MICRO
11855
UPDATE

15 MAR 2006

In Reply Refer To: MS 5232

Mr. J. A. Jeppesen
Apache Corporation
2000 Post Oak Boulevard
Suite 100
Houston, Texas 77056-4400

Dear Mr. Jeppesen:

Reference is made to the following application that has been reviewed by the Minerals Management Service:

Application Type: Right-of-Way Appurtenance (Hot Tap)
Application Date: January 25, 2006
Supplemental Data Date(s): March 8, 2006

Work Description: Install, operate, and maintain the following:

A 6-inch X 6-inch hot tap at coordinates X = 3,597,921.40 and Y = 521,494.08, in the High Island Area, Block 169.

Segment Number	Size (inches)	Length (feet)	Service	From	To
11855	06	30618	Bulk Gas	#01 Caisson High Island Area Block 169 OCS-G14161	A Platform High Island Area Block A6 OCS-G04734

Assigned Right-of-Way Number: OCS-G20517

Pursuant to 30 CFR 250.1000(b), your request to modify this pipeline is hereby approved.

Assigned MAOP (psi): 5223
MAOP Determination : Hydrostatic Test Pressure

You shall submit written notification to this office within 30 days of the completion of the pipeline modification. This notification shall include the date the modification was completed and an indication that the modification was completed as approved. The report should include a hydrostatic test conducted in accordance with 30 CFR 250.1003(b)(3).

Sincerely,

O/S AA

Donald C. Howard
Regional Supervisor
Field Operations

bcc: 1502-01 Segment No. 11855, ROW OCS-G20517 (MS 5232)
1502-01 ROW OCS-G20517 (Microfilm)(MS 5033)

11855
Amrtl MICRO

States **Pipeline Products**

INSTALLATION SETTING INSTRUCTIONS FOR 6" x 6"-2500 ANSI MECHANICAL SET HYDROTAP With TENSIONED PACKING FLANGES REV 0

Sales Order Number: 7317.01
Service Order Number: _____

Doc. No. PRO-7317.01-01 TAP 6 X 6-2500

0	FOR INSTALLATION	RWH	03-06-2006	R HUEY	03-06-2006	L DOLAN	03-06-2006
REV	DESCRIPTION	ORIG	DATE	CHK	DATE	APP	DATE

States **Pipeline Products**

S.O. Number:	7317.01
Assembly Number:	09-068622
Serial Number:	16272
Pipeline Owner and Operator:	APACHE CORPORATION
Lateral Line Owner:	APACHE CORPORATION
Pipeline Data:	API 5L-X60 x 0.562" WT, No Concrete Coating, 12-14 mils FBE, Seamless, 5223 psi MAOP
Diving Contractor:	_____
Tapping Contractor:	_____
Location:	GOM High Island Block 169
Water Depth Approximately:	59 FSW
Prepared & Issued By:	R Huey
Date:	03-6-2006

THIS PROCEDURE IS AN APPROVED INSTALLATION GUIDELINE AND CAN BE MODIFIED ONLY BY OIL STATES, IN CONCURRENCE WITH THE COMPANY REPRESENTATIVE. SINCE THE COMPANY AND THE CONTRACTOR HAVE FINAL AUTHORITY REGARDING WHETHER TO DISCONTINUE THE INSTALLATION DUE TO DEVIATION FROM THIS PROCEDURE, THE COMPANY REPRESENTATIVE IS HEREBY NOTIFIED THAT ANY DEVIATION FROM THIS WRITTEN PROCEDURE MAY CAUSE THE OIL STATES PRODUCT COVERED HEREBY TO FAIL TO PERFORM.

SIGN -OFF

1.0 INSPECTION AND LOCATION

1.1 Locate the pipeline and carry out a comprehensive, preliminary visual condition inspection. Report bottom conditions, visibility, type of soil, current, pipeline burial depth, location of circumferential pipe weld seam and longitudinal weld seam (if any), concrete coating condition (if any), etc. to the Company Representative and OIL STATES Representative. _____

1.2 Locate the field joint, then move to either side a sufficient length so that there will be no section of the HydroTap installed over the field joint weld. Minimum distance 12 inches (1 foot). _____

The Company may require a longer distance. If so, record the minimum distance required below:

_____ **Feet (Company Requirement)** _____

2.0 SEAFLOOR PREPARATION

2.1 If, it is necessary to excavate a hole in the seabed at the location selected for installing the HydroTap fitting, the method and equipment selected by the diving contractor for making the hole in the seabed shall be capable of maintaining the minimum hole dimensions until the tapping operation is complete.

2.2 The minimum dimensions at the bottom of the excavated hole are shown in Fig. 1.

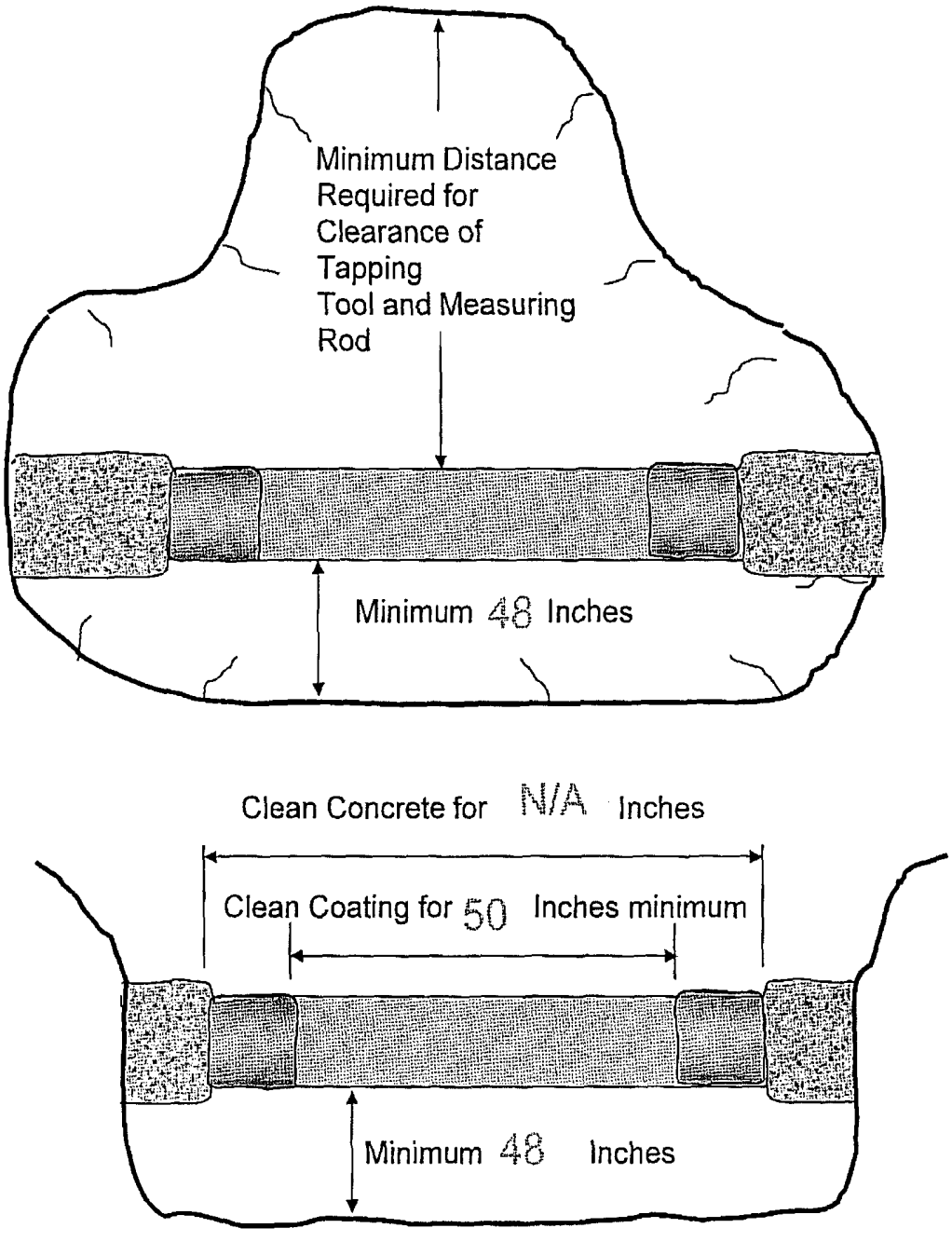


Figure 1 Excavation and Cleaning

2.3 Preparation of the Sea Floor and removal of protective pipe coatings, as required by Section 3.0 below, MUST be completed prior to placing the HydroTap in the water.

2.4 All debris **MUST** have settled prior to placing the HydroTap in the water. The HydroTap **MUST** be recovered to the surface if any subsequent bottom preparation or pipe cleaning is required.

3.0 PIPE PREPARATION: (6.63" OD, 0.56" W.T, API 5L-X60 Seamless Pipe)

Pipe Coating: (Approximately 12-14 MILS FBE)

3.1 **To ensure proper fitting of the HydroTap onto the pipe, no coating may remain on the pipe in the installation area.**

3.2 Contractor can use a high-pressure (20,000 psi minimum) water blaster or grit blaster in conjunction with hydraulic powered underwater cleaning equipment to remove the concrete (if any) and anti-corrosion coating from the pipe. The actual method used is the responsibility of the diving contractor.

OIL STATES strongly recommends that grinding discs and jackhammers NOT be used in the pipe cleaning process as they may create gouges in the pipe wall which will not allow the HydroTap to make proper sealing contact on the pipe.

3.3 The minimum length of pipeline that must be cleaned of weight coating (if any) is n/a inches as shown in Figure 1. Final somastic, thin film or Fusion Bond Epoxy coating removal shall be accomplished with a grit blaster or hydraulic powered wire brush or equivalent composite disk sander. The pipe shall be buffed smooth over an entire 50 inch length, centered from the point at which the pipe is to be tapped. A bright metal finish is not required if the surface is smooth. It is advisable to mark the centerline of the cleaned area for the diver to use as a reference in guiding the HydroTap onto location. A final check must be made by the diver to ensure that all weight coating, somastic, thin film and/or Fusion Bond Epoxy has been removed and no strips of coating remain as a result of non-overlapping cleaning passes along the total length of pipe required to be cleaned.

The Diving Supervisor must report to the Company Representative and OIL STATES Representative if there is ANY coating remaining on the pipe in the prepared area after the cleaning procedure is completed. Coating on the pipe may not allow the seals/slips of the HydroTap to properly set onto the pipeline resulting in a failure of the HydroTap to perform.

3.4 The cleaned area shall be checked with a ring gauge to determine if the pipe is within the allowable API diameter. (A typical OIL STATES ring gauge is shown in Figure 2.)

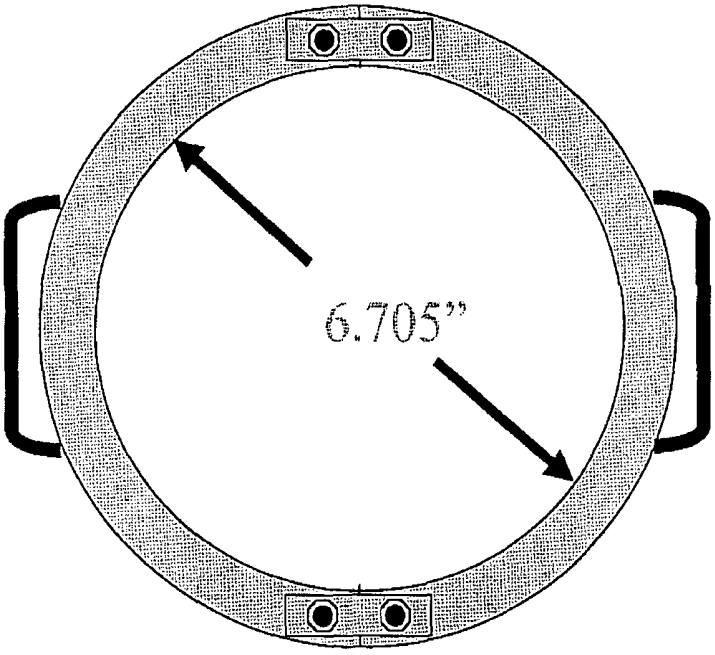


Figure 2 – Ring Gauge

Also, place a 36 inch minimum length straight edge on the pipe at the 12:00, 9:00 and 3:00 positions. Report the gap (if any) between the straight edge and pipe to the Company Representative and OIL STATES Representative for each position. It may not be possible to install the HydroTap saddle if the pipe exceeds the recommended tolerance range. If the pipe is not within the required diameter and/or

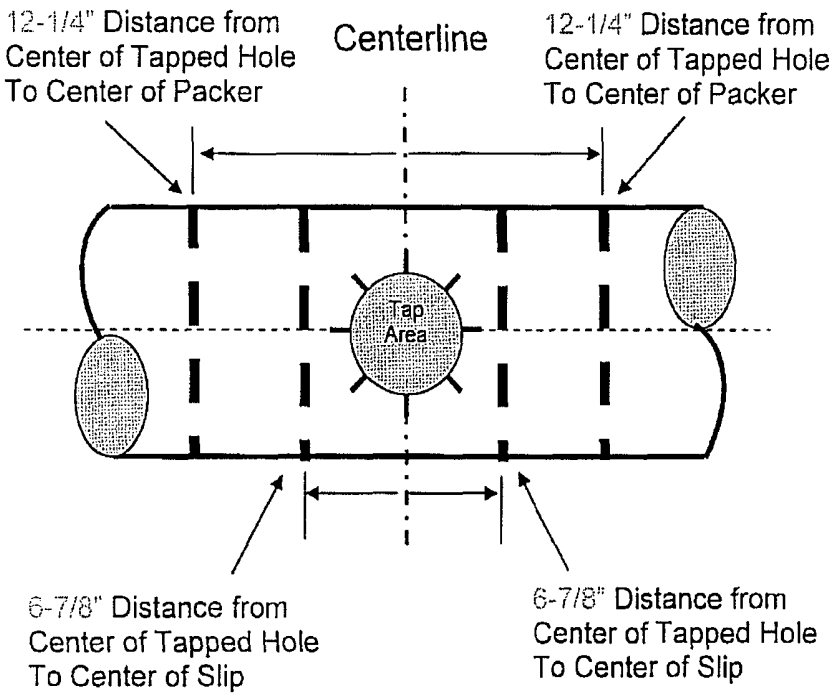
straightness tolerance range it may be necessary to find another location for the tap. When all facts are known, a joint evaluation should be made by the Company and OIL STATES Representatives and a final determination to proceed with the installation at the current location or to find another location will be made by the Company Representative.

3.5 If a longitudinal weld crown exists extending past the outer diameter of the natural contour of the pipeline, it must be ground to the natural curvature of the pipe so that it will not interfere with the internal slips and seals of the HydroTap. **Grind the weld crown for a length of 50 inches.**

3.6 If there is no longitudinal weld crown as in the case of ERW (Electric Resistance Welded) or Seamless Pipe, it is only necessary that the diver confirm this condition by touch and sight. **The Company may request that this seam be located.**

3.7 Contractor shall ultrasonically inspect the cleaned area of the pipeline around the full circumference at the location where the tap is to be made and where the slips and seals are to be set on the pipeline. It is recommended that the Contractor ultrasonically inspect the longitudinal weld seam (if any) after grinding for indications of cold lap, non-fusion or cracks. Report the pipe wall thickness and the extent of lamination in the pipe wall, if any, to the Company Representative. A recommendation as to whether or not to proceed or find another location will be made by the Company Representative after a joint evaluation of the ultrasonic inspection by the Company and OIL STATES Representative. (See Figure 3 for Ultrasonic Grid)

The Ultrasonic Diver Inspector should be qualified Level I or above. The Ultrasonic Operator Interpreter should be qualified Level II. Copies of the Ultrasonic equipment certification papers are to be given to the Company Representative.



Take readings at 8 clock positions around the circumference of the pipe at the bands shown and at the proposed cut-out area circumference.

Note: Grind any external longitudinal weld crown in the locations where the slips/seals and HydroTap interior may contact the pipe.

Figure 3 Ultrasonic Grid

3.8 Oil States Representative to verify dimensions in Figure 3 by measuring the HydroTap during on-deck inspection prior to installation (see Step 4.14).

4.0 HYDROTAP PREPARATION

4.1 Contractor and Company Representative shall ensure that the HydroTap is inspected by OIL STATES Representative for physical damage and/or loss of critical components. The Company Representative shall monitor and observe the following procedures to verify that they are performed by the OIL STATES and Tapping Contractor Representative as instructed.

4.2 Attach the two (2) hydraulic cylinders to the opening and closing arms of the HydroTap. _____

4.3 Remove the reaction nut from the 8 (EIGHT) 3.50 inch diameter body studs. Back the studs out from the Outlet side of the body so that the end of the stud is flush with the split line of the body. Lock the studs in this position using the Stud Retaining Tee handles in the Body Half without the Outlet. Position the nut face with "modified" bar holes a minimum of 15-3/4 inches from the face of the Body. Screw the back-up nut on each stud behind the "modified nut". _____

4.4 Remove the transverse studs and nuts from the packing flange. _____

4.5 Using a straight edge check that the slips and seals are not hanging below the HydroTap seal bore diameter. Check to see that all retaining brass screws are tight. _____

4.6 Flange the ball valve to the HydroTap inlet. Torque the 8 (EIGHT) 2 inch studs and nuts to 2425 ft-lb. (3640 ft-lb. if cad plated). _____

This may have been completed at OIL STATES Plant if the ball valve was received by OIL STATES before the HydroTap certification testing was performed.

4.7 The Tapping Contractor will operate the ball valve to the fully opened then fully closed position. Record the number of turns necessary to open and close the ball valve. **(No. Of Turns = _____)** _____

4.8 The Tapping Contractor will record the distance from the outboard ball valve flange to the centerline of the HydroTap. Measurement. (_____ ") _____

4.9 The Tapping Contractor will attach the hot tapping machine to the ball valve. See torque values from Step 4.6. Make a minimum of three passes at that torque value. Record the torque values when completed. _____

(Torque = _____ ft. lb)

If no torque wrench is used, so indicate and describe method used here:

_____

4.10 The Tapping Contractor will advance the cutting head of the tapping machine through the ball valve and into the HydroTap body. He will record the number of turns required to reach the position required to completely cut the coupon and the number of turns required to retract the cutting head after the hot tap has been completed. _____

(No. of Turns for cut = _____)

(No. of Turns for retract = _____)

4.11 The Tapping Contractor will use a measuring rod or hose to verify the length of the tap cutout and mark the rod or hose for use during the hot tapping of the pipeline. _____

4.12 The Tapping Contractor will close the ball valve and fill the void between the ball and hot tapping machine seal with water. The OIL STATES Representative will attach a test hose to the valve on the tapping machine adapter flange and pressure test the flange connection and tapping machine seals to 6170 psi (ANSI 2500 working pressure). Hold the test for 30 minutes after the pressure stabilizes. _____

The leak test pressure may only be modified by the Tapping Contractor to match his tapping machine capabilities, if he so requires, as indicated below:

Revised Pressure: _____ psi By: _____ Date: _____.

4.13 After the test pressure has been dropped, the Tapping Contractor will open the ball valve to the half-open position. **(No. of Turns = _____)** _____

4.14 The OIL STATES Representative will connect the surface supply high-pressure hydraulic hose to the two-part hose bridle attached to the opening and closing hydraulic cylinders. Using a suitable pump, open the HydroTap to the full open _____

position. Note the pressure required to fully open the HydroTap _____ psi. **(max pressure =3000 psi).** Record the full open separation/distance between the body halves.

(separation distance = _____**").**

4.15 The OIL STATES Representative will inspect the Packing Flange Seals and Metal Guard Rings. He will ensure that they are tight and in their proper position and will make all necessary adjustments. _____

4.16 The OIL STATES Representative will inspect the Longitudinal Seals to ensure that they are properly installed and are tight in their groove. _____

4.17 The OIL STATES Representative will spray the Longitudinal Sealing Faces with dry-moly lubricant. _____

4.18 The OIL STATES Representative will ensure that all Longitudinal and Circumferential Seals are covered with a light film of dry-moly lubricant. _____

4.19 The OIL STATES Representative will ensure that the eight (8) Packing Flange Spacers can be removed freely. He will eliminate any paint residue that may prevent a Spacer from being removed by the Diver underwater. _____

5.0 RIGGING

Once the HydroTap has been inspected and prepared as above, it is now ready for the Diving Supervisor to proceed as follows:

5.1 The HydroTap assembly must be rigged for positive buoyancy during installation on the pipeline so that final positioning is not affected by the diving vessel's heave. The installation must be completed under controlled conditions to ensure that the HydroTap does not land on the sea floor or the pipeline and that the seals/slips are not dragged or otherwise damaged when installing the HydroTap around the pipe.

5.2 The total weight in air of the HydroTap approximately 5600 lbs. The ball valve, tapping machine and rigging weight must be added.

5.3 The HydroTap, with ball valve and tapping machine attached, should be rigged by the Contractor/Dive Supervisor similar to Figures 4 and 5. The recommended spreader bar dimensions are also shown in Figure 4. _____

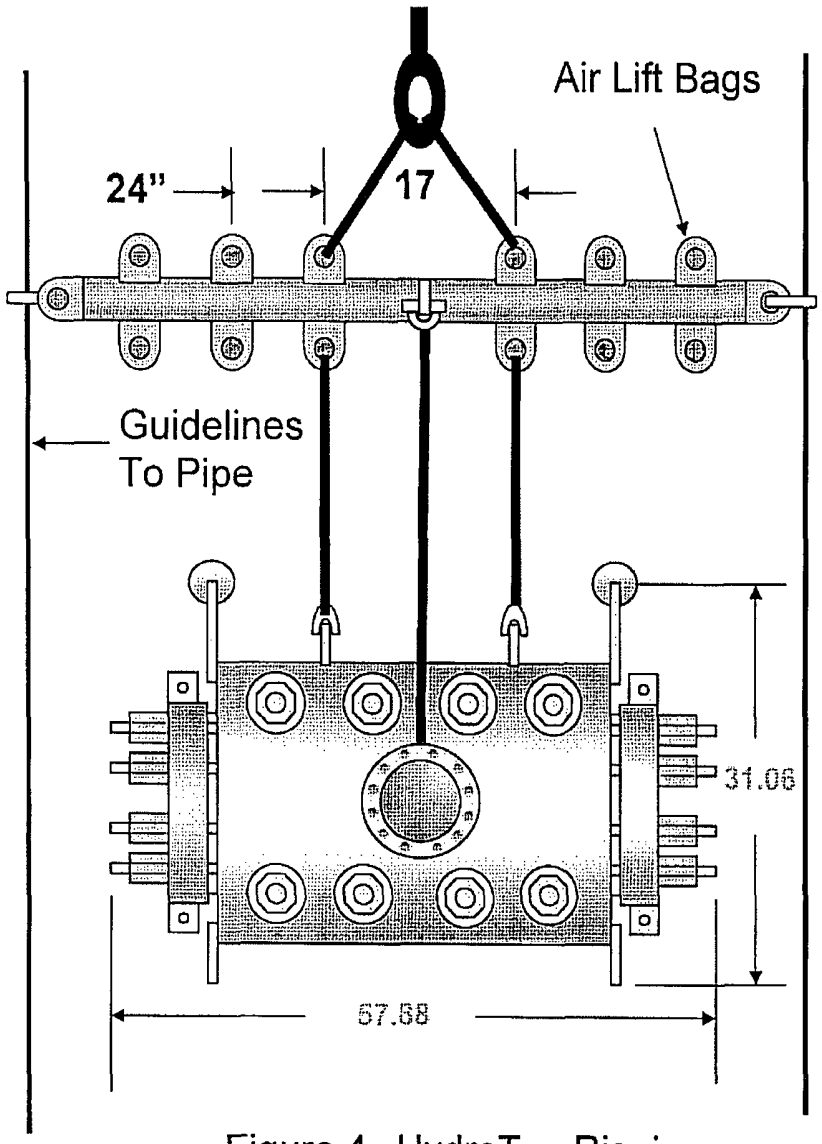


Figure 4 HydroTap Rigging

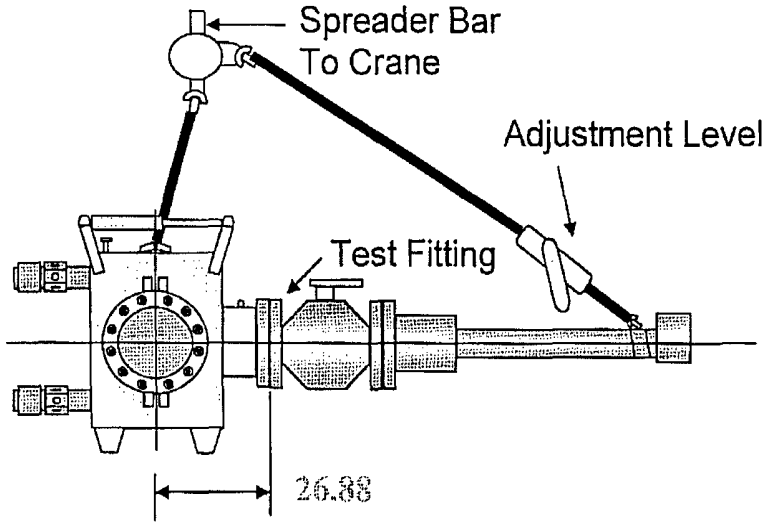


Figure 5 – HydroTap Rigging

5.4 Attach the spreader bar to the HydroTap using two (2) equal length cable slings with screw pin shackles. _____

NOTE: At this point, the HydroTap MUST be in the closed position.

5.5 Attach the crane hook to two (2) equal length wire rope slings. Attach the slings to the spreader beam with screw pin shackles. _____

5.6 Attach the airlift bags, if used, to the spreader bar. The Dive Supervisor shall inspect and approve the airlift bag rigging. _____

5.7 Attach a chain hoist with ratchet drive between the spreader bar and the tapping machine. _____

5.8 Using the deck crane lift the HydroTap until it is clear of the deck. Tighten the chain hoist until the tapping machine and ball valve is level with the deck. _____

5.9 Attach two (2) nylon straps to the 6 inch pipe and two (2) 1/2 inch poly ropes to the nylon straps for guidelines to the 6 inch pipeline approximately 10 feet (3 mtr) on either side of the center of the cleaned area of the pipeline. These lines should be _____

rigged to come over the side of the vessel via appropriate snatch blocks positioned 10 feet (3 mtr) apart and 3-5 feet (1-2 mtr) outboard of the side of the vessel.

5.10 When the HydroTap assembly is ready to be lowered to the seabed, attach the guidelines to shackles on each end of the spreader bar. This may be accomplished by swinging the HydroTap assembly over the side, lowering to be fully submerged in water clear of the vessel hull, and rotating with suitable tag lines until in alignment between the guidelines. A Diver may then attach the shackles on each end of the spreader beam to the guidelines. The fully rigged assembly is ready to be lowered to the proper position above the pipeline. Care must be taken to ensure the various hydraulic hoses, tag lines, etc., do not become entangled and damaged.

The Dive Supervisor has the responsibility to inspect and approve all rigging utilized in the hoisting, maneuvering and installation of the HydroTap.

6.0 HYDROTAP INSTALLATION

The HydroTap is now ready for installation and the Diver Supervisor should proceed in accordance with the following:

6.1 With the HydroTap assembly in the **closed position**, lower until it is positioned approximately 2 feet (1 mtr) over the pipeline.

6.2 If air bags are used, attach the two (2) hold/down safety lines from the spreader bar to the pipeline.

6.3 Inflate the airlift bags slowly to make the load positive in water, then slack the crane wire.

6.4 Diver shall make final position adjustments of the HydroTap assembly to ensure it is located directly and centered over the cleaned pipeline with the outlet facing the correct direction.

6.5 Lower the hydraulic hoses to the seabed (if not already attached). The Diver will connect the hoses to the two- part hose bridle attached to the hydraulic rams. Connection is made by 1/4" male and female quick-disconnect, screw type fittings.

6.6 On the Diver's approval, the HydroTap will be hydraulically opened and held open by the OIL STATES Representative while the Diver uses come-a-longs attached to

the spreader bar and pipeline to draw the HydroTap down to the pipe. The Diver must slowly vent the airbags to lower the HydroTap around the pipe in order to avoid damage to the HydroTap and pipe.

Under no circumstances should the diver allow the HydroTap to touch the seafloor, allow debris to enter the bore, or permit damage to any of the critical components of the HydroTap assembly. Under any of these circumstances, the OIL STATES Representative must be permitted to judge the situation and, if necessary, ask that the HydroTap be brought to the surface for inspection.

6.7 The Diver shall make a thorough inspection to confirm that the HydroTap is correctly centered over the cleaned area of pipe. The Diver will ensure that no debris or foreign objects are caught between the faces of the HydroTap.

6.8 Once the Diver has completed his final survey and reported that all is clear, the OIL STATES Representative may begin closing the HydroTap around the pipeline by bleeding the hydraulic pressure off the hydraulic rams from the surface.

6.9 After closing, the Diver will check the gap at the top and bottom of the HydroTap along the split line and report this to the Dive Supervisor and the OIL STATES Representative.

(Top Measurement =_____") Bottom Measurement =_____")

6.10 After the HydroTap is determined by the OIL STATES Representative to be closed to within the allowable limits around the pipeline, the OIL STATES Representative (at his discretion) may apply a pressure on the cylinder side of the hydraulic rams while the Diver inserts the _8_ (eight) _3.50_ inch studs. The Diver must spin the reaction nuts on the end of each stud until two threads show behind the nut. The Diver must then run the "modified" nuts down to the face of the Body.

6.11 There must be a minimum of _11-1/8_ inches of stud extending past the "modified" nut. The reaction nut must be tight against the HydroTap body to prevent over extending the Stud Tensioner. The Diving Contractor must provide prefabricated gauges for use by the Diver (in low visibility) to verify these measurements. The Diver must report to the Dive Supervisor and OIL STATES Representative that both of these conditions have been met.

6.12 The Diver will install the four (4) Packing Flange tangential studs (2 per Packing Flange) and eight (8) nuts and securely tighten the nuts with a pair of adjustable wrenches. See Figure 7.

7.0 HYDROTAP BODY SETTING PROCEDURE

7.1 Lower the 3.50 inch stud tensioner to the seabed.

7.2 On the Diver's notification that all body bolts and nuts are in place, the OIL STATES Representative will release all remaining pressure off of the open/close hydraulic cylinders. The Diver will disconnect the surface supply hose from the cylinders bridle. He will then connect the male Quick Disconnect (Q.D.) on the hose end to the female Quick Disconnect (Q.D.) on the stud tensioner. Refer to Figure 6 for recommended tightening sequence.

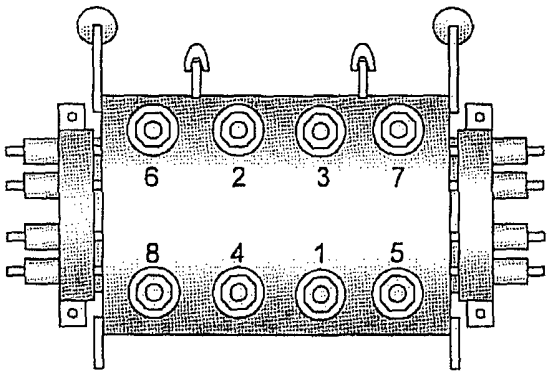


Figure 6 – Stud Tensioner Sequence

7.3 The Diver will place the stud tensioner head on stud #1. He will open the stud tensioner bleed valve and verify that the stud tensioner head is against the Shoulder Bushing of the HydroTap. Next, the Diver will tighten the back-up nut until tight against the rear of the tensioner piston, and then loosen-tighten the nut off one-half revolution. The OIL STATES Representative will pump fluid to verify constant flow through the bleed valve and the Diver will close the bleed valve.

7.4 On the Diver's command, the OIL STATES Representative will pressure the stud tensioner head to deliver a force of 486,260 lbs tension load. Record Make, model, size, hydraulic area, and required pressure of Stud Tensioner used.

MAKE	
MODEL	
SIZE	
HYDRAULIC AREA	
REQ'D PRESSURE (PSI)	

7.5 On notice from the OIL STATES Representative, the Diver will tighten the nut using a "round bar" through the slotted port of the tensioner. The Diver will report the number of "round bar" strokes.

Report all "round bar" strokes to the Diver Supervisor and the OIL STATES Representative and enter them into the job log.

The Diver must inform the Dive Supervisor and OIL STATES Representative when the nut is tight. He will then hand tighten the nuts on the bottom row of studs and report to the Diver Supervisor when this is completed. On the Diver's command, pressure to the stud tensioner head will then be released by the OIL STATES Representative on the surface.

The Diver will open the bleed valve on the stud tensioner, and then remove the back-up nut. He will then move the stud tensioner to the next stud in the proper sequence.

The bolt tightening sequence will be painted on the HydroTap and must be strictly followed. If the Diver has no visibility, the Dive Supervisor must orient the Diver to the proper stud and nut.

7.6 During the first tensioner pass on Studs #1 and # 2, the Diver must tighten the back-up nut and close the stud tensioner bleed valve. On the Diver's command, the OIL STATES Representative will then apply pressure to the tensioners for a second time at the above pressure setting.

7.7 The Diver will tighten all "modified" nuts again hand tight.

7.8 Repeat 7.3 and 7.4 for Studs # 3 through # 8.

7.9 Perform a second tightening pass on all studs.

8.0 HYDROTAP PACKING FLANGE SETTING PROCEDURE

It is CRITICAL for proper installation that the studs be properly tensioned. Any deviation from the proper tensioning procedure/values MUST be immediately reported to the Oil States and Company Representatives.

8.1 The Diver will loosen all tensioner reaction nuts and "modified" nuts on the first Packing Flange one revolution to allow the removal of the four (4) yellow flange spacers. The Dive Supervisor must confirm all four (4) spacers are recovered.

8.2 The Diver must verify that the faces of the Packing Flanges halves are flush with one another and torque the two (2) Packing Flange transverse 7/8"-9UNC studs and nuts to 100 ft-lb with a mechanical torque wrench. Wrench size is 1-7/16. (See Figure 7).

8.3 The Diver will run all nuts down by hand and reset the tensioners to their original positions. Measure the flange gap between the Packing Flange and the HydroTap body for a reference before tensioning begins. Record the measurement in the job log.

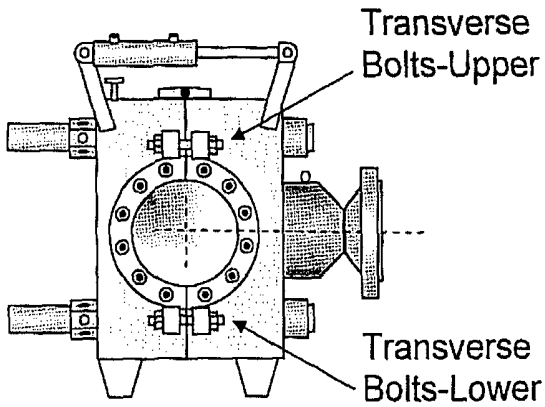


Figure 7 Transverse Bolts

8.4 Lower the hydraulic supply line from the surface pump to the diver. The diver will attach the line to the inlet connection on the tensioner manifold.

8.5

Open the bleed valve on the outlet side of the tensioner manifold. The diver will notify topside control when all connections are tight. Pressure from the topside pump will be initiated and the diver will observe a steady flow of fluid from the outlet bleed valve. He will notify topside control, and on command from topside, close the bleed valve.

8.6 Pressurize the pump to deliver a tension load of 28,856 lbs tension on each stud (6700 psi for HydroTech Slimline stud tensioner p/n 15-038493).

Tensioner stroke = 1 inch (2.54 cm).

8.7

The diver will measure the gap between the Packing Flange and the body of the HydroTap at the 10:00, 2:00, 4:00, and 8:00 o'clock positions. He will report these measurements to the topside control. If the gap varies by more than 1/8 inch (3 mm), adjustments should be made to the tensioner manifold to allow stroking only the tensioners where the greatest gap distance occurs.

8.8 The diver will use the "round bar" and tighten all of the "modified nuts".
If the "modified nut" will not turn due to a "jamming effect" from the tensioner, relax the pump pressure slightly to allow it to turn freely. When all nuts are tight, the diver will notify topside control and pressure will be released, first from the topside and secondly by the diver at the tensioner bleed valve.

8.9 The diver will measure the final distance between the Packing Flange and the HydroTap body at the 10:00, 2:00, 4:00, and 8:00 o'clock positions. Report these distances to the topside control and record them in the job log.

The gap should be greater than 11/16 inch and less than 7/8 inch. (Gauges supplied by Oil States)

Starboard Side (Right):	**10:00 =**	**4:00 =**	**8:00 =**	**2:00 =**
Port Side (Left):	**10:00 =**	**4:00 =**	**8:00 =**	**2:00 =**

8.10 Recover the tensioners and reaction nuts and relocate to the opposite Packing Flange. Repeat Steps 8.1 through 8.9 for the other Packing Flange.

8.11 Upon completion of this step, the slips and seals are set around the pipeline. Leave the tensioner manifold in place until after the successful completion of the annular test.

Even if the distance between the Packing Flanges and the HydroTap Body are within acceptable parameters, the proper tensioning values must be applied to each stud for the HydroTap to function properly. The proper gap measurement merely indicates that nothing has hindered the movement of the slips and seals. It does not verify that the correct tension has been applied to the studs.

9.0 TESTING

Record the Internal Pipeline Pressure at the start and during the HydroTest.

Internal Pipeline Pressure =_____ psi.

9.1 After proper completion of the HydroTap installation and prior to cutting the "coupon" from the carrier pipe, the Contractor shall leak test the installed assembly, using test fluid and water (supplied in OIL STATES pump). Maintain the test pressure for a minimum of 60 minutes after the pressure has stabilized.

Under no circumstances should this test be conducted with anything other than water and/or test fluid, and then only under static conditions.

9.2 The Diver will now connect a hydraulic line from the surface to the test fitting on the HydroTap Saddle. The test fitting is on the Inlet nozzle, between the HydroTap body and flange. Tighten the fitting to 25 ft-lb with an adjustable wrench.

Prior to starting the leak test, telephone or radio contact must be made with the Company's Operator at the platform to establish the operating pressure and verify the operating pressure during the test. The Contractor shall furnish communications (such as cellular phone or other methods) for the Company Representative to communicate with his Platform Operators.

9.3 **Unless otherwise noted and signed below the Company Representative shall cause the entire assembly to be pressurized to the specified test pressure. OIL STATES recommended test pressure is 5223 psi (APACHE supplied MAOP). (Assuming zero (0) internal pipeline pressure.)**

Company Representative has requested a test pressure of _____ psi, which is a deviation from the above specified value.

_____ Company Rep. Signature

_____ Date

The test is only sufficient if conducted by presetting the pressure regulator on the hydraulic pump to deliver a pressure not greater than the specified leak test pressure. As the pump approaches the specified leak test pressure the rate of pumping will slow to only a few strokes per minute. It may take 1 hour or more for the test pressure to stabilize. The lengthy time required to stabilize pressure is due to several factors including time dependent stretch of the hose, compression of any air trapped in the cavity, relaxation of the seals and differential temperatures. A fluctuating pressure in the pipeline will also significantly affect the stability of the test pressure. When the pressure stabilizes the test shall be held for a minimum of 60 minutes, unless otherwise directed by the Company Representative in writing.

A pressure drop of 20-25 psi during the one-hour test is normal due to hose relaxation/cooling, air temperature drop or wind chill.

9.4 Upon completion of the leak test, the OIL STATES Representative will release the pressure from the test hose. The Diver must then disconnect the test hose **(using caution not to unthread the NPT fitting from the body)** and replace the metal cap on the test fitting. He must tighten the metal cap to 25 ft-lb.

9.5 The Diver will place Contractor supplied sand/cement bags (or other Company approved supports) under the main body of the HydroTap assembly and the ball valve to support the additional weight on the pipeline.

Do not place bags under the Packing Flanges or the ball valve tie-in flange.

10.0 HOT TAPPING

The maximum allowable pipeline pressure and flow rate during hot tapping should be stipulated by the Tapping Contractor and agreed by the Company in the pre-job meetings. Monitor the internal pipeline pressure.

10.1 The Diving Supervisor and Tapping Contractor will direct the lowering of the hot tapping machine supply and return hydraulic hoses to the seabed and the Diver will attach these to the tapping machine. The Diver will open the ball valve and run the cutting tool back through the ball valve and up to the pipe.

WASTE PRODUCT RETRIEVAL

When a subsea pipeline has been tapped under pressure, the contents of the pipeline will fill the inner cavity of the hot tapping machine. These contents will disperse into the surrounding waters on disconnection if no contingency plans have been prepared to recapture this product. Purging of the tapping machine cavity is highly recommended so that the waste products (other than natural gas) are brought to the surface and stored in an appropriate container for disposal. The Company and/or Contractor should supply all materials. If applicable, a suggested waste retrieval instruction is listed at the end of this text.

10.2 On the Diver's command, the Tapping Contractor will supply hydraulic pressure from the surface to the hot tapping machine.

10.3 The Diver will engage the hot tapping machine motor on command from the Dive Supervisor and Tapping Contractor.

10.4 When the pilot drill on the cutter head penetrates the pipe, the power supply will be shut off by the Tapping Contractor. At this time the Diver will disengage the tapping machine and must carefully inspect the HydroTap for leaks.

10.5 If the pipeline pressure is near the maximum operating value, the pipe inside the HydroTap body will contract when the drill penetrates the pipe. This in turn will cause some relaxation of the Sealing pressure and could initiate a small leak at the Packing Flange. If the Diver's inspection detects a leak, he must report it immediately to the Company Representative and OIL STATES Representative. The condition can be corrected by having the diver tighten the Packing Flange nuts as described above. If this should be required, the Diver will, when completed, re-inspect the HydroTap and confirm there are no leaks to the Company Representative and OIL STATES Representative.

10.6 On notice from the Tapping Contractor, the Diver will engage the tapping machine motor and continue cutting until the tap is complete. The tapping machine handle will turn freely clockwise when disengaged. When the tap is complete the pipeline pressure will make the handle difficult to turn.

Progress of the hot tap cutter shall be verified and reported by the Diver using an indicator rod in addition to the number-of-turns method. The indicator rod dimensions should be established by the Tapping Contractor before deployment of the tool. He will also record dimensions for the cutter clear of the ball valve for start of tap and completion of tap.

10.7 The Diver will turn the tapping machine handle counter clockwise to retract the cutting head into the adapter flange. The number of turns should be at least equal to the number determined during the on-deck calibration, per Section 4.10 above.

10.8 The Diver must then close the ball valve to isolate the pipeline from the tapping machine.

10.9 The Diver will open the relief valve on the tapping machine to relieve the pressure contained or notify the Diver Supervisor to relieve the pressure from the surface if a retrieval hose is being used. A small amount of oil/ waste product should flow and then stop. If the flow does not stop, it is possible the ball valve is not fully closed or

is leaking. If this should occur, the Diver must close the ball valve more securely, inspect for leaks and report inspection results to the Company Representative, Tapping Contractor and OIL STATES Representative.

10.10 When purging of the tapping machine cavity has been completed, and it has been determined there is no pressure on the tapping machine (as indicated on the tapping machine surface pressure supply gage), the Diver must loosen the flange bolts, disconnect the tapping machine assembly and rig it for recovery to the surface. The Diver must then report to the Dive Supervisor that the tapping machine is ready for recovery.

10.11 The Diver will then place Contractor supplied sandbags under the body of the ball valve to prevent movement during the tie-in phase.

10.12 At this point, the Diver must install a Contractor supplied blind flange on the ball valve outlet or proceed with the branch tie-in. The Company Representative will confirm whether or not a blind flange is required.

10.13 The Tapping Contractor will recover the carrier pipe coupon and give it to the Company Representative as soon as possible. The side of the removed coupon which was the inside of the pipe shall be preserved for a paraffin/corrosion examination and inspection. Do not disturb the interior side of the coupon.

11.0 REPAIR OF PIPELINE COATING

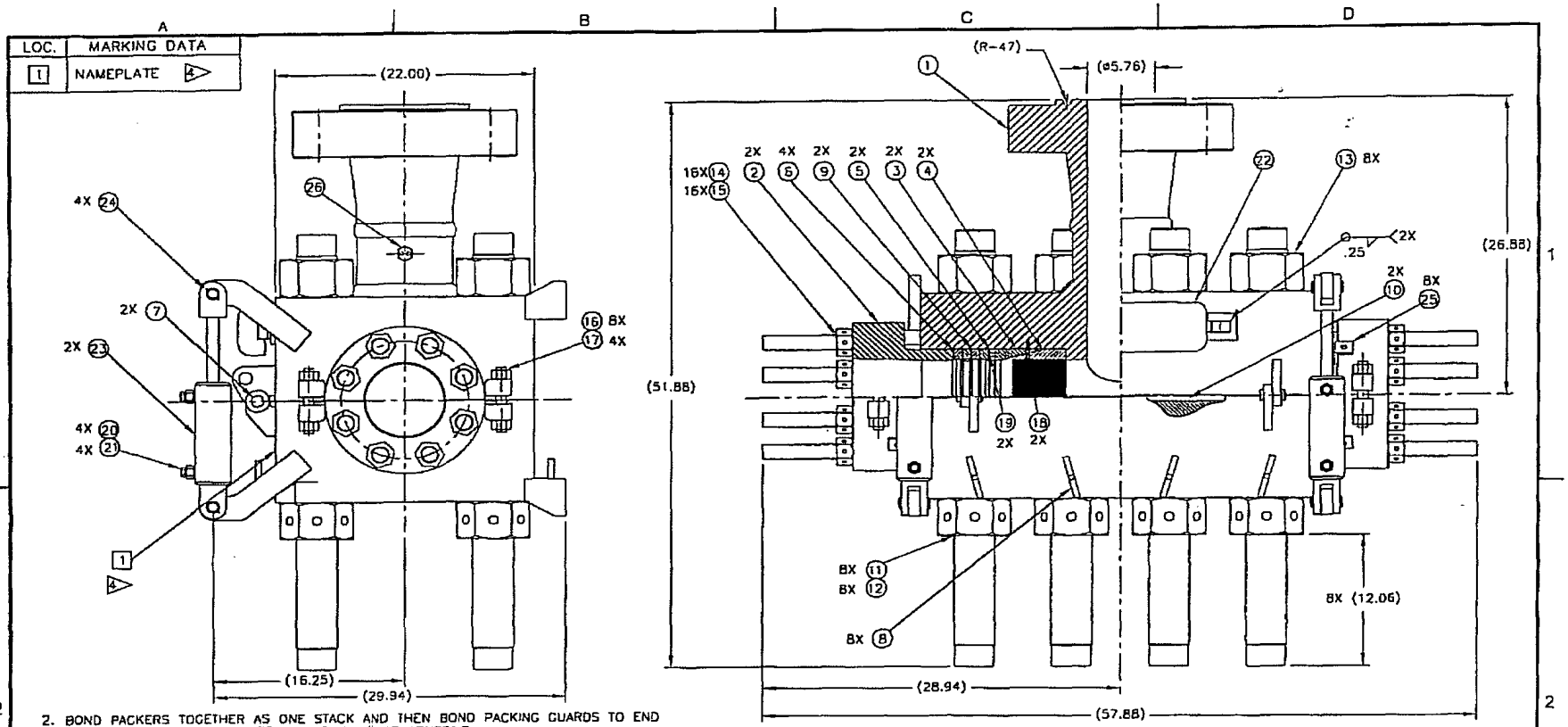
11.1 After installation of all items, any exposed areas of the underwater pipeline that have had coating removed or damaged shall be repaired utilizing Company approved methods and materials. The Contractor shall furnish all required materials, procedures and instructions.

12.0 SANDBAGGING AND SUPPORT

12.1 Sandbag under the pipeline, ball valve and HydroTap assembly to support the additional weight on the main line. Use a sand/cement mixture or other materials as may be directed by the Company. See Company drawings.

12.2 Place sufficient sandbags on the top of pipeline and HydroTap assembly to cover the hydraulic closure cylinder arms such that there are no protrusions above the sandbags. The access well for valve operators shall be filled with "Sand Only" bags or as may be otherwise directed by the Company. The Company may additionally specify burial of the pipeline and HydroTap assembly, as may be required by applicable law.

LOC.	MARKING DATA
1	NAMEPLATE 4



2. BOND PACKERS TOGETHER AS ONE STACK AND THEN BOND PACKING GUARDS TO END PACKERS AND ADJACENT PARTS USING 3M #847 ADHESIVE.

1. COAT EXTERNAL SURFACES PER HCS-4. COAT BARE INTERNAL AND SEALING SURFACES PER HCS-6. DO NOT COAT ANODES, CYLINDERS, RING GROOVE, CADMIUM PLATED OR HCS-8 COATED PARTS.

4 USE NAMEPLATE HOA-445-7317.01-01.

3. TEST PER HOA-449-7317.01-01.

NOTES:

REV.	DESCRIPTION	DWN.	APVD.	DATE
B	INITIAL RELEASE			

APPLICATIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

DO NOT SCALE DRAWING

SCALE:	NTS
SHEET	1 OF 1
EST. WEIGHT	5600 lbs.
REFERENCE:	
JOB:	7317.01
LAYOUT:	L02793
CAD FILE:	06862281

DWN. BY	KJM	DATE 2/16/06
CHK. BY	KJM	DATE 2/16/06
ENG. BY	LJD	DATE 2/17/06
APPR. BY	LTM	DATE 2/17/06

MATERIAL: SEE BOM

NEXT ASSEMBLY | FINAL ASSEMBLY

HYDROTAP ASSEMBLY
6" X 6"-2500 ANSI, FS
VITON

SIZE	DRAWING NO.	PART REV.	DWG. REV.
B	09-068622	1	B

OIL STATES HYDROTECH

Bill Of Material

ASSEMBLY NO.	REV	BCR TYPE	DWG REV	DESCRIPTION
09-068622	1	ENG	B	HYDROTAP ASSY, 6" X 6"-2500 ANSI w/ VITON

ITEM	ITEM NUMBER	REV	DWG REV	QTY	UM	DESCRIPTION	ITEM TEXT
01	09-068623			1.00	EA	BODY WELDMENT, 6" X 6"-2500 ANSI HYDROTAP	SEE BOM
02	09-068624			2.00	EA	WELDMENT, SPLIT PACKING FLANGE, 6"-2500 ANSI	SEE BOM
03	09-053716	0	0	2.00	EA	BOWL, TENSION, 6" HYDROTAP	DIM: 8.81 OD X 6.71 ID X 3.62 LG MAT: AISI 4140, 34-38 Rc CTG: ELECTROLESS NICKEL, .5-1 MIL
04	09-053713	0	0	2.00	EA	SLIP, TENSION, 6" HYDROTAP	DIM: 8.66 OD X 6.62 ID X 4.50 LG MAT: AISI 4140, 34-38 Rc CTG: ELECTROLESS NICKEL .5-1 MIL
05	09-028061	0	0	2.00	EA	RING, COMPRESSION, SPLIT, 6" HYDROTAP	DIM: 8.80 OD X 6.71 ID X 0.50 THK MAT: HMS-1 OR ASTM A36 CTG: HCS-11 (OIL)
06	09-022025	0	0	4.00	EA	GUARD, SPLIT PACKING, 6" HYDROTAP	DIM: 8.56 OD X 6.21 ID X 0.05 THK MAT: TYPE 302/304 SS 18 GAUGE SHEET
07	09-035538	0	0	2.00	EA	PIN, HINGE	DIM: 1.00 DIA X 2.25 LG MAT: 1018 CF ROUND BAR CTG: HCS-11 (OIL)
08	09-027936	0	0	8.00	EA	WELDMENT, STUD RETAINER	SEE BOM
09	09-068625			2.00	EA	PACKING SET ASSY, SPLIT, 6" NOM VITON 90/80/80/90	SEE BOM
10	04-053570	0	0	28.00	IN	SEAL, FACE 1/2" (VITON)	DIM: 0.500 X 0.562 MAT: HMS-14-75
10	04-053570	0	0	28.00	IN	SEAL, FACE 1/2" (VITON)	DIM: 0.500 X 0.562 MAT: HMS-14-75
11	09-052855	0	0	8.00	EA	STUD-BOLT, MODIFIED	DIM: 3.50-8UN-2A X 40.25 LG MAT: ASTM A193 Gr B7 CTG: HCS-8 (GREEN)
12	09-026312	0	0	8.00	EA	NUT, MODIFIED HEAVY HEX, 3.50-8UN-2B	MAT: ASTM A194 GR 2H CTG: HCS-8

OIL STATES HYDROTECH

Bill Of Material

ASSEMBLY NO.	REV	BCR TYPE	DWG REV	DESCRIPTION
09-068622	1	ENG	B	HYDROTAP ASSY, 6" X 6"-2500 ANSI w/ VITON

ITEM	ITEM NUMBER	REV	DWG REV	QTY	UM	DESCRIPTION	ITEM TEXT
13	HHNT-56-08-1-1			8.00	EA	NUT, HEAVY HEX, 3.50-8UN-2B	MAT: ASTM A194 GR 2H CTG: HCS-8
14	STUD-22-08-112-1-1			16.00	EA	STUD, 1 3/8-8UN-2A X 14.00 LG	MAT: ASTM A193 GR B7 CTG:HCS-8
15	07-027822	0	0	16.00	EA	NUT, MODIFIED HEAVY HEX, 1.375-8UN-2B	MAT: ASTM A194 Gr 2H CTG: HCS-8
16	HHNT-14-09-1-1			8.00	EA	NUT, HEAVY HEX, 7/8-9UNC-2B	MAT: ASTM A194 GR 2H CTG: HCS-8
17	STUD-14-09-048-1-1			4.00	EA	STUD, 7/8-9UNC-2A X 6.00 LG	MAT: ASTM A193 GR B7 CTG: HCS-8
18	SFCS-04-20-010-2-0			8.00	EA	SCREW, SLOTTED FLAT CAP, 1/4-20UNC-2A X 1.25 LG	MAT: YELLOW BRASS
19	SFCS-04-20-006-2-0			8.00	EA	SCREW, SLOTTED FLAT CAP, 1/4-20UNC-2A X 0.75 LG	MAT: YELLOW BRASS
20	85-200261			4.00	EA	BUSHING, HEX HEAD, REDUCING, 0.50 NPT X 0.25 NPT	MAT: ASTM A105
21	85-200803			4.00	EA	PLUG, HX HD PIPE, 0.25 NPT	MAT: ASTM A105
22	11-027003			1.00	EA	ANODE,14 LB, GALVALUM III	DIM: 14.25 X 4.50 X 2.25 THK
23	09-023351			2.00	EA	HYDRAULIC CYLINDER WITH HARDWARE	2.00 BORE, 1.00 ROD, 6.00 STROKE 16.25 RETRACTED LENGTH WOMACK #WSC-2006
24	CPIN-02-10-2-0			4.00	EA	PIN, COTTER, EXTENDED PRONG, 0.125 DIA X 1.25 LG	MAT: CARBON STEEL
25	64-028675-019	0	0	8.00	EA	ASSY, SPACER	SEE BOM CTG: YELLOW PAINT
26	85-045135			1.00	EA	PLUG, INJECTOR, 0.50 NPT	MAT: AISI 316 SS PGI #BG10N4-CO

There are 26 items in assembly 09-068622

Prepared by: _____ Date: 1/27/06 Approved by: _____ Date: 1-27-06

Oil States Industries, HydroTech Division
5819 Almeda Genoa Road
Houston, Texas 77048
Telephone: 713.445.2210
Fax: 713.445.2503
www.oilstateshydrotech.com

JOB SPECIFICATION DATA SHEET

Customer Apache Corporation

Contact Name Fred Schaider

Address	2000 Post Oak Blvd
Phone	713-296-6322
Fax	713-296-7298
E-Mail	fred.schaider@usa.apachecorp.com

Pipeline Owner/ Operator

Contact	Apache Corporation
Address	Same as Above
Phone	____
Fax	____
E-Mail	fred.schaider@apachecorp.com

Product HydroTap

Size 6 x 6 ANSI / API Rating: 2500 If HydroTap, Lateral Line Owner:____

Job Location Information:

Gulf Of Mexico

Area	High Island
Block	169

Other Location

Country	____
Area	____

Pipe Specifications

Size – Trunkline	6.625" O.D.
Wall Thickness	0.562"
Grade Of Pipe	X 60
Seam/ Seamless	smls
Maximum Operating Pressure	5223 psig
Water Temperature	70 deg F
Water Depth at job location	59 ft
Concrete Thickness, If any	none
Coating Thickness/ Type	12-14 mils FBE

Pipeline Product

Oil- Sweet/Sour	____
Water	____
Natural Gas	gas

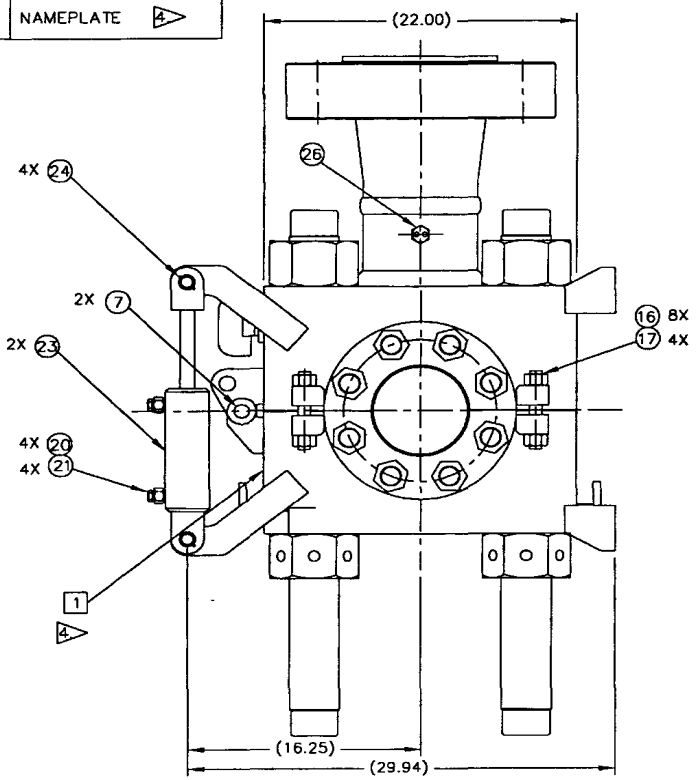
Anticipated Installation Date: 4/15/06

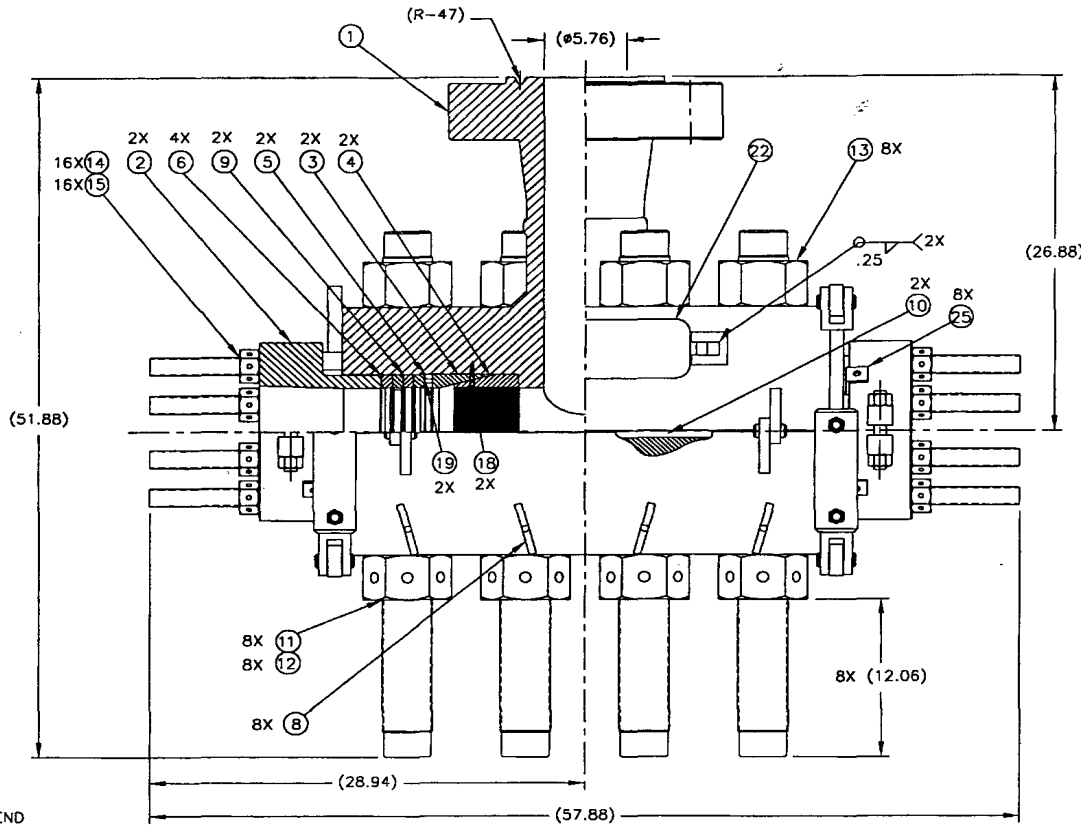
OSI Representation? Please Indicate: Personnel/ Equipment/ Both Both

Any Additional Information we may need. ____

Reference Sales Order Number: 7317

LOC.	MARKING DATA
1	NAMEPLATE 4





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4 USE NAMEPLATE HQA-445-7317.01-01.

3. TEST PER HQA-449-7317.01-01.

ELECTRONICALLY APPROVED &/OR CONTROLLED DOCUMENT
VERIFY
CURRENT REVISION BEFORE PROCEEDING

NOTES:

REV.	DESCRIPTION	DWN.	APVD.	DATE
B	INITIAL RELEASE			

APPLICATIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
DIM'S... 1/R ± 1/8" | ANGLES... ± 0°30'
.X ± .06 | CONC. ... .010 TIR
.XX ± .03 | FINISH... 125
.XXX ± .010 | RADII... .015 MAX
BREAK SHARP EDGES .015 MAX
ORIENTATION
DO NOT SCALE DRAWING

SCALE	NTS
SHEET	1 OF 1
EST. WEIGHT	5600 lbs.
REFERENCE:	
JOB:	7317.01
LAYOUT:	L02793
CAD FILE:	068622B1

DWN. BY	KJM	DATE 2/16/06
CHK. BY	KJM	DATE 2/16/06
ENG. BY	LJD	DATE 2-17-06
APPR. BY	LJD	DATE 2-17-06

MATERIAL: SEE BOM

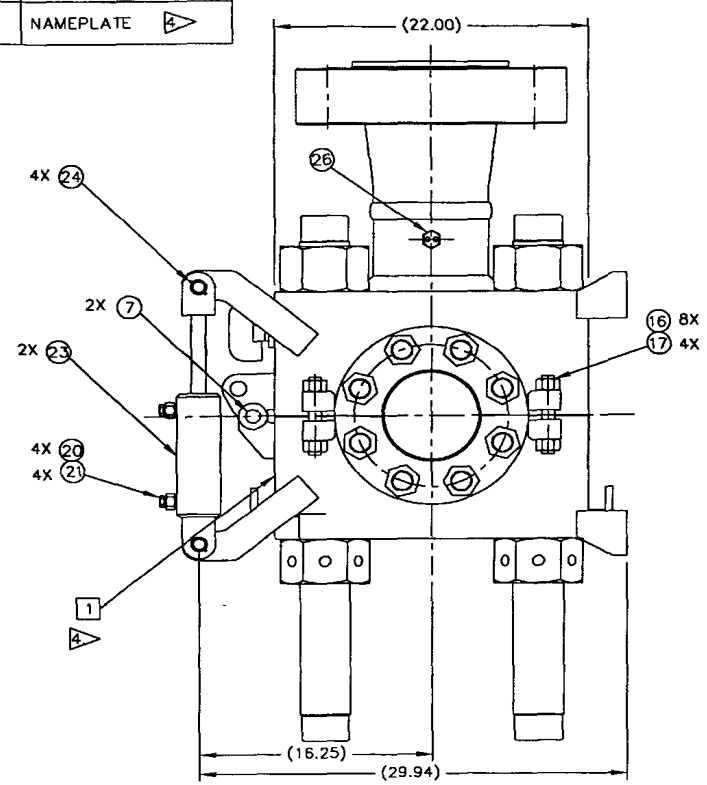
Oil States Industries, Inc.
HydroTech Division

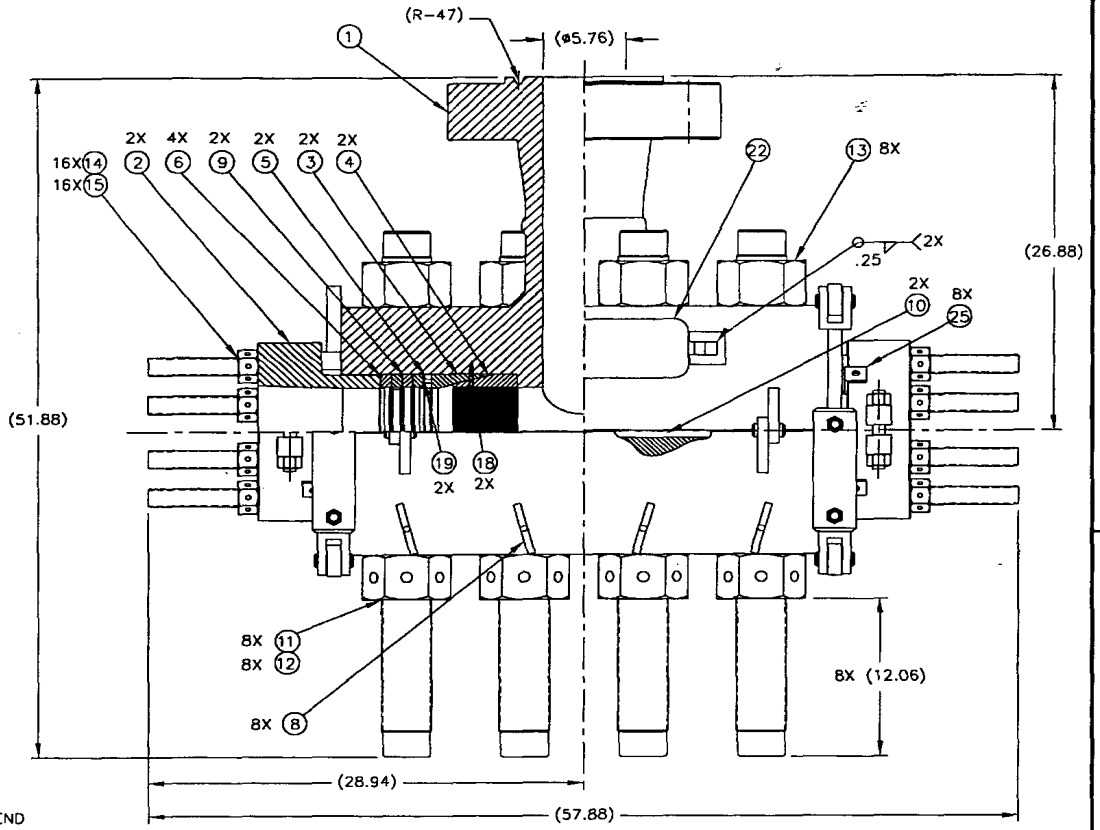
NEXT ASSEMBLY | FINAL ASSEMBLY

HYDROTAP ASSEMBLY
6" X 6"-2500 ANSI, FS
VITON

SIZE	DRAWING NO.	PART REV.	DWG. REV.
B	09-068622	1	B

LOC.	MARKING DATA
1	NAMEPLATE 4





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REV.	DESCRIPTION	DWN.	APVD.	DATE
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APPLICATIONS
TOLERANCES UNLESS OTHERWISE SPECIFIED
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BREAK SHARP EDGES .015 MAX
ORIENTATION
DO NOT SCALE DRAWING

SCALE	NTS
SHEET	1 OF 1
EST. WEIGHT	5600 lbs.
REFERENCE:	
JOB:	7317.01
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DWN. BY	KJM	DATE 2/16/06
CHK. BY	KJM	DATE 2/16/06
ENG. BY	LJD	DATE 2-17-06
APPR. BY	LJM	DATE 2-17-06
MATERIAL	SEE BOM	

Oil States Industries, Inc.
HydroTech Division

NEXT ASSEMBLY | FINAL ASSEMBLY

HYDROTAP ASSEMBLY
6" X 6"-2500 ANSI, FS
VITON

SIZE	DRAWING NO.	PART REV.	DWG. REV.
B	09-068622	1	B

11855
MICRO

2000 POST OAK BOULEVARD / SUITE 100 / HOUSTON, TEXAS 77056-4400

CORPORATION

(713) 296 6000
WWW.APACHECORP.COM

January 25, 2006

Mr. Donald C. Howard
Regional Supervisor
Office of Field Operations
U. S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

Attention: Alex Alvarado
Mail Stop 5232

RE: Application for Modification to Existing 6" Bulk Gas Right-of-Way Pipeline, Segment No. 11855/OCS-G 20517 Originating at High Island Block 169, Caisson No. 1 and Terminating at High Island Block A-6, Platform A, OCS Federal Waters, Gulf of Mexico, Offshore, Texas

Gentlemen:

Pursuant to the authority granted in Section 5(e) of the Outer Continental Shelf Lands Act (67 Stat. 462)(43 U.S.C. 1331), as amended (92 Sta. 629), and in compliance with the regulations contained in Title 30 CFR, Part 250, Subpart J, Apache Corporation (Apache) is filing this application in quadruplicate (original and three copies) for installation of a 6" x 6" mechanical hot tap on the referenced pipeline, commencing at coordinates of X = 3,597,921.40' and Y = 521,494.08'.

In support of our application and for your review and use, the following maps and drawings have been enclosed herewith and made a part hereof:

1. Vicinity and Route Map

2. Pipeline Safety Flow Schematic

3. Subsea Tie-In Assembly Drawing

Under separate cover, Apache Corporation has submitted an application covering installation of a 6.625-inch pipeline to originate at High Island Block 169, No. 2Caisson and terminate at the proposed subsea tie-in point in High Island Block 169.

Contact on technical points or other information:

Cheryl Powell
J. Connor Consulting, Inc.
16225 Park Ten Place, Suite 700
Houston, Texas 77084
Telephone: (281) 578-3388

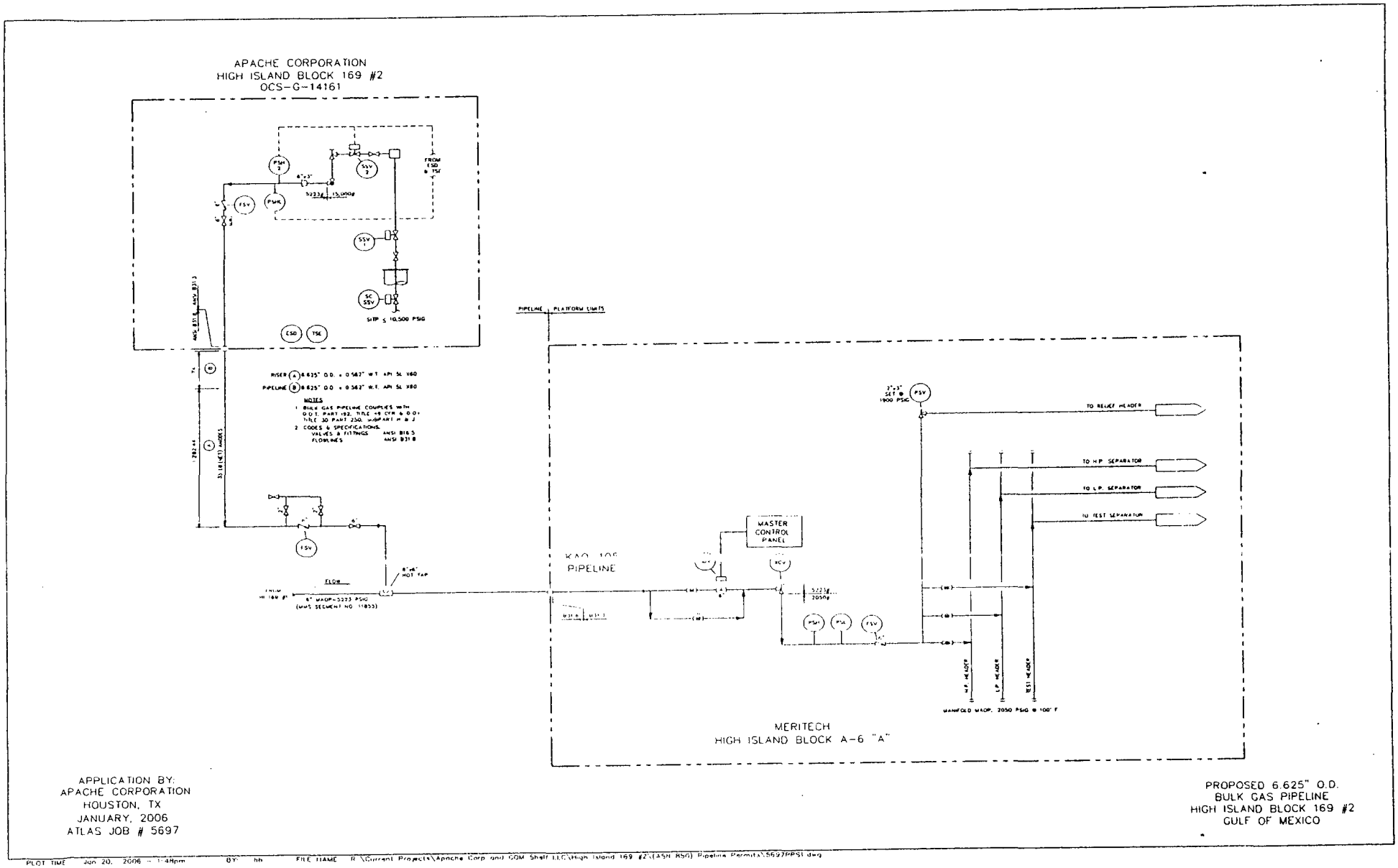
If the above information meets with your approval, we would appreciate your issuing the necessary decision for the right-of-way modification at your earliest convenience. Inquiries concerning this application should be directed to our regulatory consultant, Cheryl Powell, J. Connor Consulting, Inc. at (281) 578-3388.

Sincerely,

Apache Corporation

J.A. Jeppesen
Attorney-In-Fact

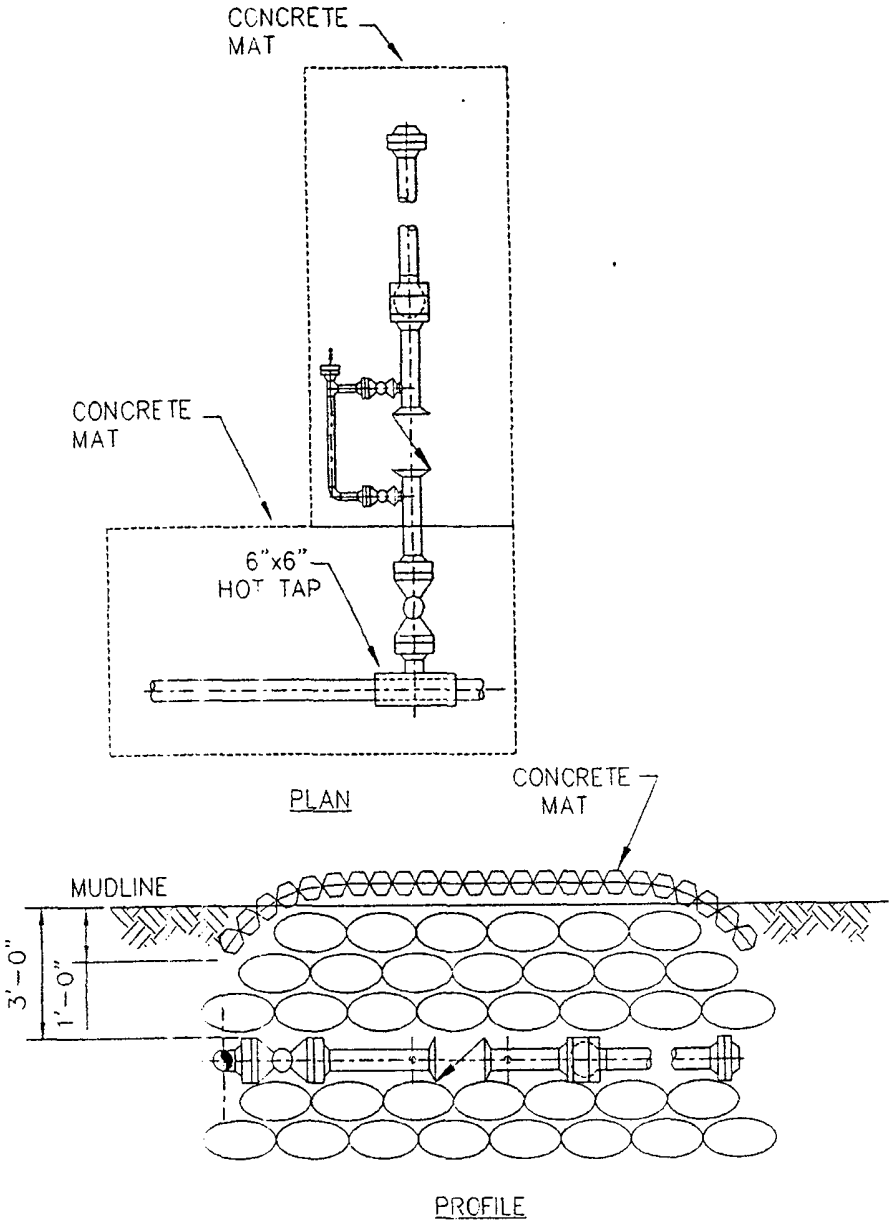
JAJ:CRP
Attachments



APPLICATION BY:
APACHE CORPORATION
HOUSTON, TX
JANUARY, 2006
ATLAS JOB # 5697

PROPOSED 6.625" O.D.
BULK GAS PIPELINE
HIGH ISLAND BLOCK 169 #2
GULF OF MEXICO

PLOT TIME Jan 20, 2006 - 1:48pm BY: hh FILE NAME R:\Current Projects\Apache Corp and GOM Shelf LLC\High Island 169 #2 (ASN 850) Pipeline Permits\5697PPSI.dwg



1. THE ENTIRE SUBSEA CONNECTION ASSEMBLY SHALL BE BURIED TO A DEPTH OF 3' COVER, UTILIZING SAND BAGS OR OTHER APPROVED METHOD.
2. SUPPORT SANDBAGS SHALL BE CEMENT STABILIZED. COVER SANDBAGS SHALL BE SAND ONLY.
3. CEMENT STABILIZED SANDBAGS SHALL BE A FILLED MIXTURE OF 1 PART CEMENT TO 3 PARTS SAND (BY WEIGHT).
4. BAGS SHALL BE MADE OF CLOSELY WOVEN MATERIAL WITH A WICKING ACTION. AFTER FILLING THE BAGS IT SHALL BE CLOSED BY SEWING OR THE EQUIVALENT, BUT NOT BY BUNCHING AND TYING THE END.
5. THE ENTIRE SUBSEA CONNECTION ASSEMBLY SHALL BE COVERED UTILIZING SUBMAR (OR EQUAL) MATS. VALVES SHALL BE PROTECTED WITH SAND BAGS (SAND ONLY) PRIOR TO INSTALLING MATS. MATS SHALL BE BURIED TO PREVENT SNAGGING.

APPLICATION BY:
APACHE CORPORATION
HOUSTON, TX
JANUARY 2006

PROPOSED 6.625" O.D.
HIGH ISLAND BLOCK 169 #2
GULF OF MEXICO