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GETTLER-RYAN INC.

TRANSMITTAL

TO: Mr. Thomas Bauhs
Chevron Products Company
P.O. Box 6004
San Ramon, California 94583

DATE: May 25, 2001
PROJ. #: DG91740C.4C01
SUBJECT: Chevron Station #9-1740
6550 Moraga Avenue
Oakland, California

FROM:
Geoffrey D. Risse
Staff Geologist
Gettler-Ryan Inc.
3140 Gold Camp Drive, Suite 170
Rancho Cordova, California 95670

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	May 25, 2001	Work Plan for ORC® Installation, Chevron Station #9-1740

THESE ARE TRANSMITTED as checked below:

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[ ] For approval [ ] Return for corrections [ ] Return _ corrected prints

[X] For your files

COMMENTS:
Copies of the above referenced work plan will be distributed to the following:

Ms. Susan Hugo, Alameda County Health Care Services, Dept. of Environmental Health, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502-6577
Mr. Eddie So, RWQCB-San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, CA 95612

If you have any questions please call us in Rancho Cordova at 916.631.1300.

Delta
Environmental
Consultants, Inc.

3164 Gold Camp Drive
Suite 200
Rancho Cordova, California 95670-6021
916/638-2085
FAX: 916/638-8385

May 25, 2001

Mr. Thomas Bauhs
Chevron Products Company
P.O. Box 6004
San Ramon, CA 94583

Subject: **Workplan for ORC® Installation at Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California**

Mr. Bauhs:

At the request of Chevron Products Company (Chevron), Delta Environmental Consultants, Inc. (Delta) network associate Gettler-Ryan Inc. (GR) has prepared this workplan to install Oxygen Releasing Compound® (ORC®) "filter socks" in groundwater monitoring wells at the above referenced site (Figure 1). In an effort to reduce dissolved hydrocarbons in wells C-2, C-3, and C-4, ORC® socks will be installed in well C-3 and be re-installed in wells C-2 and C-4.

The ORC® socks will be installed per Regenesis Sock Installation Instructions (copy attached). In addition to the regularly scheduled analyses, groundwater samples from wells C-2, C-3 and C-4 will be also analyzed for dissolved oxygen (DO) content each monitoring and sampling event that ORC® is installed. Wells C-2, C-3, and C-4 will not be purged prior to sampling. ORC® socks will be left in place until ORC® socks are spent, approximately six months.

DO results will continue to be incorporated into the semi-annually groundwater monitoring and sampling reports. An evaluation of dissolved petroleum hydrocarbon concentrations will be performed to assess the effect of the ORC® filter socks.

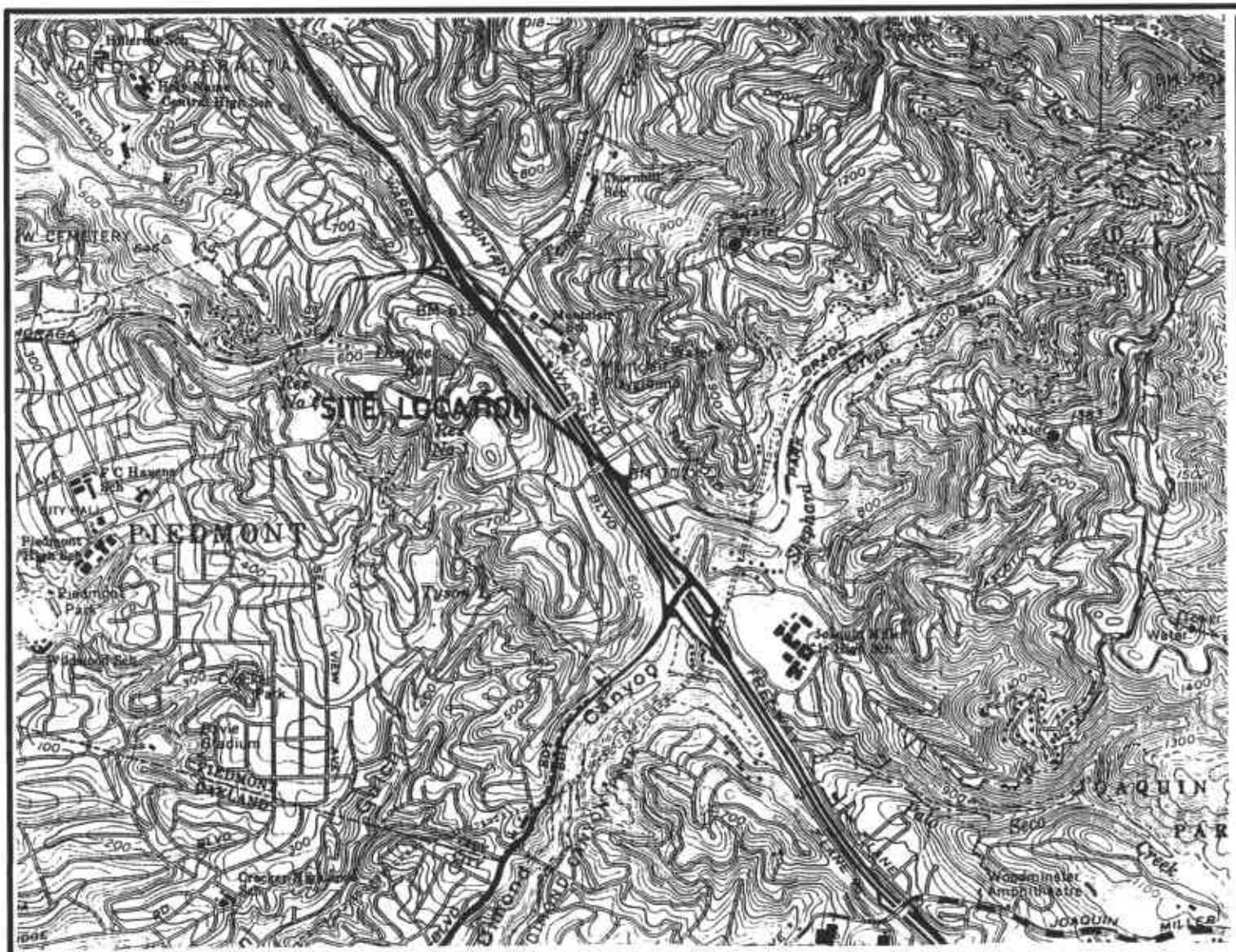
If you have any questions, please call our Sacramento office at (916) 631-1300.

Sincerely,
Gettler-Ryan Inc.

Geoffrey D. Risse
Staff Geologist

Attachments: Figure 1. Vicinity Map
Figure 2. Site Plan
Sock Installation Instruction

Cc: Ms. Susan Hugo, Alameda County Health Care Services, Dept. of Environmental Health, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502-6577
Mr. Eddie So, RWQCB-San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, CA 94612



Source: USGS Topographic Map, Oakland East, 7.5

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6747 Sierra Ct., Suite J
Dublin, CA 94568
(925) 551-7555

VICINITY MAP
Chevron Service Station No. 9-1740
6550 Moraga Avenue
Oakland, California

FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
346507		2/01	

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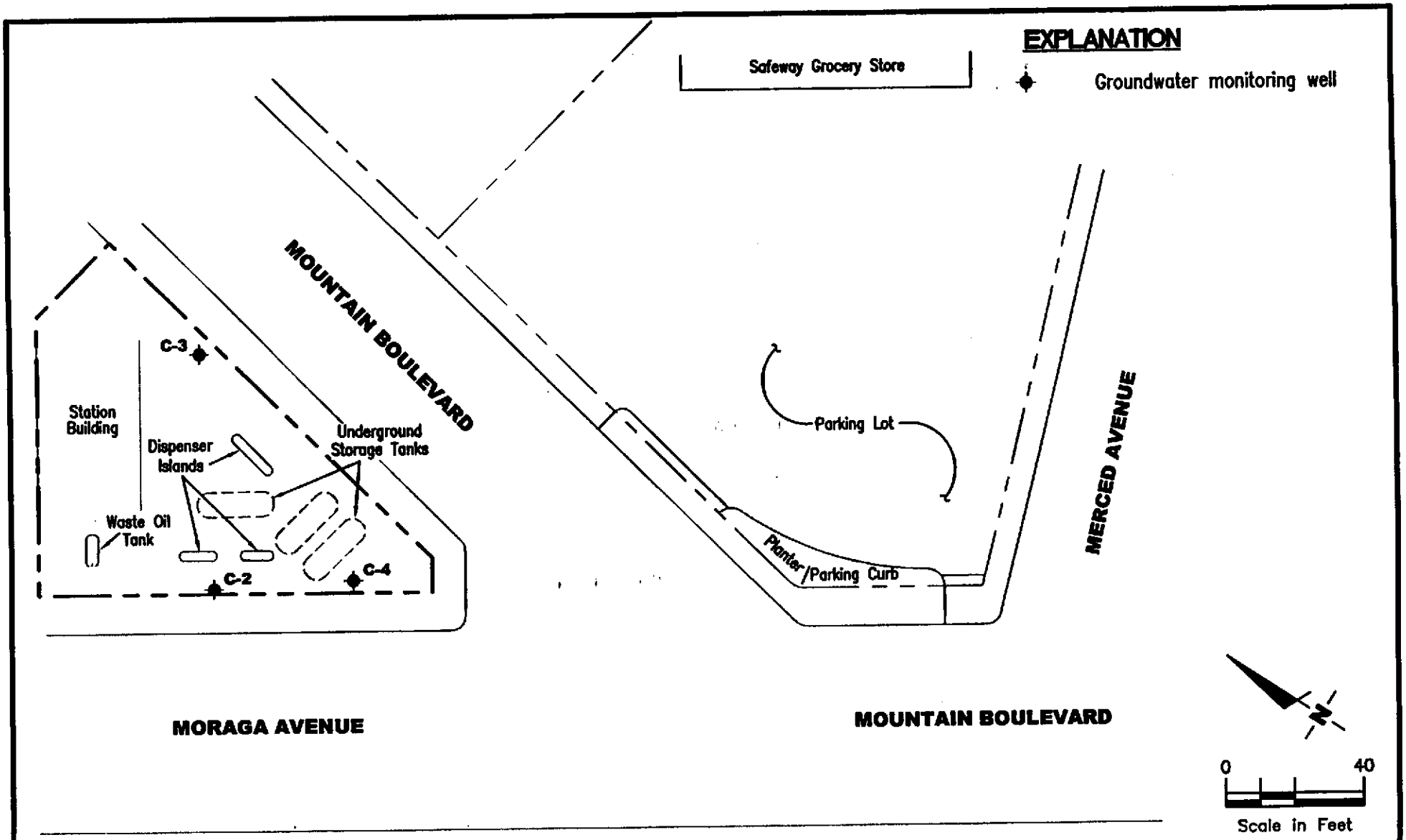

Source: Figure modified from drawing provided by RRM Engineering and County Assessor's map.

FIGURE 2

SITE PLAN
Chevron Service Station No. 9-1740
6550 Moraga Avenue
Oakland, California

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PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
346507		2/01	

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Sock Instructions

ORC® FILTER SOCK INSTALLATION INSTRUCTIONS

ORC Filter Socks are used to enhance bioremediation of petroleum hydrocarbons in groundwater. The filter sock contains ORC and an inert carrier matrix. The socks come in one foot sections. They are laced together to span the vertical polluted saturated zone in monitoring type wells. Once the socks are laced together and lowered into the wells, they become hydrated and begin releasing oxygen. The following instructions are vital to proper installation and subsequent removal of the socks.

SAFETY PRECAUTIONS

- ORC is completely non-toxic, but is composed of ultra-fine particles.
- Wear dust masks and goggles to prevent soft tissue irritation
- Reference the Material Safety Data Sheet for specific technical and physical information.

CONDITION OF SOURCE WELL

- Test for well deviation and smoothness before ORC installation.
- For the test, use a 5 foot section of pipe with an outside diameter 1/2 inch smaller than the source well's inside diameter.

KEY REQUIREMENTS FOR INSTALLATION

- **SOCKS MUST BE INSTALLED WITH BLACK GROMMETS ON TOP**
- Wrap Socks as independent units (see page 3, figure 5)
- A maximum of **20** ea. 2-inch socks per section.
- A maximum of **8** ea. 4-inch socks per section.
- A maximum of **6** ea. 6-inch socks per section.

- Make sure each sock is properly shaped (cylindrical and without bends) to facilitate ease of installation and removal.

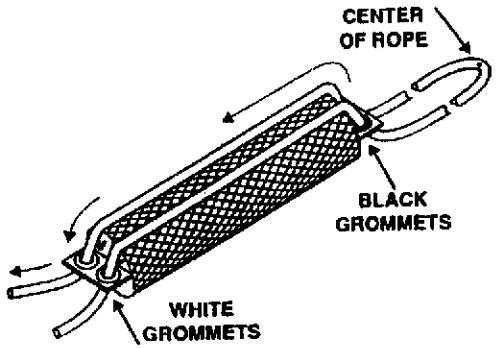
HELPFUL HINTS

- ORC matrix hardens into a cement once hydrated
- Minimize slack between each sock, by periodically pulling up slack while lacing
- Tie off ORC retrieval lines to the well cap. Regenesis recommends the use of a 3/8" diameter x 6" long eyebolt.
- The ORC Socks should be wetted to prevent excessive dusting prior to installation
- Make sure your work area is clean to avoid oil and dirt deposits on the socks.

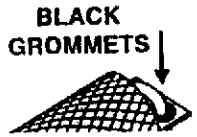
ORC REMOVAL

- ORC Socks will be approximately 20% heavier after water saturation
- Static friction from screened casing may cause difficulty in removal
- A winch and stanchion (or comparable equipment) may be necessary to help remove the socks due to increased weight, friction, etc.

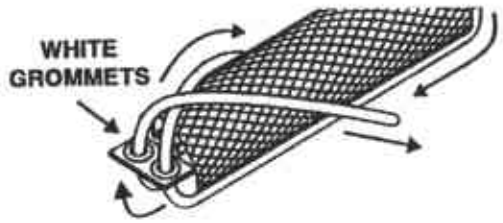
4 INCH AND 6 INCH LACING DIAGRAM



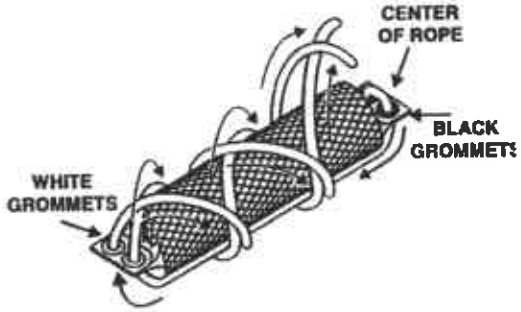
1. Find the center of the rope. Begin lacing the ORC Socks by threading the two ends of the installation rope through the black grommets and then through the white grommets at the bottom of the same side of the bottom sock



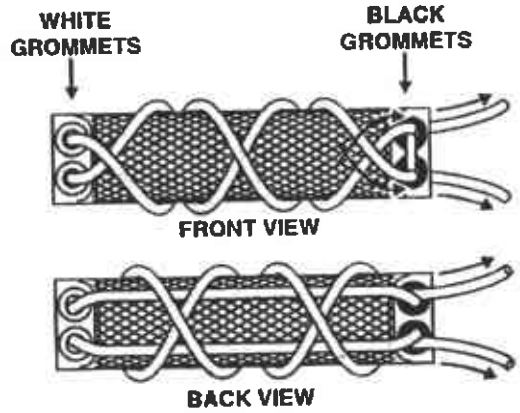
2. Pull the rope through the bottom sock,



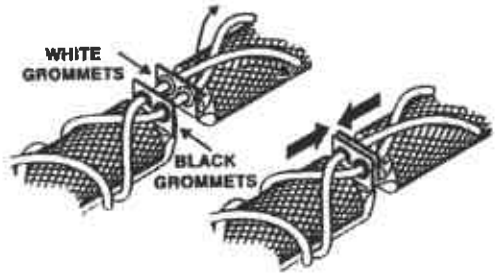
making sure the center of the rope is between the black grommets. Cross the ropes over each other.



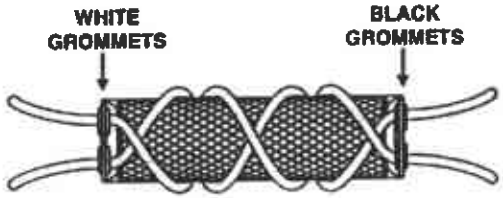
3. Loop the ends of the rope around the back of the sock and cross them. Repeat this step once again, so the rope is wrapped around the sock with two full turns.



4. Bring the ends of the rope around from the back, cross them, and thread them into the black grommets. The rope ends should be inserted into the black grommets diagonally from the white ones they started from. Threading the black grommets will be tight only on the bottom sock due to the unique lacing pattern.



5. To avoid the ORC Sock slipping past each other, the socks must be laced with the grommet flaps of the bottom sock and second sock butting against each other (as shown)



6. The remaining socks on the rope section are laced up according to Figure 6. Make sure that the rope is turned around the sock two full turns, with the grommets of each sock butting up against the next sock as shown in Figure 5.

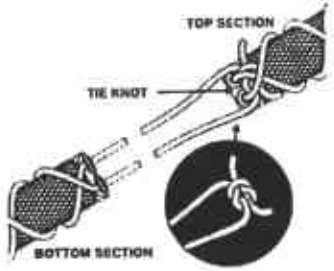
7. Lace each subsequent ORC Sock exactly the same as in Figure 5 and 6.

IMPORTANT:

Do not exceed the maximum number of socks per section (see "Key Requirements D & E" on page 1).

Minimize the slack between the socks

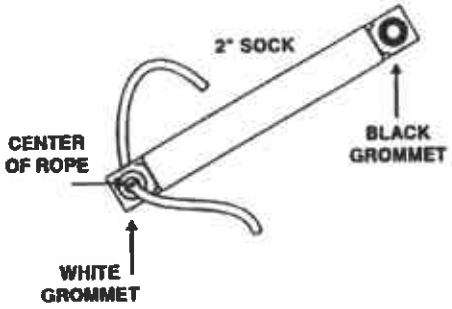
8. If you need to install more ORC Socks than the maximum allowed per well size (see "Key Requirements D & E on page 1), then multiple sections must be installed. Each section is laced exactly the same, but they should be tied off to each other. Tie the end of the rope from the lower section to the bottom sock of the upper section; this allows each section to be installed and removed



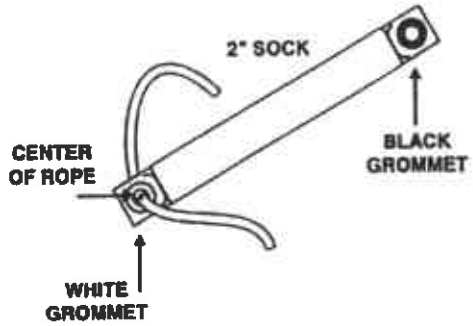
independently (see well diagram)

Well Diagram

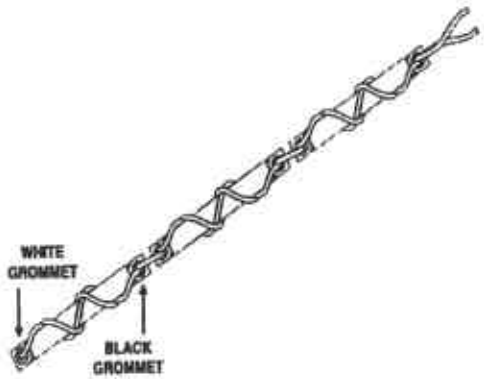
2 INCH LACING DIAGRAM



9. Find the center of the rope. Begin lacing the ORC Socks by threading one end of the installation rope through the white grommet, make sure that the center of the rope is pulled through to the center of the white grommet on the bottom sock.



10. Wrap each end of the installation rope around the sock twice and then cross them through the black grommet.



11. Lace each subsequent sock using the same method ad describe in Figure 2 above.

IMPORTANT:

- *Do not exceed the maximum number of socks per section (see "Key requirements B" on Page 1)*
- *Minimize the slack between socks*