIBER	SIGNAL	N/A

UMBILICAL DATA

PERFORMANCE SUMMARY

LOAD CASE	TENSION (kN)	LOAD CONTROLLED M.B.R.	DISPLACEMENT CONTROLLED M.B.R.
INSTALLATION (138 bar)	0 86	5.69 m 6.58 m	4.21 m 4.46 m
OPERATION (NORMAL @ MWP)	0 54	8.16 m 9.28 m	5.23 m 5.47 m
OPERATION (ABNORMAL @ MWP)	0 54	6.26 m 6.89 m	4.31 m 4.47 m
M.B.R. (STORAGE)		1.75 m @ 1.08% STRAIN	
MIN. BREAK STRENGTH		825 kN	
MAX. INSTALLATION LOAD		86 kN	
MAX. OPERATING LOAD		54 kN	
MAXIMUM DESIGN WATER DEPTH		640 m	
DESIGN LIFE		20 YEARS	
APPROX. ALLOWABLE CRUSH LOAD (LINES UNPRESSURISED)		20 te/m/TRACK	
OPERATIONAL MBR = 80% OF TUBE YIELD (ISO 13628-5:2009)			
INSTALLATION MBR = 100% OF TUBE YIELD (ISO 13628-5:2009)			
LOWER INSTALLATION MBR'S CAN BE USED SUBJECT TO FATIGUE ANALYSIS			

TUBE DATA

SEAM WELDED SUPER DUPLEX UNS S32760

ELECTRICAL CABLE DATA

#9 Ø22.6 mm OD COLOR - RED  
#10 Ø22.6 mm OD COLOR - BLUE

FIBER OPTIC CABLE DATA

#11 Ø14.0 mm OD COLOR - BLACK

PHYSICAL CHARACTERISTICS

NOMINAL MASS (LINES FULL OF SHIPPING FLUID & INTERSTICES FULL OF SEAWATER)	: 14.87 kg/m
NOMINAL WEIGHT IN AIR (LINES FULL OF SHIPPING FLUID & INTERSTICES EMPTY)	: 14.15 kgf/m
NOMINAL WEIGHT IN SEAWATER (LINES FULL OF SHIPPING FLUID & INTERSTICES FULL OF SEAWATER)	: 7.17 kgf/m
UMBILICAL O/D.	: 98 mm

STIFFNESS VALUES

ESTIMATED BENDING	11.54 kNm <sup>2</sup>
ESTIMATED AXIAL	200.76 MN
ESTIMATED TORSIONAL	11.45 kNm <sup>2</sup>

FILLERS/UMBILICAL

- 2 OFF 171.3 sq mm SHAPED FILLER "A" BLACK
- 2 OFF 156 sq mm SHAPED FILLER "B" NATURAL
- 2 OFF 156 sq mm SHAPED FILLER "B-R" RED
- 3 OFF 47.3 sq mm SHAPED FILLER "C" NATURAL
- 2 OFF Ø13.5 mm SOLID FILLER "D" NATURAL

REFERENCES

SCOPE OF SUPPLY - 124875-C-001

ERP BOM UPN: 88209012

CLIENT'S REF. No.

CLIENT REVIEW CODE (TICK)

- 1 APPROVED - WORK MAY PROCEED
- 2 REVISE & RESUBMIT, WORK MAY PROCEED SUBJECT TO THE INCORPORATION OF COMMENTS
- 3 WORK MAY NOT PROCEED, REVISE & RESUBMIT
- 4 REVIEW NOT REQUIRED

REVIEWED BY : \_\_\_\_\_ SIGNED: \_\_\_\_\_

DATE : \_\_\_\_\_

DIMENSIONS IN MILLIMETERS U.O.S.

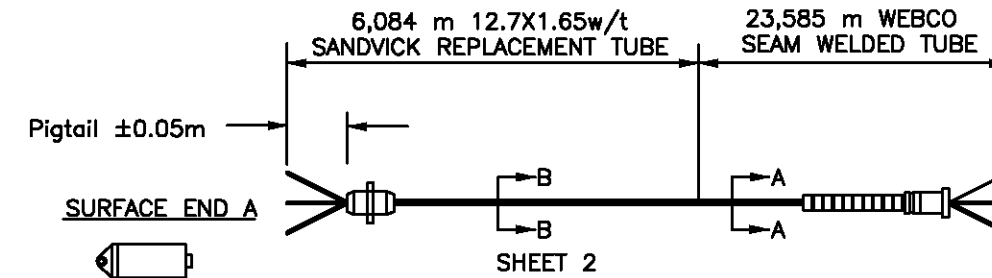
UMBILICAL TOLERANCES	OUTER DIAMETERS :
	ARMORED ±5%
	UNARMORED ±2mm (THERMOPLASTIC)
	UNARMORED +5mm (STEEL TUBE) -3mm

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TITLE UMBILICAL CROSS SECTION

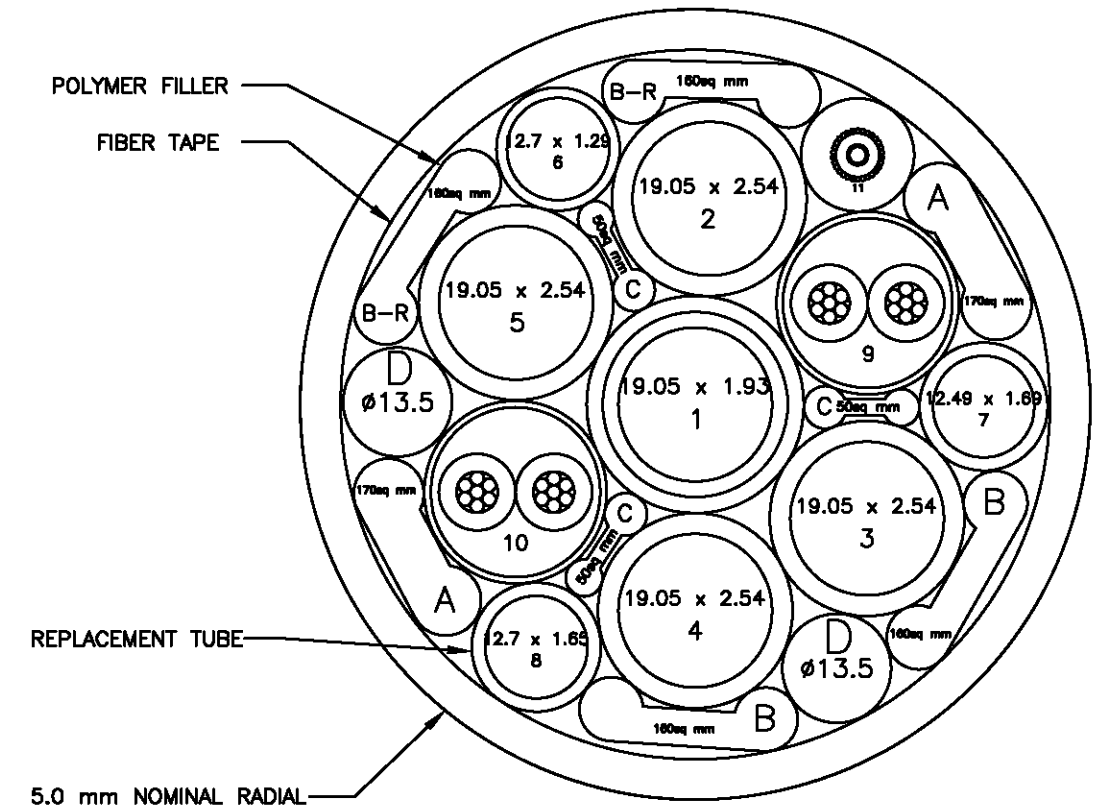
DRAWING No. 124875-C-101 SHEET 1/2



REV	CAN No	BY	DATE	D.O. CHECK	DATE	P.E. CHECK	DATE	APPROVED	DATE
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B	110226	KM	22JUN11	ME	22JUL11	RSF	22JUL11	RSF	22JUL11
A		KM	25APR11	ME	26APR11	JM	26APR11	RSF	26APR11



### UMBILICAL CROSS-SECTION



SECTION B-B

NOTE :-  
FIBRE TAPE IS AN OMUS OPTION, THIS MAY BE OMITTED OR REMOVED DURING PRODUCTION

LINE NOS.	NO. OFF	HOSE/CABLE/TUBE TYPE	BORE SIZE	MAX. WORKING PRESS. OR VOLTAGE/WAVE	LINE FUNCTION	SHIPPING FLUID
1	1	19.05 I/D X 1.93 W/T-SW	19.05 MM	10,000 P.S.I.	LP	TRANSAQUA DW
2	1	19.05 I/D X 2.54 W/T-SW	19.05 MM	12,500 P.S.I.	CIT	OCEANIC SST5007
3	1	19.05 I/D X 2.54 W/T-SW	19.05 MM	12,500 P.S.I.	AMON	OCEANIC SST5007
4	1	19.05 I/D X 2.54 W/T-SW	19.05 MM	12,500 P.S.I.	HYDRAULIC SPARE	TRANSAQUA DW
5	1	19.05 I/D X 2.54 W/T-SW	19.05 MM	12,500 P.S.I.	CHEMICAL SPARE	OCEANIC SST5007
6	1	12.70 I/D X 1.29 W/T-SW	12.7 MM	10,500 P.S.I.	HP	TRANSAQUA DW
7	1	12.49 I/D X 1.69 W/T-SW	12.49 MM	12,500 P.S.I.	CID 1	OCEANIC SST5007
8	1	12.70 I/D X 1.65 W/T	12.7 MM	12,500 P.S.I.	CID 2	OCEANIC SST5007
9-10	2	16MM SQ. T.P.	N/A	1.0/3.0/(3.6) KV	POWER	N/A
11	1	12XSM FIBERS	N/A	SM 12 FIBER	SIGNAL	N/A

### UMBILICAL DATA

#### PERFORMANCE SUMMARY

LOAD CASE	TENSION (kN)	LOAD CONTROLLED		DISPLACEMENT CONTROLLED	
		M.B.R.	M.B.R.	M.B.R.	M.B.R.
INSTALLATION (138 bar)	0 85	5.69 m 6.56 m	4.21 m 4.45 m		
OPERATION (NORMAL @ MWP)	0 53	8.16 m 9.26 m	5.22 m 5.46 m		
OPERATION (ABNORMAL @ MWP)	0 53	6.25 m 6.88 m	4.30 m 4.46 m		
M.B.R. (STORAGE)		1.75 m @ 1.14% STRAIN			
MIN. BREAK STRENGTH		824 kN			
MAX. INSTALLATION LOAD		71 kN			
MAX. OPERATING LOAD		53 kN			
MAXIMUM DESIGN WATER DEPTH		640 m			
DESIGN LIFE		20 YEARS			
APPROX. ALLOWABLE CRUSH LOAD (LINES UNPRESSURISED)		20 te/m/TRACK			
OPERATIONAL MBR =80% OF TUBE YIELD (ISO 13628-5:2009)					
INSTALLATION MBR =100% OF TUBE YIELD (ISO 13628-5:2009)					
LOWER INSTALLATION MBR'S CAN BE USED SUBJECT TO FATIGUE ANALYSIS					

#### TUBE DATA

LINE #8-SUPER DUPLEX UNS 32750/60

#### ELECTRICAL CABLE DATA

#9 Ø22.6 mm OD COLOR - RED  
#10 Ø22.6 mm OD COLOR - BLUE

#### FIBER OPTIC CABLE DATA

#11 Ø14.0 mm OD COLOR - BLACK

#### PHYSICAL CHARACTERISTICS

NOMINAL MASS (LINES FULL OF SHIPPING FLUID & INTERSTICES FULL OF SEAWATER)	: 14.76 kg/m
NOMINAL WEIGHT IN AIR (LINES FULL OF SHIPPING FLUID & INTERSTICES EMPTY)	: 14.04 kgf/m
NOMINAL WEIGHT IN SEAWATER (LINES FULL OF SHIPPING FLUID & INTERSTICES FULL OF SEAWATER)	: 7.06 kgf/m
UMBILICAL O/D.	: 98 mm

#### STIFFNESS VALUES

ESTIMATED BENDING	11.54 kNm <sup>2</sup>
ESTIMATED AXIAL	200.76 MN
ESTIMATED TORSIONAL	11.45 kNm <sup>2</sup>

#### FILLERS/UMBILICAL

- 2 OFF 171.3 sq mm SHAPED FILLER "A" BLACK
- 2 OFF 156 sq mm SHAPED FILLER "B" NATURAL
- 2 OFF 156 sq mm SHAPED FILLER "B-R" RED
- 3 OFF 47.3 sq mm SHAPED FILLER "C" NATURAL
- 2 OFF Ø13.5 mm SOLID FILLER "D" NATURAL

DO NOT SCALE - IF IN DOUBT ASK

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BRAZIL - NITERÓI, RIO DE JANEIRO      ○

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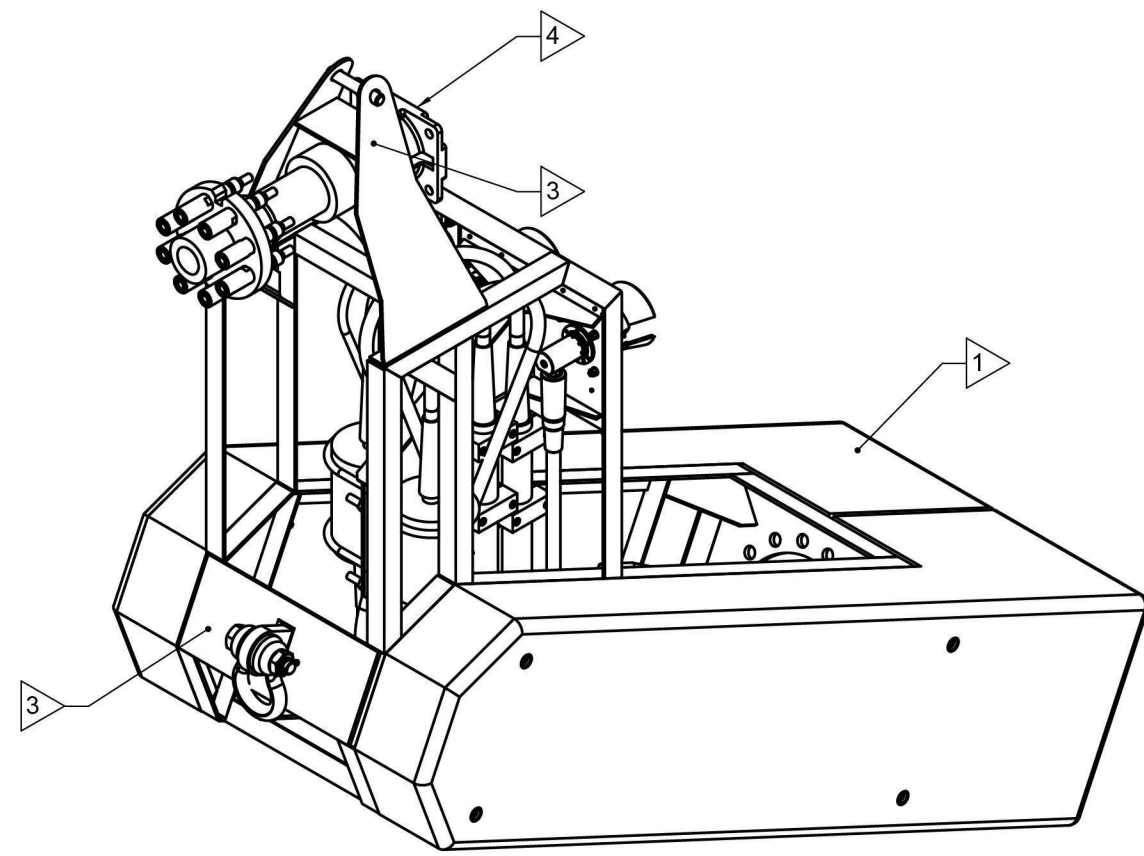
TITLE **UMBILICAL CROSS SECTION**

DRAWING No. **124875-C-101** SHEET **2/2**



REVISIONS			
LTR	DESCRIPTION	INCORP BY	DATE
1	INITIAL RELEASE	TV	28 JUL 11

PORT No.	COUPLER SIZE	COUPLER TYPE	FUNCTION	DESIGN PRESSURE (PSI)	TEST PRESSURE (PSI)	TUBING MATERIAL	UTH TUBE SIZE	UMBILICAL TUBE SIZE	UMBILICAL LINE No.
1	1/2" UO	STANDARD	LP	10,000	15,000	SAF 2507	12.70mm ID X 2.20mm WT	19.05mm ID x 1.93mm WT	1
2	1/2" UO	STANDARD	CI	12,500	18,750	SAF 2507	12.70mm ID X 2.20mm WT	19.05 mm ID x 2.54mm WT	3
3	1/2" UO	STANDARD	AMON	12,500	18,750	SAF 2507	12.70mm ID X 2.20mm WT	19.05mm ID x 2.54mm WT	5
4	1/2" UO	STANDARD	CH SPARE	12,500	18,750	SAF 2507	12.70mm ID X 2.20mm WT	19.05mm ID x 2.54mm WT	4
5	1/2" UO	STANDARD	SPARE	12,500	18,750	SAF 2507	12.70mm ID X 2.20mm WT	19.05mm ID x 2.54mm WT	2
6	1/2" UO	STANDARD	HP	10,000	15,000	SAF 2507	12.70mm ID X 2.20mm WT	12.70mm ID x 1.29mm WT	6
7	1/2" UO	STANDARD	CI	12,500	18,750	SAF 2507	12.70mm ID X 2.20mm WT	12.49 mm ID x 1.69mm WT	7
8	1/2" UO	STANDARD	CI	12,500	18,750	SAF 2507	12.70mm ID X 2.20mm WT	12.49mm ID x 1.69mm WT	8

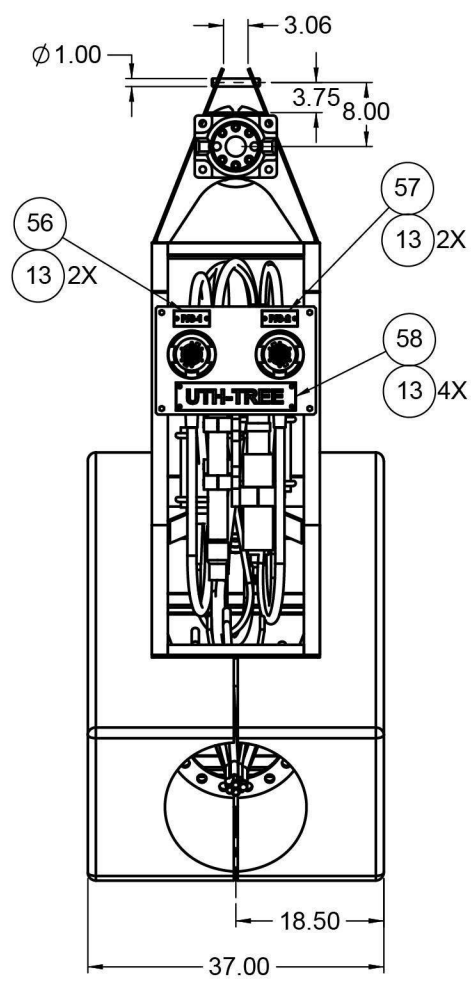
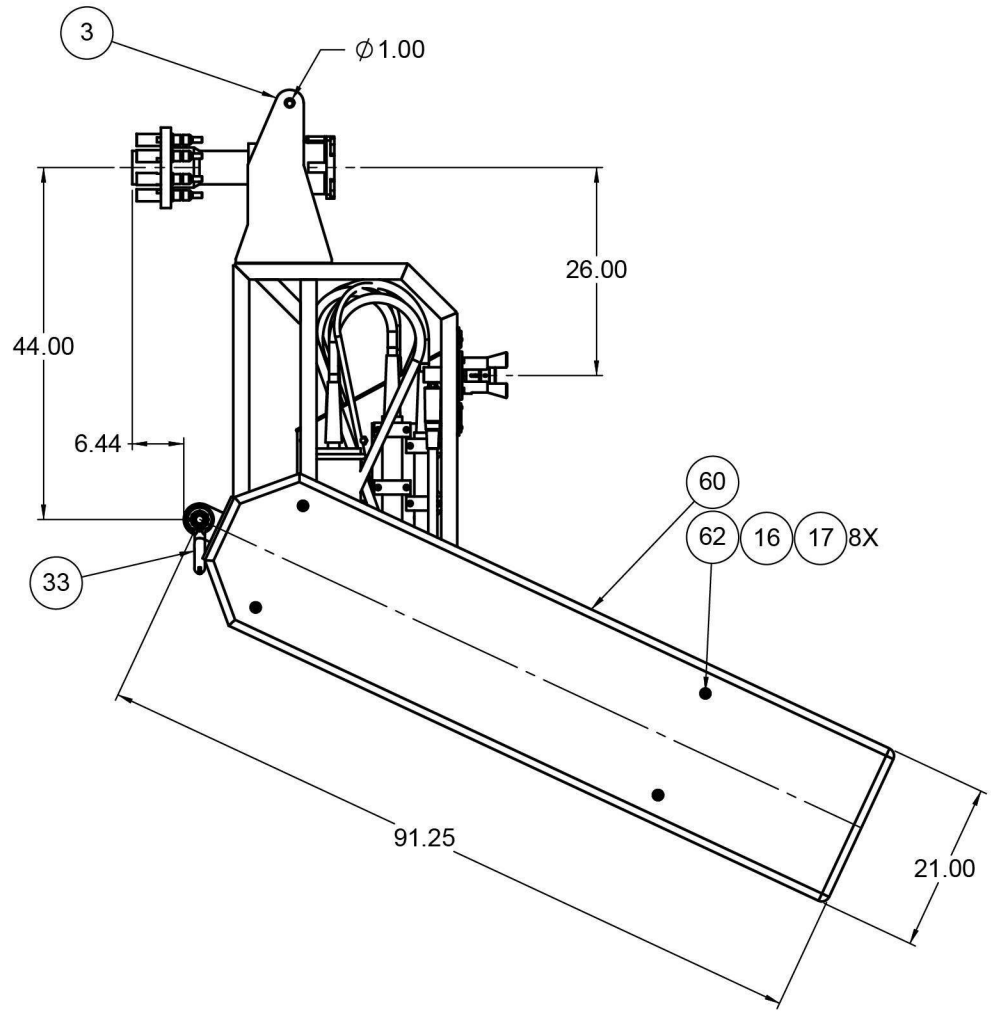
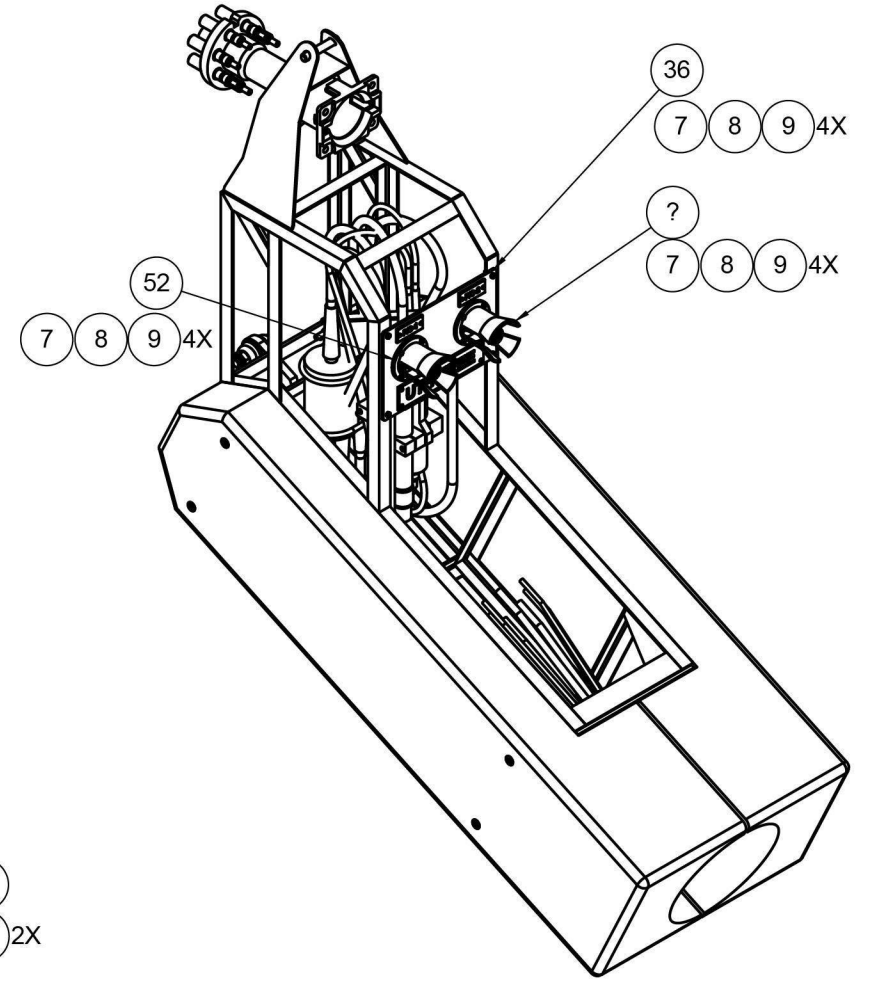
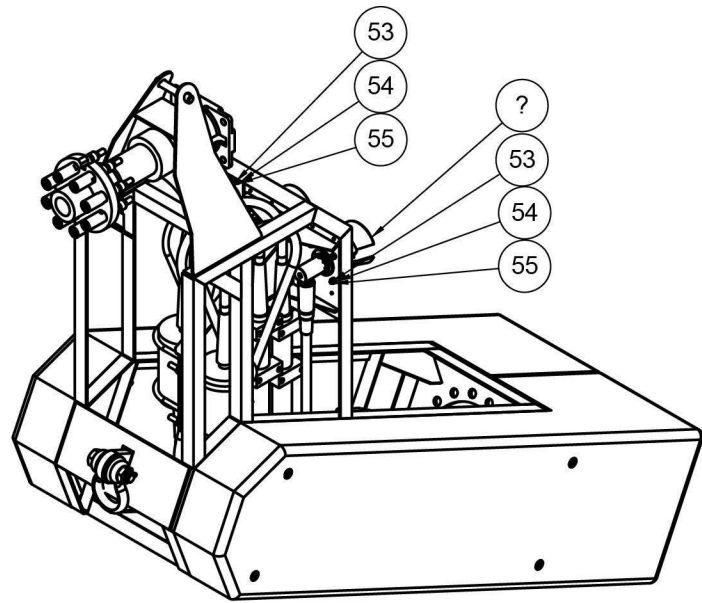


7. SURFACE AREA ( APPROX. ):  
 COATED = 12000 SQ INCHES  
 UNCOATED = 5500 SQ INCHES
6. MIN. TUBE BEND RADIUS 5D FOR TUBING IN JUNCTION PLATES.
5. WELD PER APPROVED VENDOR SPEC. INSPECT CAP PASS PER OIE SPEC. WI.10.009. REQUIRED LP AND X-RAY REPORTS MUST BE LINKED TO WELDMENT SEQUENCE #. LP TO BE DONE BEFORE X-RAY. X-RAY ACCEPTANCE CRITERIA PER ASME B31.3 SEVERE SERVICE. REMOVE ALL SLAG AND DEBURR AND BREAK ALL SHARP EDGES.
4. TORQUE RECEPTACLE IS API 17D, CLASS 4 WITH 1.5" SQ. END EFFECTOR
3. MARK PADEYE WITH SAFE WORKING LOAD:  
 BUOYANCY PAD EYE (AT TOP J-PLATE): 1 TON  
 INSTALLATION PAD EYE (AT BOTTOM): 7.5 TONS
2. FAT PROCEDURE: D-0438840.
1. STENCIL (3/16") P/N, REV. LEVEL, PID # AND S/N APPROXIMATELY WHERE SHOWN.

<b>OCEANEERING</b>		<b>OCEANEERING INTERNATIONAL, INC.</b> WWW.OCEANEERING.COM	
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DRAWN: TVUONG	DATE: 28 JUL 11	3RD ANGLE PROJECTION	DO NOT SCALE
ENGR: SALMERIC	DATE: 28 JUL 11	SIZE: <b>D</b>	DWG. NO. <b>0386565</b>
PR MGR: TBENARD	DATE: 28 JUL 11	SCALE: NTS	WEIGHT: 1301.483 LB Pound
eSIGNATURES ON FILE		SHEET 1 OF 4	REV. <b>1</b>

SOLIDWORKS

8 7 6 5 4 3 2 1



D  
C  
B  
A

D  
C  
B  
A

SOLIDWORKS

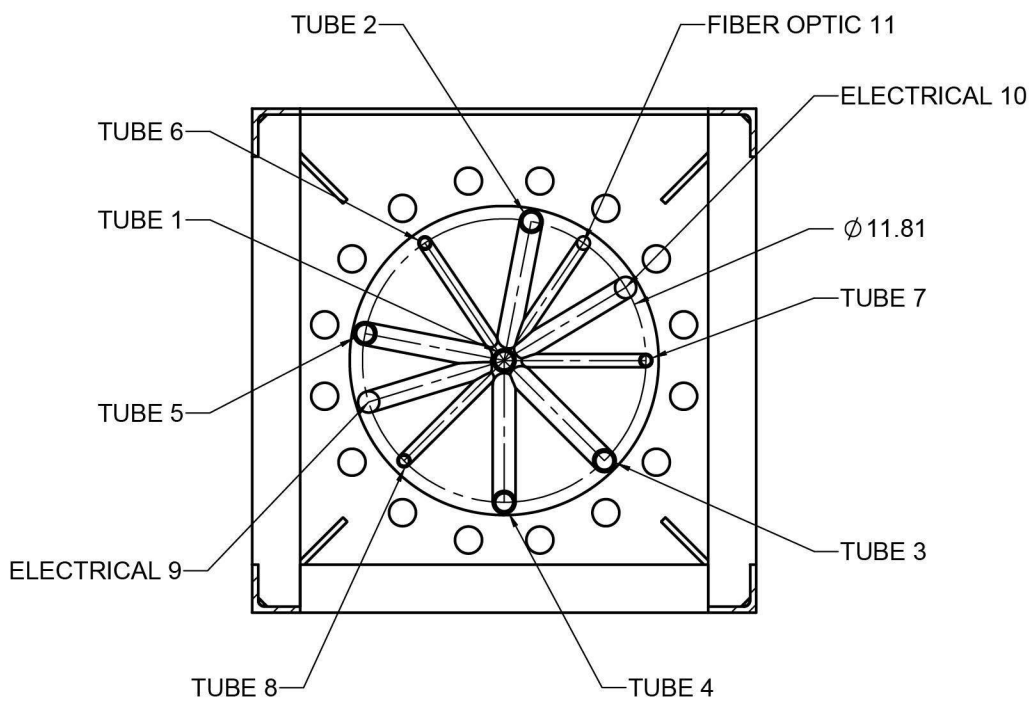
FORM F1345, REV E

8 7 6 5 4 3 2 1

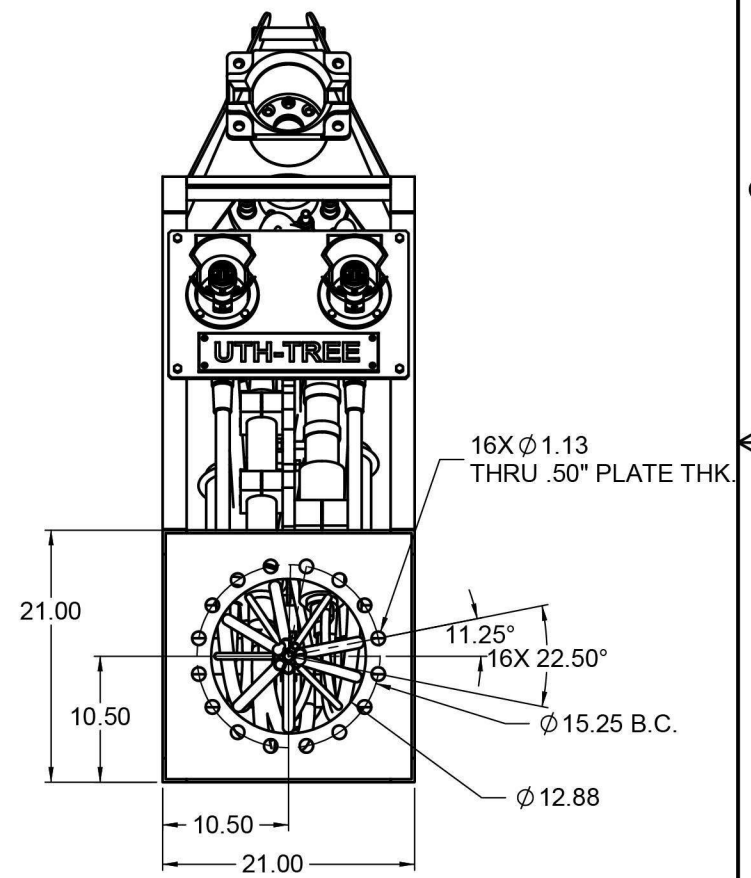
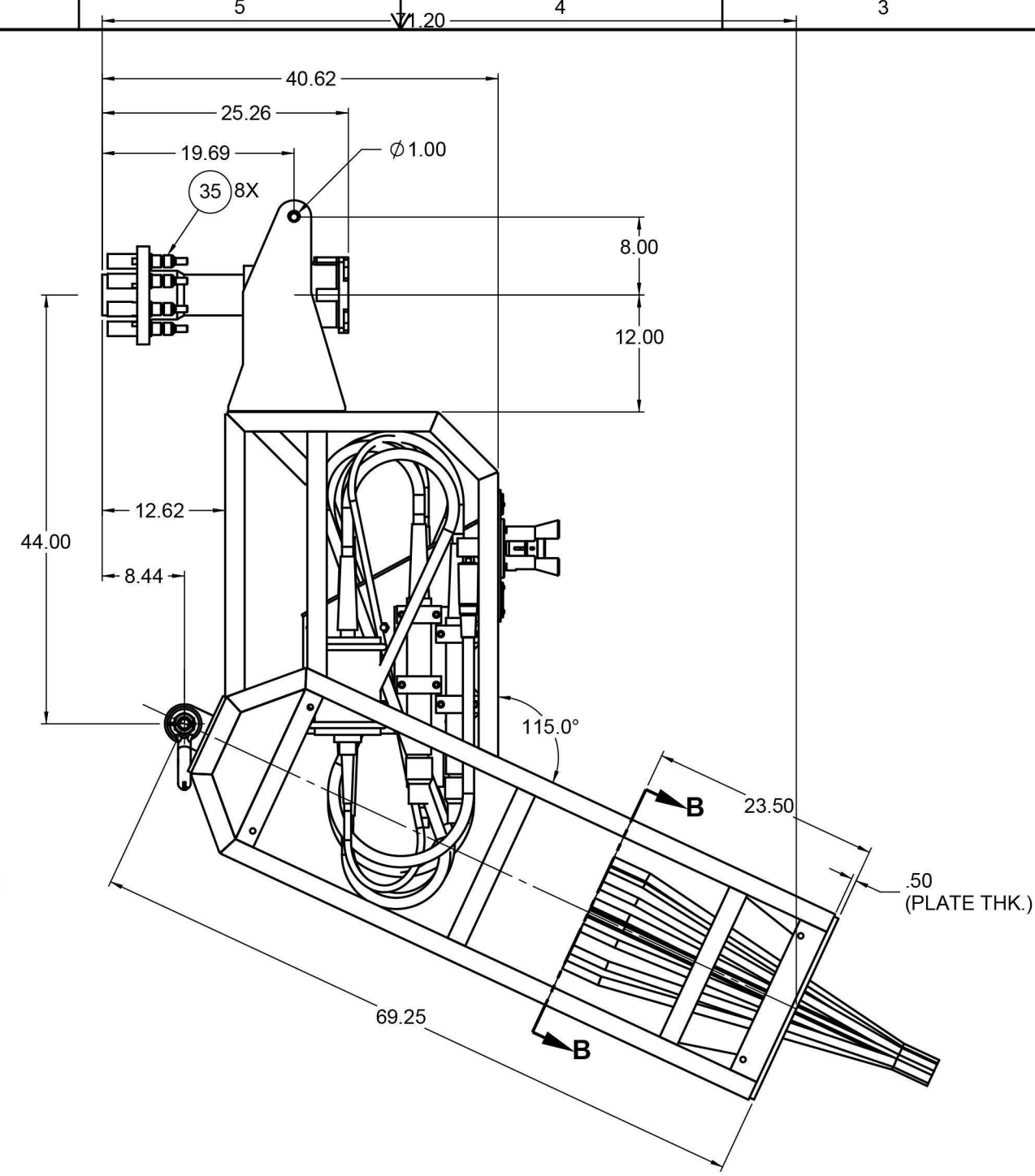


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3RD ANGLE PROJECTION	
SIZE <b>D</b>	DWG. NO. <b>0386565</b>
SCALE: NTS	REV. <b>1</b>
DO NOT SCALE	
SHEET 2 OF 4	



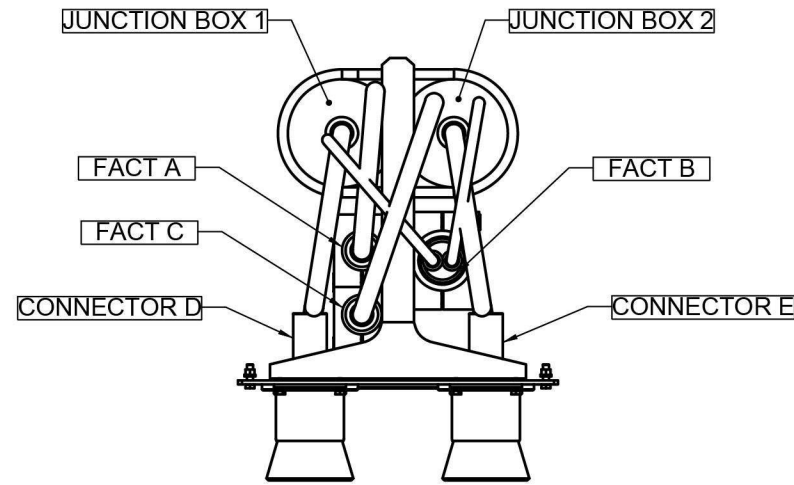
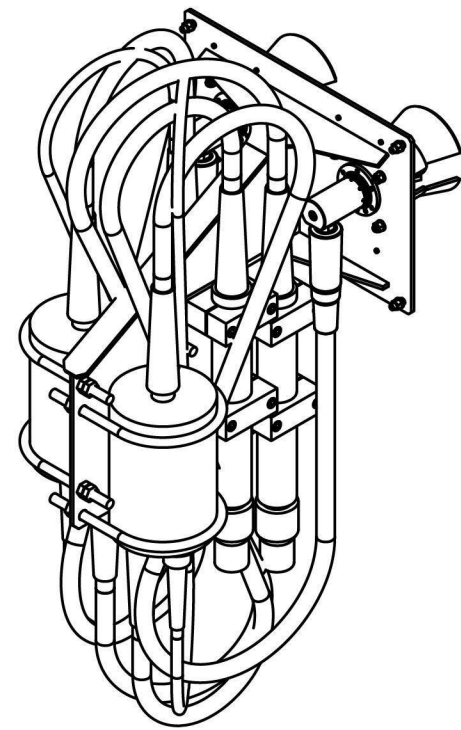
**SECTION B-B**



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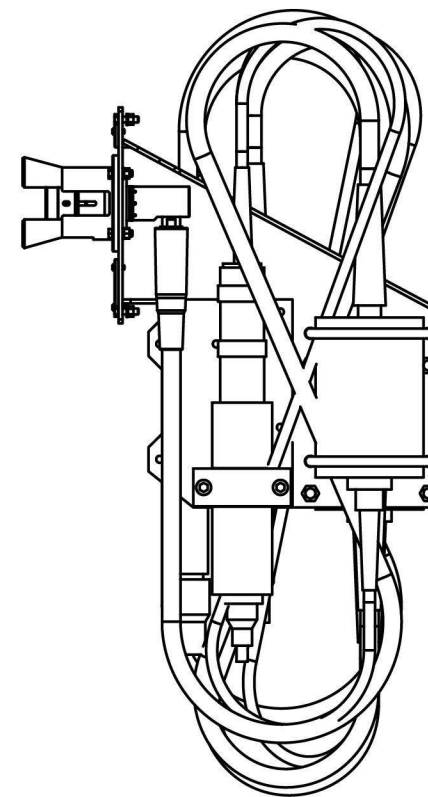
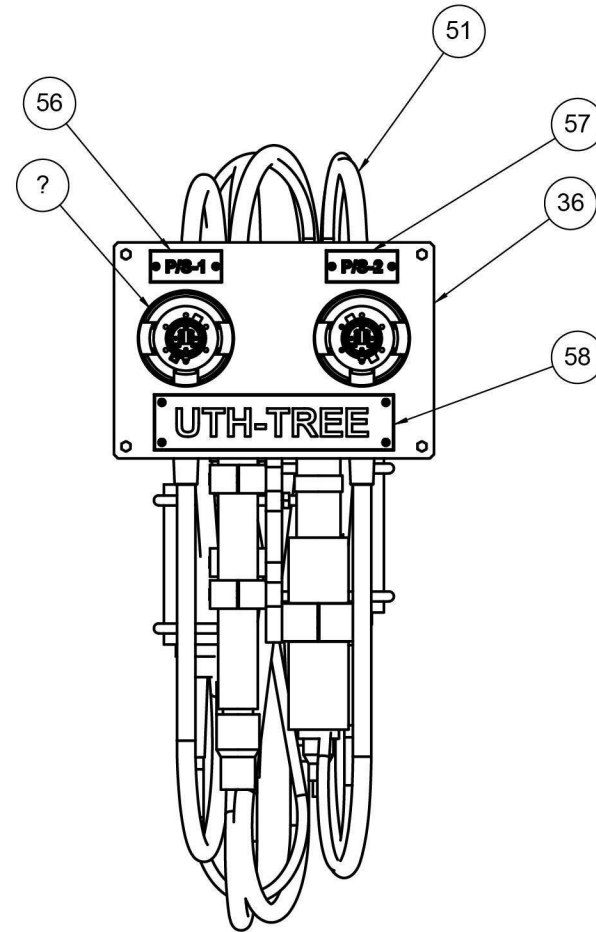
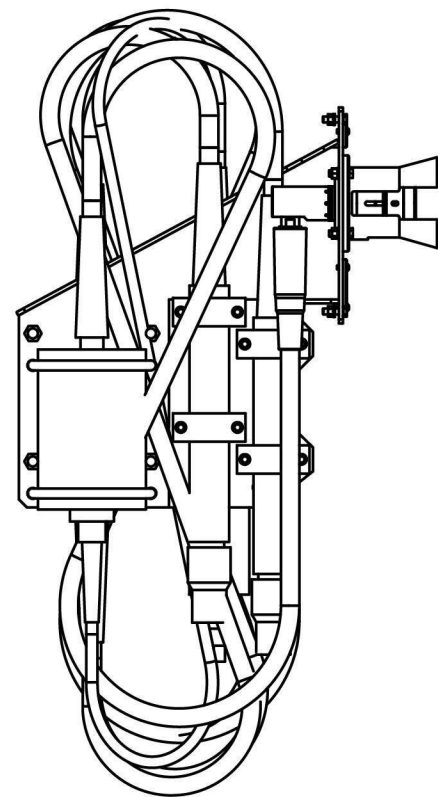
3RD ANGLE PROJECTION		REV. 1
SIZE D	DWG. NO. 0386565	SHEET 3 OF 4
SCALE: NTS	DO NOT SCALE	

SOLIDWORKS



**ELECTRICAL ASSEMBLY**  
REFERENCE 0387060

2X

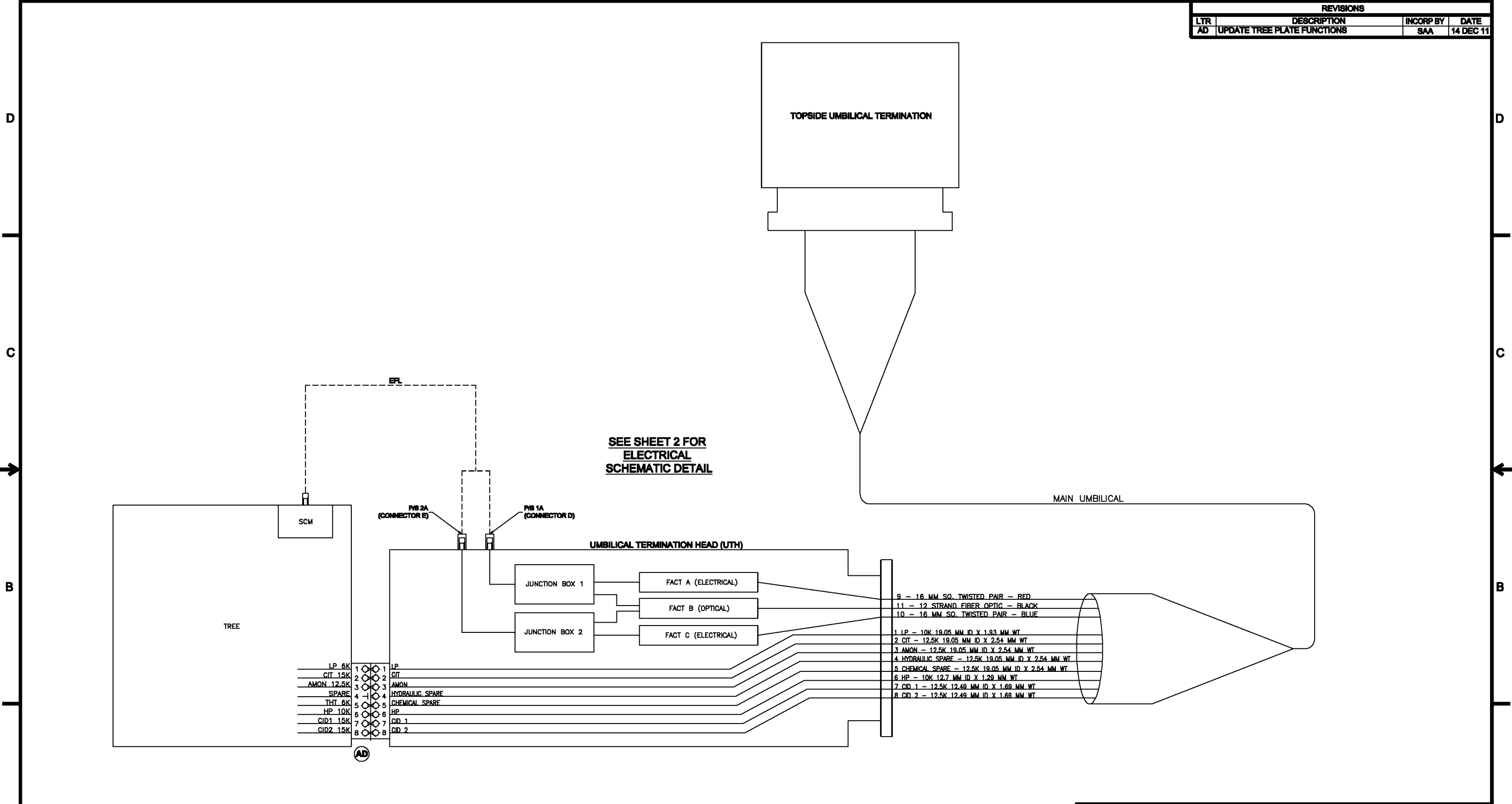


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3RD ANGLE PROJECTION		REV. <b>1</b>
SIZE <b>D</b>	DWG. NO. <b>0386565</b>	SHEET 4 OF 4
SCALE: NTS	DO NOT SCALE	

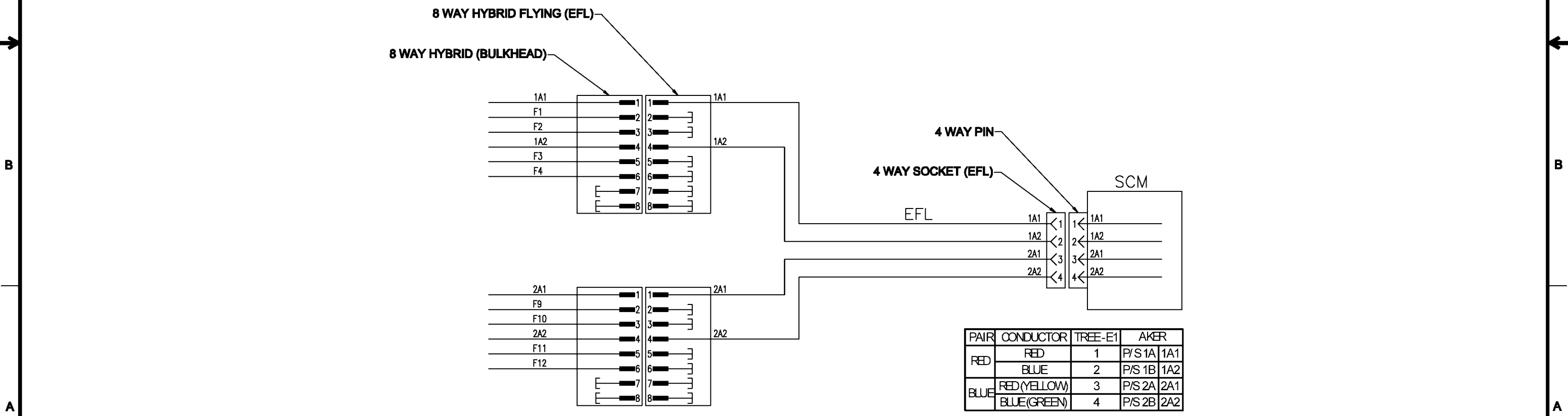
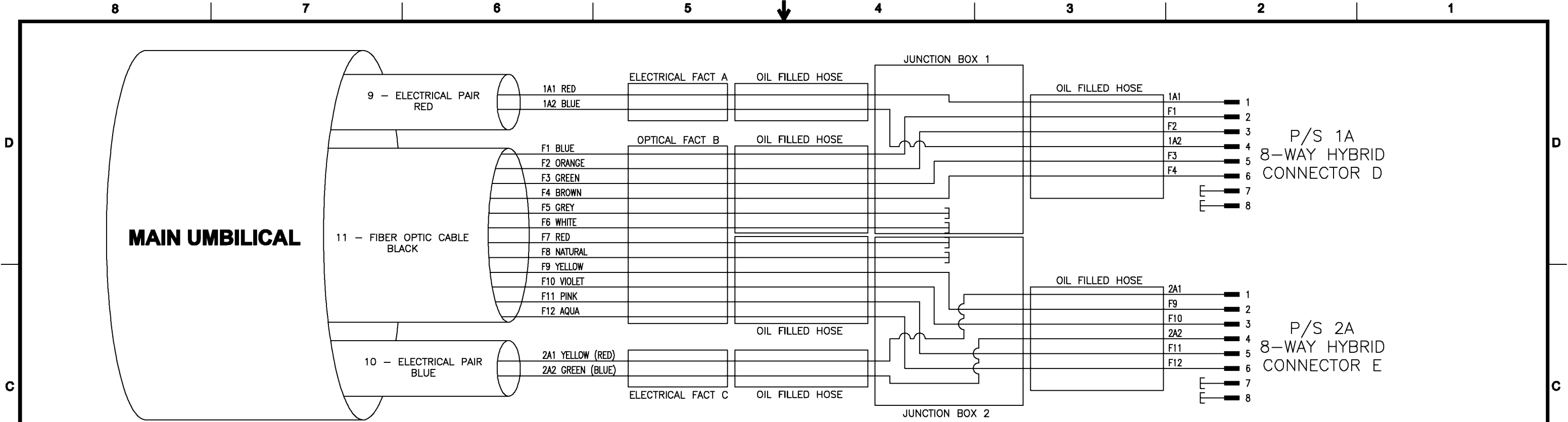
SOLIDWORKS

REVISIONS			
LTR	DESCRIPTION	INCORP BY	DATE
AD	UPDATE TREE PLATE FUNCTIONS	SAA	14 DEC 11



NOTES:  
AUTOCAD  
FORM F1330, REV J (01)

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DRAWN: SALMERICCO	DATE: 11 MAY 11	 3RD ANGLE PROJECTION	DO NOT SCALE
ENGR: SALMERICCO	DATE: 11 MAY 11		SCALE: NTS
PR MGR: TBENARD	DATE: 11 MAY 11	SIZE: D	DWG. NO. 0387060
SIGNATURES ON FILE		SCALE: NTS	WEIGHT: LB POUND SHEET 1 OF 2



PAIR	CONDUCTOR	TREE-E1	AKER
RED	RED	1	P/S 1A 1A1
	BLUE	2	P/S 1B 1A2
BLUE	RED (YELLOW)	3	P/S 2A 2A1
	BLUE (GREEN)	4	P/S 2B 2A2

# ELECTRICAL SCHEMATIC

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	SIZE <b>D</b>	DWG. NO. <b>0387060</b>	REV. <b>AD</b>
SCALE: NTS	DO NOT SCALE	SHEET 2 OF 2	

AUTOCAD



**PIPELINE PIGGING, FLUSHING, FILLING, ISOLATION REPORT**

<b>PIPELINE PHYSICAL DATA</b>	<b>UNITS</b>	<b>DATA</b>
BSEE Segment #	Number	18213
Originating Location	Area, Block, Number/Letter	GB 293 SSWell #2
Originating Location Type	Platform, SSTI, PLET, etc.	PLET
Originating Location Equipment API #		NA
Receiving Location	Area, Block, Number/Letter	GB 72-A
Receiving Location Type	Platform, SSTI, PLET, etc.	Platform
Receiving Location API #		KAQ-0055
Service Code	BLKG, BLKO, G/C, G/O, LIFT, UMBH, etc.	BLKG
Status	ACT, OUT, PABN	OUT
Outside Diameter	Inches	6.625
Wall thickness (if unknown use Schedule 40)	Inches	0.864 / 0.907
Inside Diameter	Inches	4.897 / 4.811
Horizontal Length (from BSEE Website or OWL)	Feet	92108
Originating Location Length of Riser, PLET, etc.	Feet	0
Receiving Location Length of Riser, PLET, etc.	Feet	0
Total Length	Feet (calculated)	92108
Volume of Pipeline:	Cubic Feet (calculated)	NA
Volume of Pipeline:	Gallons (calculated)	89748
Volume of Pipeline:	Barrels (calculated)	2137

**PROCEDURE - GENERAL**

Contractor Name		Helix
Contractor Supervisor Name		
Contractor Supervisor Phone #		
Contractor Daily Work Ticket Numbers		
W&T Offshore Leader Name		Robert C. Bujol
Pump Location	Area, Block, Number/Letter	GC 293SSWell#2 / Q4000
Volume Measurement Location	Area, Block, Number/Letter	GC 293SSWell#2 / Q4000
Volume Measurement Method	Meter or tank level	Pump Stroke Counter
If tank, gallons per inch of level	Gallons	NA



**PROCEDURE - PIGGING**

Pipeline Piggged	Yes or No	No
Launch Location	Alpha (Area, Block, Number/Letter)	NA
Pig type	brand, weight, model #	NA
Count of pigs Launched		NA
Receive Location	Alpha (Area, Block, Number/Letter)	NA
Pig Run Beginning Meter Measurement Reading	Gallons	NA
Pig Run Ending Meter Measurement Reading	Gallons	NA
Total Volume Seawater Pumped	Gallons	NA
Additives to Seawater	Yes or No	NA
Oxygen Scavenger Volume Added	Gallons	0
Oxygen Scavenger Brand / Type		
Biocide Volume Added	Gallons	0
Biocide Brand / Type		
Corrosion Inhibitor Volume Added	Gallons	0
Corrosion Inhibitor Brand / Type		
Sheen Test Method		NA
Sheen Test Results	Pass / Fail / Not Performed	NA
Count of pigs recovered		0
Date Pumping Started		NA
Date Pumping Completed		NA

**PROCEDURE - AFTER PIGGING (Flush / Fill)**

Beginning Meter Measurement Reading	Gallons	0
Ending Meter Measurement Reading	Gallons	0
Total Volume Seawater Pumped	Gallons	140700
Additives to Seawater	Yes or No	No
Oxygen Scavenger Volume Added	Gallons	0
Oxygen Scavenger Brand / Type		NA
Biocide Volume Added	Gallons	0
Biocide Brand / Type		NA
Corrosion Inhibitor Volume Added	Gallons	0
Corrosion Inhibitor Brand / Type		NA
Sheen Test Method		Sample Bucket
Sheen Test Results	Pass / Fail / Not Performed	Passed
Date Pumping Started		1/17/2017
Date Pumping Completed		1/18/2017
Pipeline Isolation at Originating Location after flushing	Spool Removed at +12, SDV closed , etc.	Close PLET Valve
Pipeline Isolation at Receiving Location after flushing	Spool Removed at +12, SDV closed , etc.	LOTO Boarding Valve

**CLOSEOUT DATA**

Name of Person Completing this report	Name	Alan Greig, Jr.
Signature of Person Completing this report	Signature	Alan Greig, Jr.
Date report Completed	Date	2/2/17
Date emailed to regulatory@wtoffshore.com and facilitiesgroup@wtoffshore.com	Date	2/2/17

**Guidance**

- 1) Seawater with chemical additives will have to be flushed out prior to abandonment. Do not add any chemicals to seawater without prior approval from Production Superintendent.
- 2) After completing form, sign form, scan and email to regulatory@wtoffshore.com and facilitiesgroup@wtoffshore.com



**PIPELINE PIGGING, FLUSHING, FILLING, ISOLATION REPORT**

PIPELINE PHYSICAL DATA	UNITS	DATA
BSEE Segment #	Number	18214
Originating Location	Area, Block, Number/Letter	GB 72-A
Originating Location Type	Platform, SSTI, PLET, etc.	TUTA
Originating Location Equipment API #		NA
Receiving Location	Area, Block, Number/Letter	GB 293 SSWell#2
Receiving Location Type	Platform, SSTI, PLET, etc.	Subsea Well
Receiving Location API #		NA
Service Code	BLKG, BLKO, G/C, G/O, LIFT, UMBH, etc.	UBEH
Status	ACT, OUT, PABN	OUT
Outside Diameter	Inches	3"
Wall thickness (if unknown use Schedule 40)	Inches	NA
Inside Diameter	Inches	NA
Horizontal Length (from BSEE Website or OWL)	Feet	96,241
Originating Location Length of Riser, PLET, etc.	Feet	NA
Receiving Location Length of Riser, PLET, etc.	Feet	NA
Total Length	Feet (calculated)	96241
Volume of CIT:	Gallons (calculated)	2225
Volume of CID1:	Gallons (calculated)	950
Volume of CID2:	Gallons (calculated)	950
Volume of AMON:	Gallons (calculated)	2225
Volume of Pipeline:	Cubic Feet (calculated)	NA
Volume of Pipeline:	Gallons (calculated)	NA
Volume of Pipeline:	Barrels (calculated)	NA

**PROCEDURE - GENERAL**

Contractor Name		W&T Offshore, Inc.
Contractor Supervisor Name		Alan Greig, Jr.
Contractor Supervisor Phone #		713-297-8014
Contractor Daily Work Ticket Numbers		NA
W&T Offshore Leader Name		Paul Hebert
Pump Location	Area, Block, Number/Letter	GB 72-A
Volume Measurement Location	Area, Block, Number/Letter	GB 72-A
Volume Measurement Method	Meter or tank level	Meter
If tank, gallons per inch of level	Gallons	NA

**PROCEDURE - PIGGING**

Pipeline Piggged	Yes or No	No
Launch Location	Alpha (Area, Block, Number/Letter)	NA
Pig type	brand, weight, model #	NA
Count of pigs Launched		NA
Receive Location	Alpha (Area, Block, Number/Letter)	NA
Pig Run Beginning Meter Measurement Reading	Gallons	NA
Pig Run Ending Meter Measurement Reading	Gallons	NA
Total Volume Seawater Pumped	Gallons	NA
Additives to Seawater	Yes or No	No
Oxygen Scavenger Volume Added	Gallons	0
Oxygen Scavenger Brand / Type		
Biocide Volume Added	Gallons	0
Biocide Brand / Type		
Corrosion Inhibitor Volume Added	Gallons	0
Corrosion Inhibitor Brand / Type		
Sheen Test Method		NA
Sheen Test Results	Pass / Fail / Not Performed	NA
Count of pigs recovered		NA
Date Pumping Started		NA
Date Pumping Completed		NA

**PROCEDURE - AFTER PIGGING (Flush / Fill)**

Beginning Meter Measurement Reading	Gallons	NA
Ending Meter Measurement Reading	Gallons	NA
CIT Volume Pumped (Plugged Tube)	Gallons	0
CID1 Volume Pumped	Gallons	3330
CID2 Volume Pumped	Gallons	1100
AMON Volume Pumped	Gallons	2350
Total Volume Seawater Pumped	Gallons	6780
Additives to Seawater	Yes or No	No
Oxygen Scavenger Volume Added	Gallons	0
Oxygen Scavenger Brand / Type		NA
Biocide Volume Added	Gallons	0
Biocide Brand / Type		NA
Corrosion Inhibitor Volume Added	Gallons	0
Corrosion Inhibitor Brand / Type		NA
Sheen Test Method		NA
Sheen Test Results	Pass / Fail / Not Performed	NA
Date Pumping Started		1/20/2017
Date Pumping Completed		1/24/2017
Pipeline Isolation at Originating Location after flushing	Spool Removed at +12, SDV closed , etc.	LOTO TUTA
Pipeline Isolation at Receiving Location after flushing	Spool Removed at +12, SDV closed , etc.	Removed from Subsea Tree

**CLOSEOUT DATA**

Name of Person Completing this report	Name	Alan Greig, Jr
Signature of Person Completing this report	Signature	Alan Greig, Jr
Date report Completed	Date	3/9/17
Date emailed to regulatory@wtoffshore.com and facilitiesgroup@wtoffshore.com	Date	3/9/17

**Guidance**

- 1) Seawater with chemical additives will have to be flushed out prior to abandonment. Do not add any chemicals to seawater without prior approval from Production Superintendent.
- 2) After completing form, sign form, scan and email to regulatory@wtoffshore.com and facilitiesgroup@wtoffshore.com



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT  
7400 LEAKE AVENUE  
NEW ORLEANS, LOUISIANA 70118

2 February 2017

REPLY TO  
ATTENTION OF

Operations Division  
Eastern Evaluation Section

SUBJECT: Permit Transfer

W&T Offshore, Inc.  
Attention: Ms. Lea Ann Hover  
Nine East Greenway Plaza, Suite 300  
Houston, Texas 77046  
e-mail: [lhover@wtoffshore.com](mailto:lhover@wtoffshore.com)

Ms. Hover:

This concerns your email dated, 31 January 2017, advising that Newfield Exploration Company has assigned to W&T Offshore, Inc. their rights under the Department of the Army permit MVN-2011-00146-WY and that you agree to abide by all the terms and conditions of these permit. By the attached transfer form dated 30 January 2017, Newfield Exploration Company has confirmed this transfer.

By this letter, the transfer of the permit is final. Our records have been modified to reflect that you are now the permittee of record. Should you have any further questions concerning this matter, please contact Melissa Marino at 504-862-2637 or [Melissa.L.Marino@usace.army.mil](mailto:Melissa.L.Marino@usace.army.mil).

Sincerely,

for  
Martin S. Mayer  
Chief, Regulatory Branch

Attachment

cc: Newfield Exploration Company  
Attention: Ms. Elaine Krueger  
Four Waterway Square Place  
Suite 100  
The Woodlands, Texas 77380

## **Marino, Melissa L CIV USARMY CEMVN (US)**

---

**Subject:** FW: OCZ Transfer Permit No. MVN-2011-00146 - W&T Offshore, Inc. - Executed Transfer Form  
**Attachments:** Permit Number MNV-2011-00146-WY-Executed Transfer Form.pdf

-----Original Message-----

From: Lea Ann Hover [mailto:lhover@wtoffshore.com]  
Sent: Tuesday, January 31, 2017 9:13 AM  
To: Wrubluski, Edward F CIV CEMVN CEMVD (US) <Edward.F.Wrubluski@usace.army.mil>  
Subject: [EXTERNAL] Permit No. MVN-2011-00146 - W&T Offshore, Inc. - Executed Transfer Form

Ed,

Attached, please find the executed Transfer Form for Permit Number MNV-2011-00146.

Question: How long does it take the Surveillance and Enforcement Section to issue a letter stating "NFAR"? Just curious...

Should you need any additional information, please let me know.

Regards,

Lea Ann Hover  
Regulatory Analyst

+1 713 513 8646 (direct)  
+1 832 498 1009 (mobile)  
+1 713 626 8527 (fax)  
lhover@wtoffshore.com <mailto:lhover@wtoffshore.com>

W&T Offshore, Inc.  
Nine Greenway Plaza, Suite 300  
Houston, TX, US 77046-0908  
+1 (713) 626-8525 (main)  
Blockedwww.wtoffshore.com <Blockedhttp://www.wtoffshore.com>

A U.S. Company helping to supply energy for its Country

A U.S. Company helping to supply energy for its Country -----Original Message-----

From: Wrubluski, Edward F CIV CEMVN CEMVD (US) [mailto:Edward.F.Wrubluski@usace.army.mil]  
Sent: Friday, January 27, 2017 11:07 AM  
To: Lea Ann Hover  
Subject: RE: Permit No. MVN-2011-00146 - W&T Offshore, Inc. - Guidance for Concurrence

Please transfer all permits acquired from Newfield Exploration to WToffshore with the form attached.  
Our Surveillance an Enforcement Section will write a letter stating No Further Authorization Required (NFAR).

Your company will still have liability in the highly unlikely possibility of some event occurring.

-----Original Message-----

From: Lea Ann Hover [mailto:lhover@wtoffshore.com]

Sent: Thursday, January 26, 2017 3:29 PM

To: Wrubluski, Edward F CIV CEMVN CEMVD (US) <Edward.F.Wrubluski@usace.army.mil>

Subject: [EXTERNAL] Permit No. MVN-2011-00146 - W&T Offshore, Inc. - Guidance for Concurrence

Good Afternoon Ed,

Seems like we have been playing phone tag over the last 2 weeks.

I am requesting some guidance regarding Permit # MVN-2011-00146, which was granted to Newfield Exploration Company on June 11, 2011. This permit allowed Newfield to place their 6-5/8" Gas Pipeline (PSN 18213) and it's 3" Hydraulic Umbilical (PSN 18214) in the Gulf Safety Fairway Crossing, located in Garden Banks 160 and 116 in the Gulf of Mexico. Newfield also was granted a departure to not bury the aforementioned pipelines as the water depth in the fairway ranges from 950' to 1150'.

W&T Offshore, Inc. (W&T) was assigned the Pipeline Right-of-Way Grants from DOI, BSEE in December of 2012. As operator of record, we are charged with abandoning in-place both pipelines. During the BSEE review for abandonment, we were notified via email by Mr. Steven Pelous that W&T needs to contact the ACOE for permission to leave-in-place the two pipelines in the Gulf Safety Fairway Crossing as they have the final authority on fairways and anchorage areas. BSEE will grant us permission to abandon in-place both pipelines if we get ACOE concurrence.

Please let me know when is a good time to speak with you so that we can determine what is needed for us to go forward.

I look forward to talking with you.

Regards,

Lea Ann Hover

Regulatory Analyst

+1 713 513 8646 (direct)

+1 832 498 1009 (mobile)

+1 713 626 8527 (fax)

lhover@wtoffshore.com <mailto:lhover@wtoffshore.com> <mailto:lhover@wtoffshore.com>

W&T Offshore, Inc.

Nine Greenway Plaza, Suite 300

Houston, TX, US 77046-0908

+1 (713) 626-8525 (main)

BlockedBlockedwww.wtoffshore.com <BlockedBlockedhttp://www.wtoffshore.com>

<BlockedBlockedhttp://www.wtoffshore.com/>

A U.S. Company helping to supply energy for its Country

January 30, 2017

Newfield Exploration Company  
4 Waterway Square Place, Suite 100  
The Woodlands, Texas 77380  
**c/o: Elaine Krueger**  
**281.210.5351 - direct**  
**281.210.5100 - main**

Permit Number: MNV-2011-00146-WY

U.S. Army Corps of Engineers  
ATTN: CEMVN-OD-SE  
P.O. Box 60267  
New Orleans, LA 70160-0267

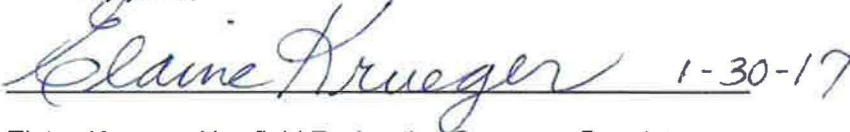
To Whom It May Concern:

In reference to the transfer of the permit numbered above, to:

**W&T Offshore, Inc.**

I do agree to transfer the permit.

Sincerely yours,

 1-30-17

Elaine Krueger, Newfield Exploration Company, Regulatory

**DECLARATION FROM NEW PERMIT HOLDER**

W&T Offshore, Inc.  
9 E Greenway Plaza, Suite 300  
Houston, Texas 77046  
**C/O: Lea Ann Hover, Regulatory**  
**713.513.8646 – direct**  
**713.624.6558 - main**

Permit Number: MNV-2011-00146-WY

U.S. Army Corps of Engineers  
ATTN: CEMVN-OD-SE  
P.O. Box 60267  
New Orleans, LA 70160-0267

To Whom It May Concern:

In reference to the transfer of the permit numbered above, from Newfield Exploration Company over to W&T Offshore, Inc. (W&T), accepts the permit and agrees to abide by all conditions of the permit.

Sincerely yours,



11/30/2017

---

Lea Ann Hover, W&T Offshore, Inc., Regulatory





REPLY TO  
ATTENTION OF

Operations Division  
Surveillance and Enforcement Section

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT  
7400 LEAKE AVENUE  
NEW ORLEANS, LOUISIANA 70118

March 9, 2017

Ms. Lea Ann Hover  
W&T Offshore, Inc.  
9 E. Greenway Plaza, Suite 300  
Houston, TX 77046

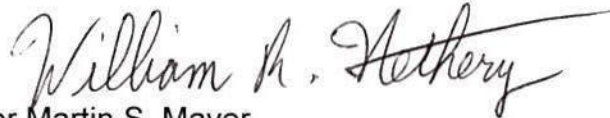
Dear Ms. Hover:

Reference is made to your application for a Department of the Army (DA) permit to plug and abandon and remove a well site within safety fairway 166.200 located in the Gulf of Mexico, Garden Banks area, blocks 116 and 160 off Cameron Parish, Louisiana.

We have reviewed the project, as proposed, and have determined that additional Department of the Army (DA) authorization under Section 10 Rivers and Harbors Act or Section 404 of the Clean Water Act will not be required for this project. Therefore, we are returning your application. However, any change in your methods of abandonment will require a revised determination. Additionally, abandonment of the pipeline does not relieve you from the responsibility of conforming to the terms and conditions of previously issued DA permits. W&T Offshore, Inc. will continue to be responsible for any structures or portions of structures remaining in place, either above or below ground, until such time as these structures are completely removed or W&T Offshore, Inc. makes a good faith transfer of the permits to a third party as explained in the permit General Conditions.

Should there be any questions concerning these matters, please contact Mr. Jon Barmore at (504) 862-1704 and reference our Account No. MVN-2011-00146-1-SG. If you have specific questions regarding the permit process or permit applications, please contact our Western Evaluation Section at (504) 862-2261.

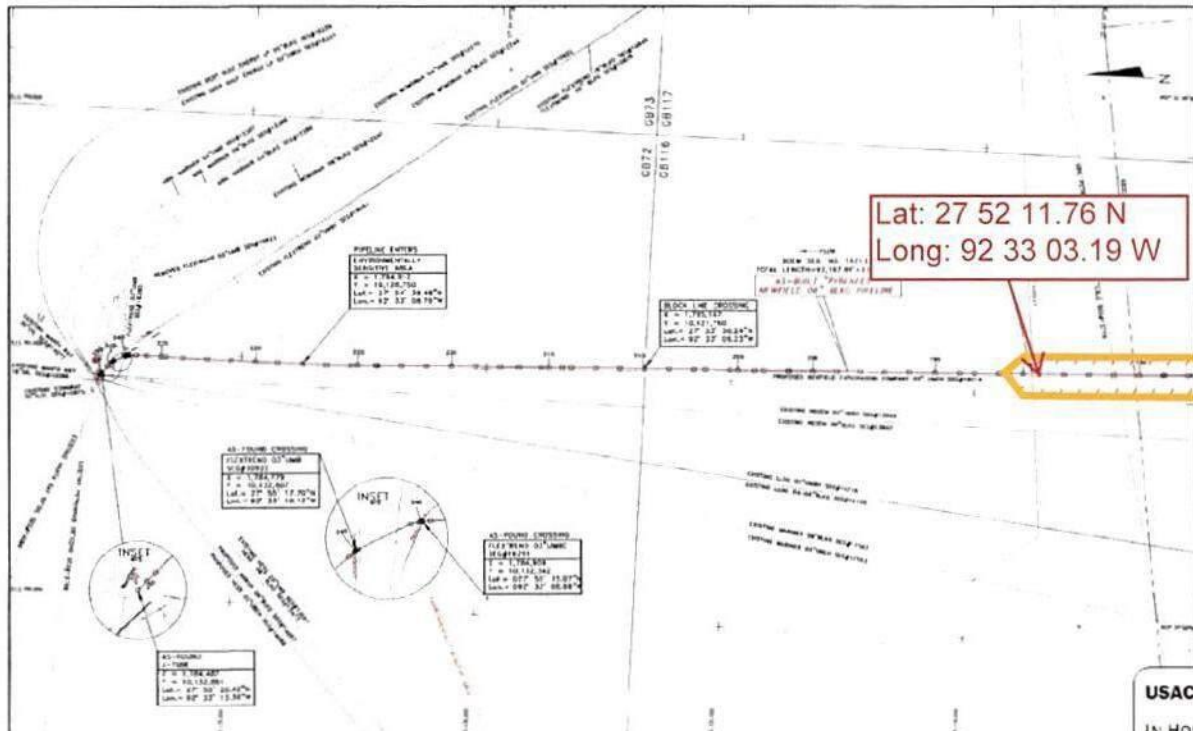
Sincerely,

  
for Martin S. Mayer  
Chief, Regulatory Branch

Enclosures



PLAN VIEW



Lat: 27 52 11.76 N  
Long: 92 33 03.19 W

NOTES

1. PROFILE COORDINATES AND THE POSITIONS OF THE AS-BUILT SURVEY POINTS SHOWN ON THIS PLAN VIEW ARE BASED ON THE 1983 NORTH AMERICAN DATUM (NAD 83). THE 1983 DATUM IS USED FOR ALL DISTANCES, BEARINGS, AND ANGLES SHOWN ON THIS PLAN VIEW.
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4. THE 1983 DATUM IS USED FOR ALL DISTANCES, BEARINGS, AND ANGLES SHOWN ON THIS PLAN VIEW.

LEGEND

- AS-BUILT NUMBER OF MAIN PIPELINE SEGMENT#0611
- AS-BUILT NUMBER OF MAIN PIPELINE SEGMENT#0612
- AS-BUILT NUMBER OF MAIN PIPELINE SEGMENT#0613
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- AS-BUILT NUMBER OF MAIN PIPELINE SEGMENT#0700

GEODESY

Geodetic Datum: NAD 83  
Horizontal Datum: NAD 83  
Vertical Datum: NAVD 83  
Projection: UTM  
Zone: 18N  
Datum: NAD 83  
Units: Meters  
Scale: 1:50,000  
Datum: NAD 83  
Units: Meters  
Scale: 1:50,000

DIGITAL COPY  
ORIGINAL PLAN NUMBER 18213

LOCATION PLAN (N.T.S)



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OFFICE OF THE  
MANAGER

AS-BUILT NEWFIELD 06" BLKG PIPELINE SEGMENT#18213

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USACE Map 2 of 3

IN HOUSE 9 MARCH 2017

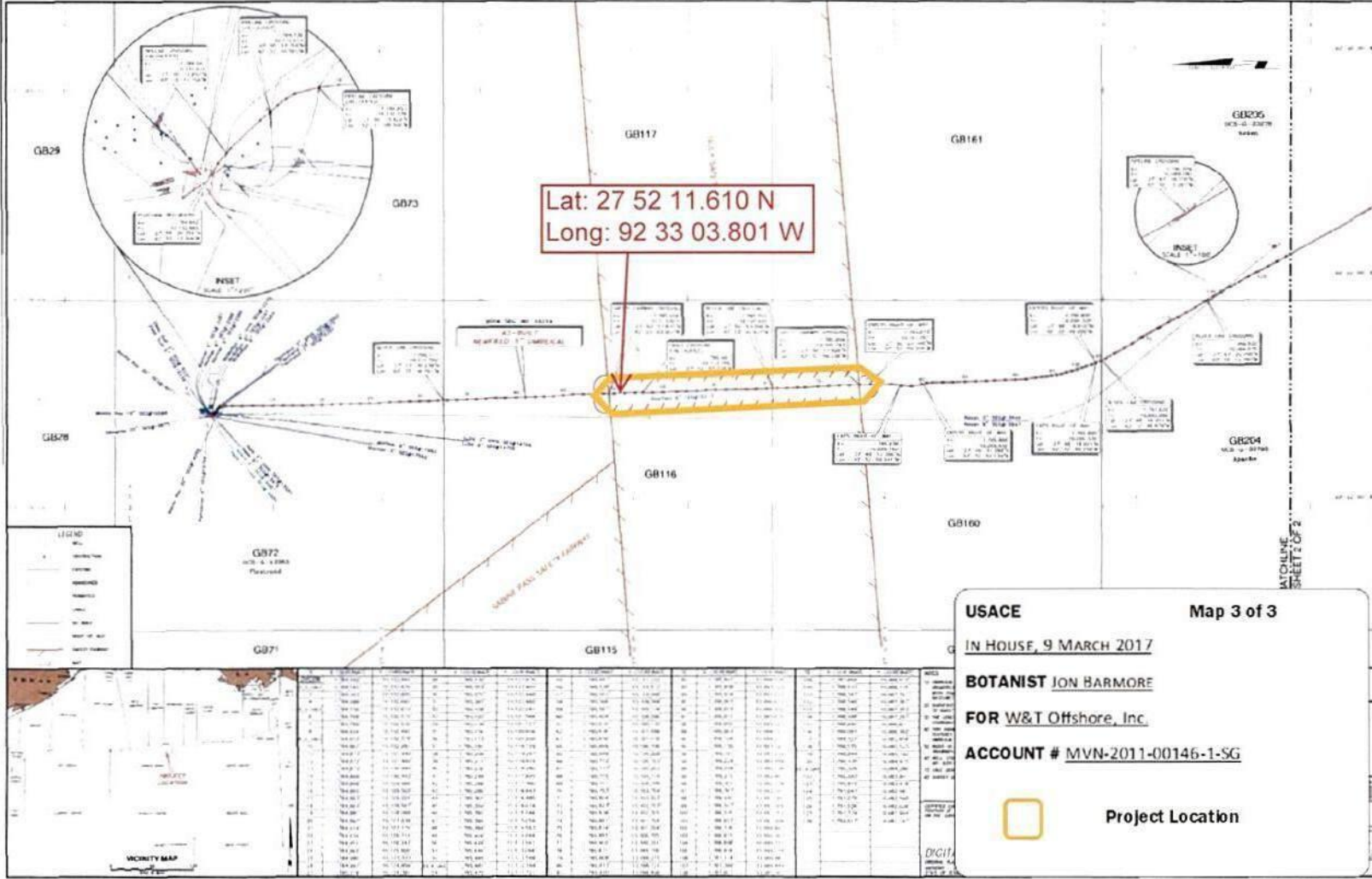
BOTANIST JON BARMORE

FOR W&T Offshore, Inc.

ACCOUNT # MVN-2011-00146-1-SG

Project Location

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Lat: 27 52 11.610 N  
 Long: 92 33 03.801 W

**USACE** **Map 3 of 3**

**IN HOUSE, 9 MARCH 2017**

**BOTANIST JON BARMORE**

**FOR W&T Offshore, Inc.**

**ACCOUNT # MVN-2011-00146-1-SG**

 **Project Location**

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**U.S. ARMY CORPS OF ENGINEERS  
APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT**  
33 CFR 325. The proponent agency is CECW-CO-R.

*Form Approved -  
OMB No. 0710-0003  
Expires: 31-AUGUST-2013*

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

**PRIVACY ACT STATEMENT**

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

**(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)**

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
--------------------	----------------------	------------------	------------------------------

**(ITEMS BELOW TO BE FILLED BY APPLICANT)**

5. APPLICANT'S NAME First - Middle - Last - Company - W&T Offshore, Inc. E-mail Address -			8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Middle - Last - Company - E-mail Address -		
6. APPLICANT'S ADDRESS: Address- 9 Greenway Plaza, Suite 300 City - Houston State - TX Zip - 77046 Country - USA			9. AGENT'S ADDRESS: Address- City - State - Zip - Country -		
7. APPLICANT'S PHONE NOs. w/AREA CODE a. Residence N/A      b. Business 713-626-8525      c. Fax 713-626-8527			10. AGENTS PHONE NOs. w/AREA CODE a. Residence      b. Business      c. Fax		

**STATEMENT OF AUTHORIZATION**

11. I hereby authorize, \_\_\_\_\_ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

\_\_\_\_\_  
SIGNATURE OF APPLICANT      DATE

**NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY**

12. PROJECT NAME OR TITLE (see instructions) Well site clearance by trawling after platform removal.	
13. NAME OF WATERBODY, IF KNOWN (if applicable) Gulf of Mexico (GOM)	14. PROJECT STREET ADDRESS (if applicable) Address City - State - Zip-
15. LOCATION OF PROJECT Latitude: +N 29.63319153      Longitude: +W -88.75506737	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID      Municipality Section - Township - Range -	