



Guideline and Guidepost Placement, Deployment and Retrieval

Procedure Type: Operating - Drilling Rig Operations

Scope

This procedure will enable you to properly place the guideline winch skids, deploy the guidelines, reposition the guideline posts, and retrieve the guidelines and guideposts.

Overview

This procedure requires the coordination of rig operations team members, a crane operator and the ROW crew to place, reposition and retrieve guideposts and guidelines. The procedure involves positioning the guideline winch skids, launching the ROV, picking up, lowering and latching up the guideposts, retrieving guideposts and guidelines, and repositioning guideposts without retrieving them to the surface.

Prerequisites

This operation requires a permit and coordination with the ROV crew and crane operator in planning and implementation.

Before this operation may proceed, weather and wave conditions must be within safe parameters for operating an ROV.

Before this operation can proceed, the guidepost connector must be installed properly on the wireline and pull-tested, and the first 100 ft of wireline painted white.

Equipment or Systems

This procedure will enable you to properly place the guideline winch skids, deploy the guidelines, reposition the guideline posts, and retrieve the guidelines and guideposts.

Tools or Equipment Needed

- 1 H&P 20" long, 2-part sling
- 1 Imenco spare kit for post top connector
- 2 H&P 50T Porta-powers
- 2 Vetco guide post locking pins
- Air hoses
- Crane
- Guideline winch skids
- Guidepost carts
- Handrails
- Post top connectors
- Video monitor
- Well Bay Covers
- Winch

Key Terms

- PRT** –
- psi** – Pounds (of pressure) per square inch
- ROV** – Remotely operated vehicle

Tasks & Steps

- Confirm that sea conditions will be acceptable during the time required for this procedure.** Risk Factor: 7
Rig Manager
ROV crew
- Caution**
The ROV will be needed during any operations with guideline and guidepost placement, deployment or retrieval.
- Control**
Confirm that ROV will be capable of operating during entire operation. Do not conduct operations if weather and sea conditions will not permit ROV operation.
- 1 Confirm that wave action is at or below 10 ft. significant seas.**
- 2 Estimate the time it will take to complete the procedure and confirm that weather conditions will not deteriorate during this time.**
- Confirm that the Open Water work permit is complete and that the ROV crew and crane operator are included in the planning.** Risk Factor: 5
Floor Man
Rig Manager
Rig Operator
Well Coordinator
- 1 Consult with the ROW crew and crane operator 24 hours ahead of time.** Rig Manager
- 2 Check time, requirements and limits of permit to confirm that procedure can commence.** Rig Manager
- Examine the guidepost top connector and wireline and confirm that they are in proper operating condition.** Risk Factor: 6
- 1 Check to see if the guidepost connector has been installed properly on the wireline (see welding specifications for the guide post).** [Rig Manager?]
Refer to figures 1-1, Guidepost and 1-2, Post Top Connector.
- 2 Confirm that the guidepost top connector and wireline assemblies have been pull-tested according to the Imenco procedure.** Rig Manager
- Caution**
Connector must be secure and able to carry the load of the guide post and line tension to a minimum of 25,000 lbs.
- Control**
Confirm or complete a successful pull test on the guide post and connector using the Imenco procedure.
- 3 Inspect the wireline for damage. Although the guidelines will not need to be slipped on a routine basis, should it be necessary to slip and cut guideline or replace guidepost components, the guideline can be cut at the guidepost connector and re-terminated.** Floor Man
Rig Manager
- Caution**
The area of wireline with the highest potential for damage is around the turn down sheaves on the winch skids.
- Control**
Check this area for damage regularly.
- 4 Confirm that the first 100 ft. of wireline has been painted white for easy visibility and is dry.** Floor Man
Assembly and line must be clearly visible on the monitor for easy placement.
- Confirm that needed supplies, tools and equipment are on hand.** Risk Factor: 5
- 1 Confirm that the ROV operator has two spare guidepost locking pins.** Floor Man
Rig Manager
- Coordinate with materials management personnel. These pins are stored in dog house.

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- 2 Locate and assemble the slings, a spare kit for the post top connector, the monitor, two porta-powers and a utility air winch. You also will need two spare Vetco guideposts.** Rig Manager
- Confirm that the work area is cleared and secured.** Risk Factor: 5
Safety Supervisor
- 1 Ensure that equipment has been cleared on the +40 deck to provide a clear path to the next well.** [Rig Manager?]
- 2 Confirm that well bay covers are installed.** Safety Supervisor
- Confirm that the equipment on the skid is depressured and stowed.** Risk Factor: 5
Chief Operator
- 1 Ensure that the guidelines are fully retracted and that the guide posts are on their carts and stored near the next well to be drilled at the +8 deck.** [Rig Manager?]
- 2 Confirm that the post top connectors are stored in their protective housings on the winch skids.** Chief Operator
- 3 Check to ensure that the hitch pins and stop pins are removed from the guideline winch skids.**
(See Figure 1-3, Guideline Winch Skids)
- 4 Ensure that the air supply is bled off and that the air hoses are disconnected and stored in their proper place.** Contractor Personnel
- 5 Ensure that the video monitor at the guideline winch skids is rigged down and removed.** ROV crew
- Position the guideline winch skids.** Risk Factor: 4
Crane Operator
Rig Operator
- 1 Slide the skids out from under the skid base to provide better crane access. Use padeyes on the back of the winch skids and 20-ft. long, two-part slings.** Rig Operator
- 2 Lift the skid and locate it at the next well slot. Use the crane and/or the well bay cart.** Crane Operator
Rig Operator
- Caution** Each skid weighs 11 tons! Take care that you use the correct size of shackles for lifting the skids.
- Control** Use 6.5-ton shackles at each pick up point.
- 3 Put skids in final position against the stop pins. Use winches and porta-powers for final positioning.** Crane Operator
Rig Operator
- Caution** Out-of-position skid can slide or misalign.
- Control** Skid must be against positioning pins.
- 4 Mate the two skids, using the V-blocks, and insert the hitch pins on the skids.** Crane Operator
Rig Operator
- Refer to Figure 1-3, Guideline Winch Skids, in the previous task.
- Hook up the portable video monitor.** Risk Factor: 7
Personnel with Electronic Technician skills
Rig Operator
- 1 Place the video monitor into position near the guideline winches.**
The monitor is stored in Sonar module..

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2.2. Connect the monitor to the feed from ROV skid.

Personnel with Electronic Technician skills
Rig Operator

Caution

[Are there any special safety or damage-prevention conditions governing lines or other connections to the video monitor?]

Control

[If so, what should be done to ensure the integrity of the monitor and the safety of those near it?]

Coax connections tend to wear out quickly. You may need to reinstall female connector. Running power cables parallel to coax can introduce strong interference.

Prepare and launch the ROV.

Risk Factor: 6

Rig Operator
ROV crew

1 Hook up the air supply and function test winches.

Rig Operator
ROV crew

Caution

You can damage the winch's brake system by operating the winches with less than 60 psi of pressure.

Control

Always check the pressure and ensure that the winch pressure is 60 psi or more before operating the winch .

Air supply hoses are stored [where?]

2 Confirm that the ROV has two spare guidepost locking pins before you launch it.

Rig Manager
ROV crew

3 Tell the ROV crew to lower the ROV into the water. Wait on confirmation before proceeding.

ROV crew

Pick up the guideposts.

Risk Factor: 4

Guideline winch operator
Rig Operator

1 Install handrails around the PRT and remove the grating on top.

Rig Operator

2 Lower the guideline to the upper well deck (+8' elevation), using the winch.

Guideline winch operator
Rig Operator

3 Attach the Imenco post top connector to the guidepost on the cart.

Rig Operator

4 Snub off the other end of the guidepost and pick it up off the cart using the winch .

Guideline winch operator
Rig Operator

New hands may need some help with this step. Have an experienced hand standing by.

5 Let the guidepost hang near the PRT but tie it off to an adjacent structure out of the way so the second guidepost can be picked up.

Rig Operator

6 Lower the second guideline to the upper well deck (+8' elev.).

[Guide winch operator?]
Rig Operator

7 Attach the Imenco post top connector to the second guidepost on the cart.

Rig Operator

8 Snub off the other end of the second guidepost and pick it up off the cart.

Guideline winch operator
Rig Operator

Lower the guidepost to the guidebase receptacle.

Risk Factor: 6

Guideline winch operator
ROV crew

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- 1 Test-fit a guideline locking pin into one guidepost to verify clearances, then lower the guide post through the PRT and down to 100 ft. below the splash zone.** [Guide winch operator?] Rig Operator
- Caution**
Damaged wire is a hazard!
- Control**
During landing of the guideposts or retrieval of the guideline, visually check the wire for any damage. If damage does occur, contact Engineering.
- 2 Maneuver the ROV over and have it loosely encircle the cable for descent.** Guideline winch operator
ROV crew
- It is important that good communication be established between the ROV operator and the guideline winch operator.
- 3 Escort the guidepost down to the mudline with the ROV until it is just above the mudline.** Guideline winch operator
ROV crew
- Caution**
If you bump the ROV or other equipment into the bottom 300 ft. of the riser or the stress joints, it can cause damage leading to premature failure of the riser.
- Control**
Avoid such contact with risers at any depth! If contact does occur during operations, make an ROV video record of the contact damage and notify Engineering of the incident details immediately.
- 4 Lower the guideline with the winch while the ROV positions the guidepost into the guidebase receptacle. (See Figure 1-4, Guideline Assembly)** Guideline winch operator
ROV crew
- Caution**
Guidepost won't mate if in wrong position.
- Control**
Ensure that the guidepost is installed at the correct slot (see Figure 1-5) and that the orientation is North-South.
- 5 Remove the guideline locking pin and slack the weight off the guideline to ensure that the guidepost is down.** Guideline winch operator
ROV crew
- Caution**
Guidepost cannot slide into receptacle if pin is in place.
- Control**
Ensure that the guideline locking pin is removed prior to slacking off.
- The V-tab in the post must fit into the V-notch in the guidepost receptacle.
- Latch the guidepost.** Risk Factor: 6
Guideline winch operator
ROV crew
- 1 Maneuver the ROV to the bottom of the receptacle. Locate and install the guidepost locking pin to secure the post onto the guidebase (See Figure 1-4, Guideline Assembly).** ROV crew
- Use the spare pin if you can't locate the locking pin.
- 2 Move the ROV 50 feet horizontal away from the guideline to avoid damage during the pull test.** ROV crew
- Continue to coordinate all activities with the guideline winch operator.
- 3 Slowly pull the tension on the guideline until the display reads 25,000 lbs.** Guideline winch operator
- 4 Reduce the tension to a display setting of 8,000 lbs* and set the brake on the winch.** Guideline winch operator
- [* Check with Mars to see if this number is valid].
- 5 Lower the other guidepost through the PRT and into the splash zone.** Guideline winch operator

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6 Swim the ROV to the surface and repeat the lowering and latching steps to install the second guidepost. Guideline winch operator
ROV crew

Caution

Make sure your alignment is correct.

Control

The two guidelines must be aligned in either the A/A or B/B configuration and 180 degrees apart (See Figure 1-4 Guideline Assembly).

It is important to ensure that the guideposts are installed in the correct North/South orientation (see Figure 1-5 Guidebase Labeling at Mudline).

7 After landing and latching both guideposts, paint both guidelines from the top of the PRT upward for 5 ft. Guideline winch operator
ROV crew

To assist the guideline winch operator, the guidelines should be painted so that the mark unspools from the winch drum when the guidepost is approximately 30 ft. above the guidebase.

8 After both guideposts are properly installed, have the ROV bring the guidelines back up to the platform. Check for crossed lines.

□ Retrieve the guidelines.

Risk Factor: 5

1 Launch the ROV if it is not already in the water. ROV crew
Follow the ROV launching procedure.

2 Take the guideline winch off the constant tension mode and slack off all tension. Guideline winch operator

3 Remove the guidepost locking pin from the first guide post to be retrieved. ROV crew

4 Move the ROV away from the guideposts and out of harm's way. Guideline winch operator
ROV crew

Caution

Excess tension can damage equipment.

Control

Do not exceed 5,000 lbs tension pressure.

5 Pull on the guide post until movement is observed, then stop. Guideline winch operator

Caution

Excess tension can damage equipment

Control

Do not exceed 5,000 lbs of tension pressure.

6 Encircle the guideline with the ROV and follow to within 100 ft. of the surface. Guideline winch operator
ROV crew

Caution

Damage may occur to the riser and equipment if the post comes into contact with the riser.

Control

Ensure that the line and post do not touch the riser.

7 Release the guideline from the ROV and hoist the guidepost through the PRT. Guideline winch operator
ROV crew

Caution

Avoid contact with the riser.

Control

Hoist the guideline and guidepost very slowly.

8 Snub off to the bottom of the guidepost and tie it off to an adjacent structure. Guideline winch operator
Rig Operator

9 Repeat all guidepost retrieval steps and cautions to bring up the second guidepost. Guide winch operator
ROV crew

10 When both guideposts are through the PRT, lower one down onto the guidepost cart, remove the post top connector and spool the remaining line onto the winch. Rig Operator

11 Repeat the previous step for the second guidepost and move the guidepost carts to the next well to be drilled at the +8 deck. Rig Operator

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- | | |
|---|--------------|
| 12 Hose salt water off of drum. | Rig Operator |
| 13 Store post top connectors in their protective housings on the winch skids. | Rig Operator |
| 14 Remove the hitch pins and stop pins from the guideline winch skids (See Figure 1-3, Guideline Winch Skids).
Make sure we include information on installing hitch pins. | |
| 15 Bleed off the air supply, disconnect the air hoses and store them.
[Any cleaning/maintenance here?] | Rig Operator |
| 16 Move skids to the next well to be drilled, following previous instructions for moving the skids. | Rig Operator |
| 17 Re-install the well bay covers and remove the safety handrails. | Rig Operator |

Reposition the guideline posts.

Risk Factor: 6

- | | |
|---|--|
| 1 Plot the path from the current well slot to the next well slot to determine if it would be feasible to transfer the guideposts straight across (see Figure 1-5 Guidebase Labeling at Mudline). | [Rig Manager?]
Guideline winch operator
ROV crew |
| [Note: Experience on Mars indicates that retrieval of the guideline posts to the surface is not always necessary for repositioning to the next well slot. Refer to the plot in Figure 1-6, Displacement vs. Depth; Guideline without Guidepost, to evaluate the potential displacement of guidelines toward adjacent risers.] | |
| 2 If it is feasible to transfer guideposts directly to the next well slot, take the guideline winches off the constant tension mode and slack off all tension. | Guideline winch operator |
| 3 Remove the guidepost locking pin from the first guidepost to be retrieved, then move [how far?] away from the area. | ROV crew |
| 4 When the ROV is out of harm's way, pull on the guidepost until movement is observed, then stop. | Guideline winch operator |
| Caution
Excess tension can damage equipment | Control
Do not exceed 5,000 lbs tension. |
| 5 Encircle the guideline with the ROV and pull up on the guideline slowly until the guidepost is free of the guidebase. | Guideline winch operator
ROV crew |
| 6 Pull the guidepost to the next well slot with the ROV, slack off on the guideline and attach the post as previously instructed in the steps to launch and lower guideposts. | Guideline winch operator
ROV crew |
| 7 Remove, relocate and attach the other guidepost, following the same steps. | Guideline winch operator
ROV crew |

Remove slack from the guidelines before reattaching to guideposts.

Risk Factor: 6

- | | |
|---|--------------------------------------|
| 1 After guideposts have been repositioned, disconnect the post top connector with the ROV, encircle the line and follow it to the surface as the guideline winch retrieves it. | Guideline winch operator
ROV crew |
| 2 Release the guideline from the ROV at the surface and spool the remaining guideline onto the winch. | Guideline winch operator
ROV crew |
| 3 Repeat the previous two steps for the other guideline. | Guideline winch operator
ROV crew |

Reattach guidelines to guideposts at their new position.

Risk Factor: 7

- | | |
|---|--------------------------------|
| 1 Reposition both guideline winch skids at the next well slot, following the steps previously given for positioning guideline winch skids. | Crane Operator
Rig Operator |
|---|--------------------------------|

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-
- | | |
|---|---|
| 2 Lower the first guideline through the +40 deck, through the PRT and into the splash zone. | Guideline winch operator |
| 3 Encircle the guideline with the ROV and follow it to the mudline. | Guideline winch operator
ROV crew |
| 4 Reattach the post top connector into the correct guidepost and move the ROV out away [how far?] from the area. | ROV crew |
| 5 Slowly pull the tension on the guideline until the display reads 25,000 lbs. | Guideline winch operator |
| Caution
Avoid damage to the ROV. | Control
Ensure that the ROV is out of harm's way before proceeding. |
| 6 Reduce the tension to a display setting of 8,000 lbs and set the brake on the winch. | |
| 7 Repeat the above steps for the second guideline. | Guideline winch operator
ROV crew |

Author: KMC; RH; MS -- Drilling Leadership Development Program

References

- 1 - Primary: W.P. Derise 504/588-7581 (office) 504/288-5441 (home)
- 2 - Alternate: J.D. Meece 504/588-6143 (office)
- Attachment 1-1: Imenco Installation & Operating Procedure
- Attachments 2-6: COG Manual, "Guideline Operations" Section: 1
- COG Manual, "Guideline Operations" Section: 1
- I-R Guideline Winch Operating Manual
- MD/Totco Instrumentation Manual
- Vendor: Jeff Navarro, AIRDYNE, 713/999-8665

Revision History

Revision Number 3 **Approved By:** Mel Chin -- Supervisor **Issue Date:** 3/15/97

Team needs to review some of the elements in this procedure. Items are marked.

Next Revision Date: 3/14/98

Guideline and Guidepost Placement, Deployment and Retrieval

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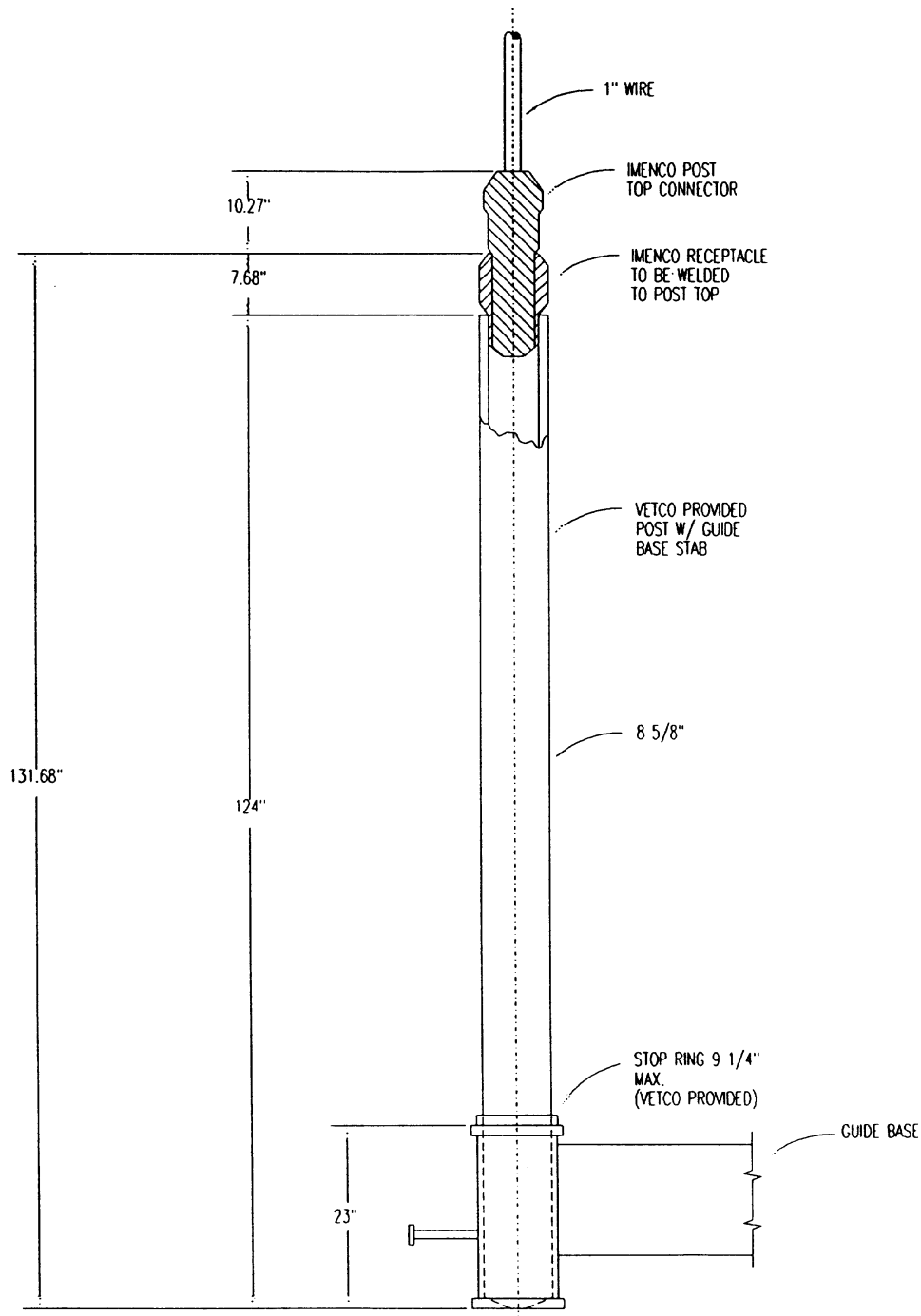


Figure 1-1 Guidepost Top Connector on Guidepost Assembly

Guideline and Guidepost Placement, Deployment and Retrieval

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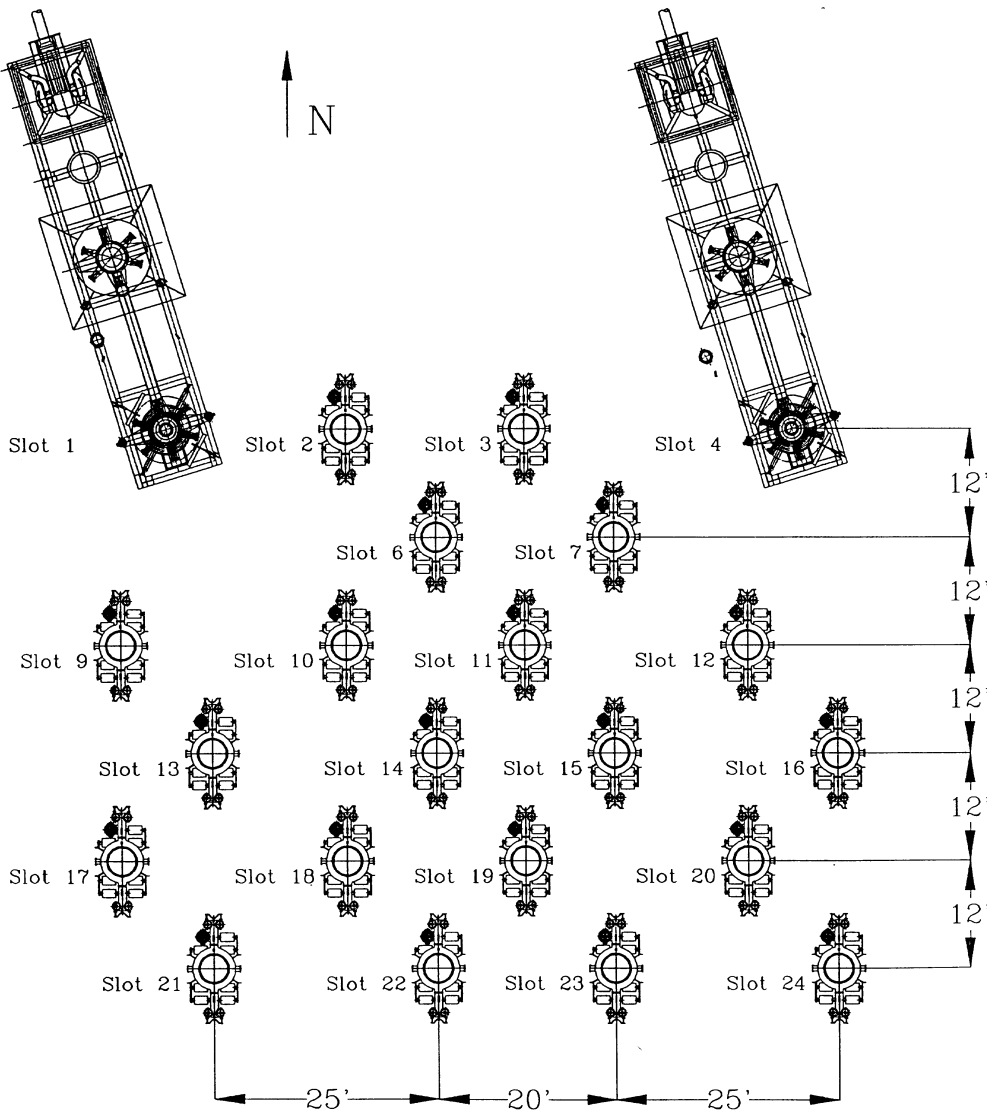


Figure 1-5 Guidebase Labeling at Mudline

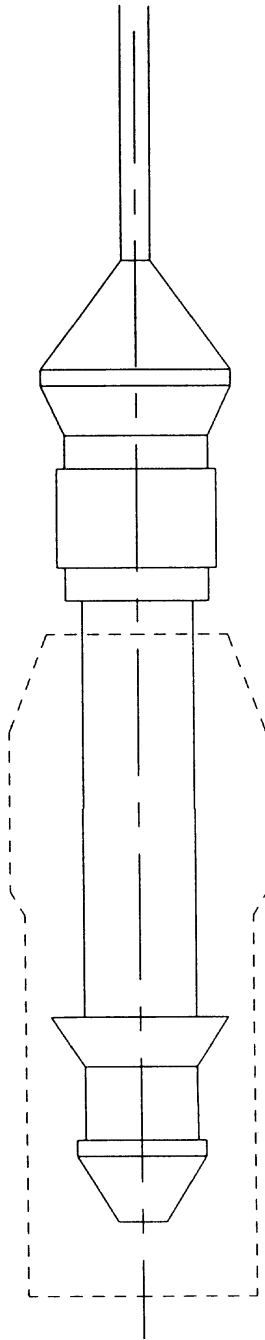


Figure 1-2 Post Top Connector

Guideline and Guidepost Placement, Deployment and Retrieval

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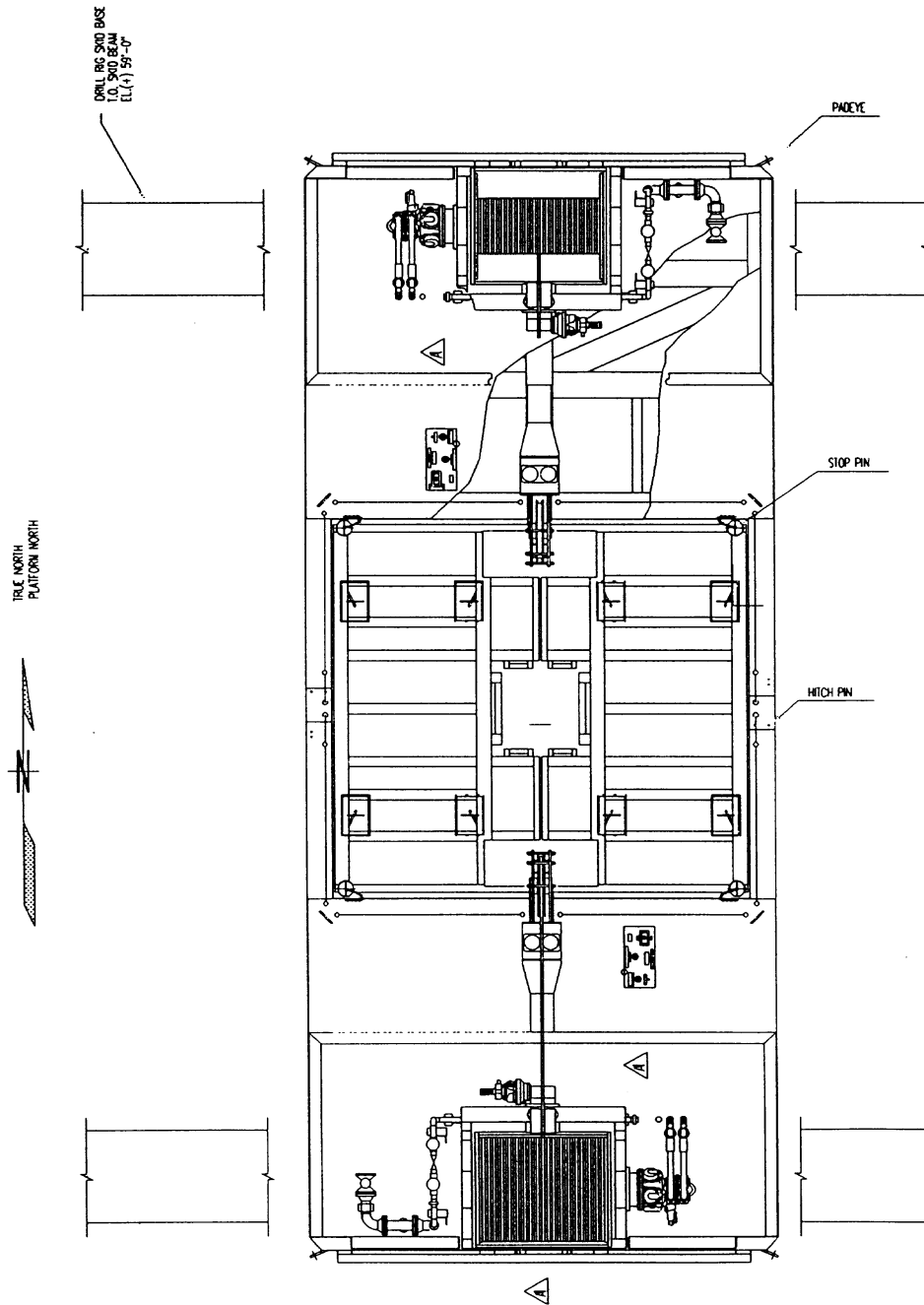


Figure 1-3 Guideline Winch Skids

Guideline and Guidepost Placement, Deployment and Retrieval

Type: Operating- Drilling Rig Operations

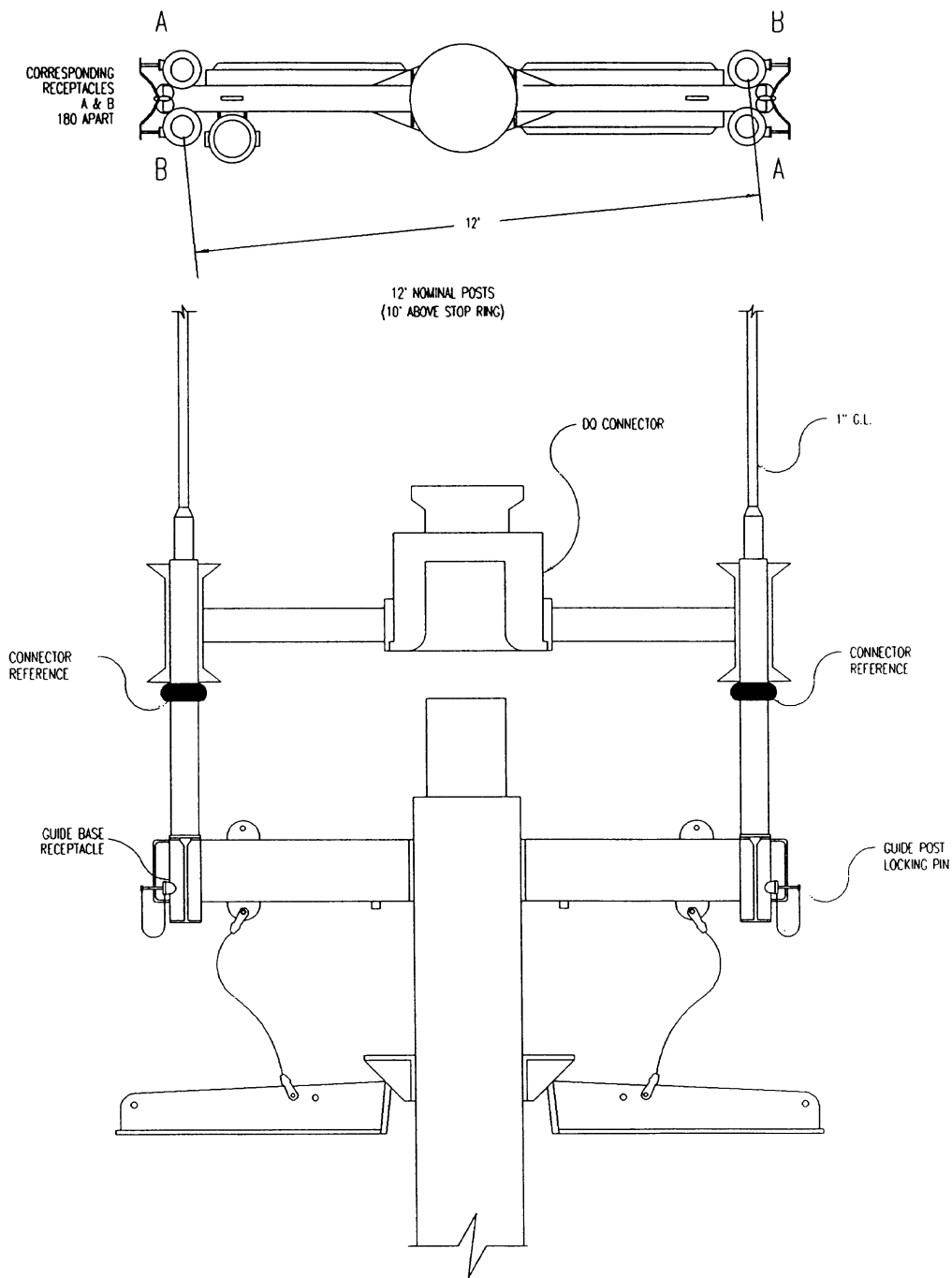


Figure 1-4 Guideline Assembly

Guideline and Guidepost Placement, Deployment and Retrieval

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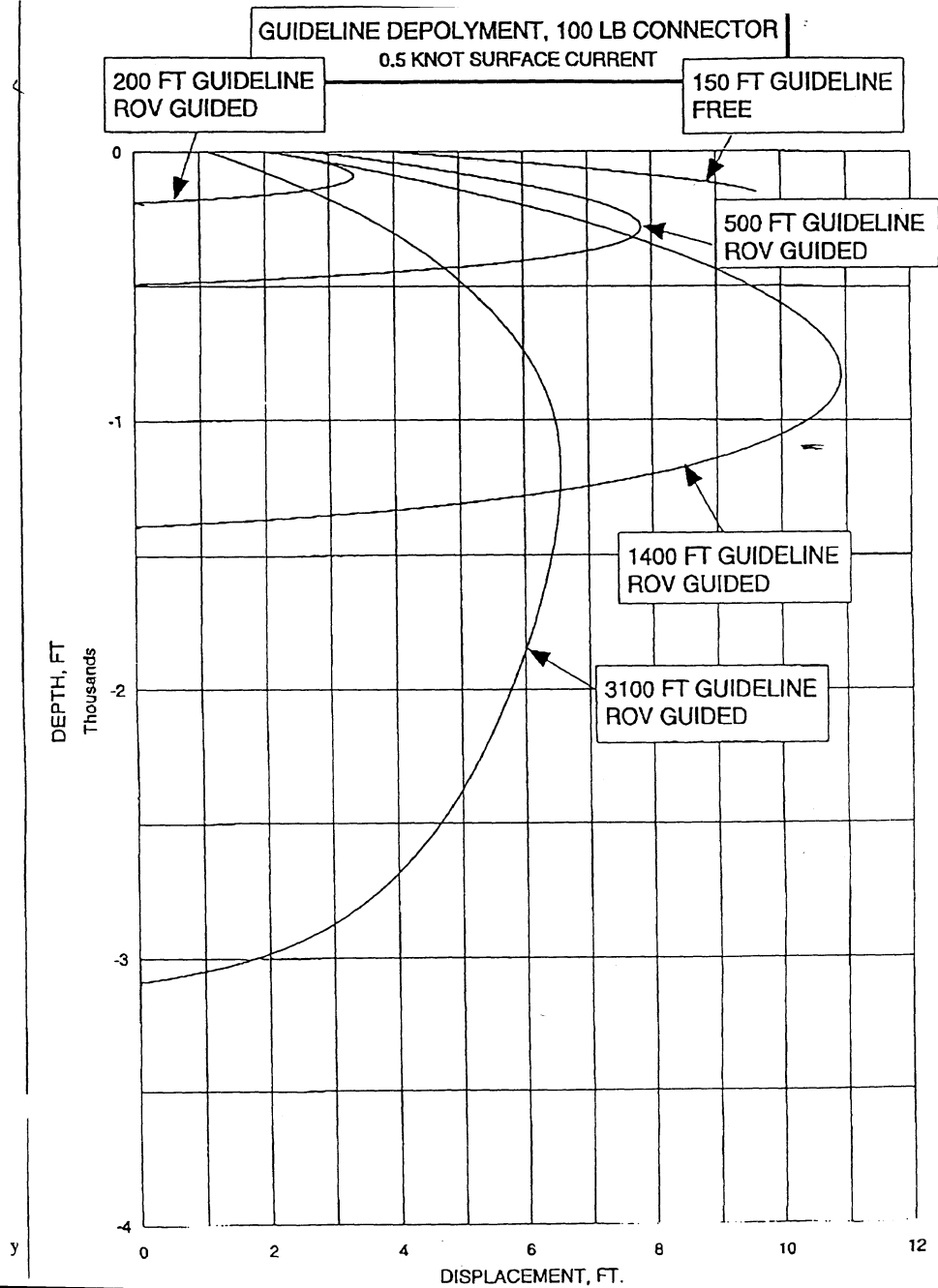


Figure 1-6 Displacement vs. Depth; Guideline without Guidepost

Guideline and Guidepost Placement, Deployment and Retrieval

- Drilling Rig Operations -- PSM--

Scope

This procedure will enable you to properly place the guideline winch skids, deploy the guidelines, reposition the guideline posts, and retrieve the guidelines and guideposts.

Summary

This procedure requires the coordination of rig operations team members, a crane operator and the ROW crew to place, reposition and retrieve guideposts and guidelines. The procedure involves positioning the guideline winch skids, launching the ROV, picking up, lowering and latching up the guideposts, retrieving guideposts and guidelines, and repositioning guideposts without retrieving them to the surface.

Tools or Equipment

Guideline system with winch skids, guideposts and top connectors,
guide base, receptacles, connectors and slots
Crane
ROV
