

50 plus years of Underwater Construction: You need it done? I can help!

How I work: It starts with e-mail & phone conference, no charge. If we determine you need help but I'm not suited for your needs: If I can, I will direct you to those that I believe are. If I believe I can help, I will write a brief proposal: How I would help and what I would need from you to accomplish it. E-mail <vicepresident@jcroat.com> Phone: 337-281-4415

Services Offered

Diving Contractors Responsibilities Under SEMS:

1) If in their audit of a Oil & Gas company, your company works for, they find evidence that your company is not complying with any of the elements required under SEMS. (**Assist your Internal Audit For:** Ensuring sure your company is doing what your Operations Manual and Procedures say you are doing and that you do not have Procedures that contradict each other.)

2) If you are on a diving job involved in an incident: Offshore operators are required by law (30 CFR 250.188) to immediately notify BSEE of the following types of incidents: fatalities; injuries that require evacuation of the injured person; loss of well control; fires and explosions; collisions that result in property or equipment damage of more than \$25,000; incidents involving structural damage to an Outer Continental Shelf (OCS) facility; incidents involving crane operations; and incidents involving damage to safety systems and equipment. Under Coast Guard Regulation: The Dive Supervisor is required to see that is done. Under BSEE your client is responsible to see its done. (**Teach your personnel their responsibility and obligations under BSEE, USCG & OSHA CFRs**)

a) How does all this effect you? On the light side; if your Job Plan, certification of dive hoses, dive compressors, dive chambers, gages, dive racks, decompression sheets are not completely filled out, missing signatures wrong dates etc: The company you were working can be fined! They will, at a minimum, be informed your company is not in compliance, therefore they are not. If BSEE deems it necessary, they can review all jobs your company has done for the last 6 months. On the real bad side BSEE has: OCS Civil/Criminal Penalties Program.

b) For-instance Black Elk Emergency "A federal grand jury indicted two companies in the deadly 2012 explosion on an oil production platform in the Gulf of Mexico. Three people face charges in that federal court room for manslaughter. This does include contractors. (I offer Confidential Auditing of your Manuals & Procedures for SEMS Conflicts.

Practical Training Courses Written & Offered: Oxy-Arc Underwater Burning (Shot and edited the 90-minute training video that goes with this class), Dive Decompression Table Use, Dive Compressor Check Out, Decompression Chamber Check Out, Decompression Chamber Operation, Basic Tending Skills, Dive Supervisor Responsibility, Valve Identification, U.S. Coast Guard and OSHA Diving Regulation/CFRs.

a) Each of the above Classes can be made to fit your manuals and procedure and will comply with all Coast Guard and OSHA CFRs.

b) All classes have written testing.

A Few Attached Examples Below!

VALVE IDENTIFICATION

CLASS OUTLINE

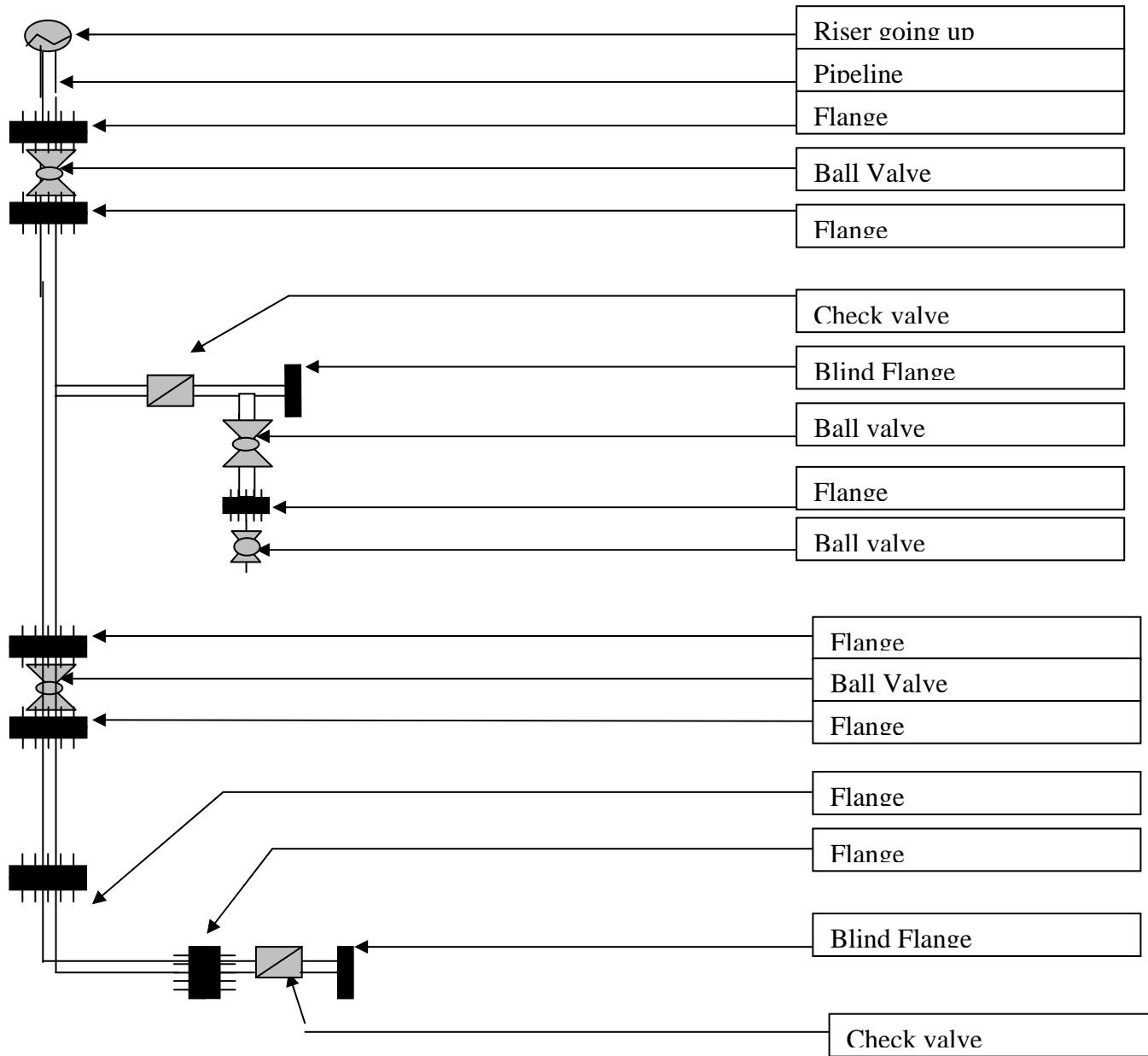
Class Room 4- Hours (add 4-hours with simulated dive)

1. Potential Hazards
2. Actions to Avoid
3. JSA Forms
4. HAND OUT Supervisors hand book for Sub-sea Tie-ins
5. HAND OUT Valve Identification Outline
6. Videos
 - a) Introduction to tool rigging
 - b) Construction diving completing flange ups
 - c) Construction diving working with spool pieces
 - d) Review of videos (Q/A)
7. Identifying what you have under water
8. Smart flanges
9. Big Inch Connectors
10. Sub-Sea Assemblies
 - a) Discuss different characteristics
 - b) Identify anomalies that the diver might come across
11. Valves
 - a) Ball / Check / Quarter turn
 - c) Discuss different characteristics of each
12. Recognition
 - a) Instill recognition techniques for diver in zero visibility
 - b) Increase diver knowledge of proper terminology in sub sea assemblies
 - c) Teach what the customer expect in a written report

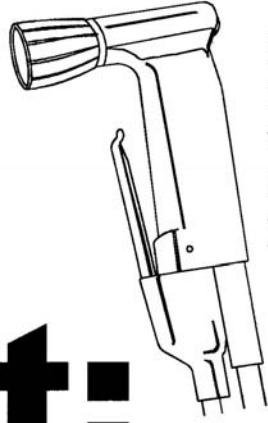
Practical Hands on Training

1. Review of valves
 - a) Identifying check valves / ball valves / quarter turn valves
 - b) Removing gear box from valve body
 - c) Trouble spots to be aware of during operation of valve

Sub Sea Assembly



No Vent:



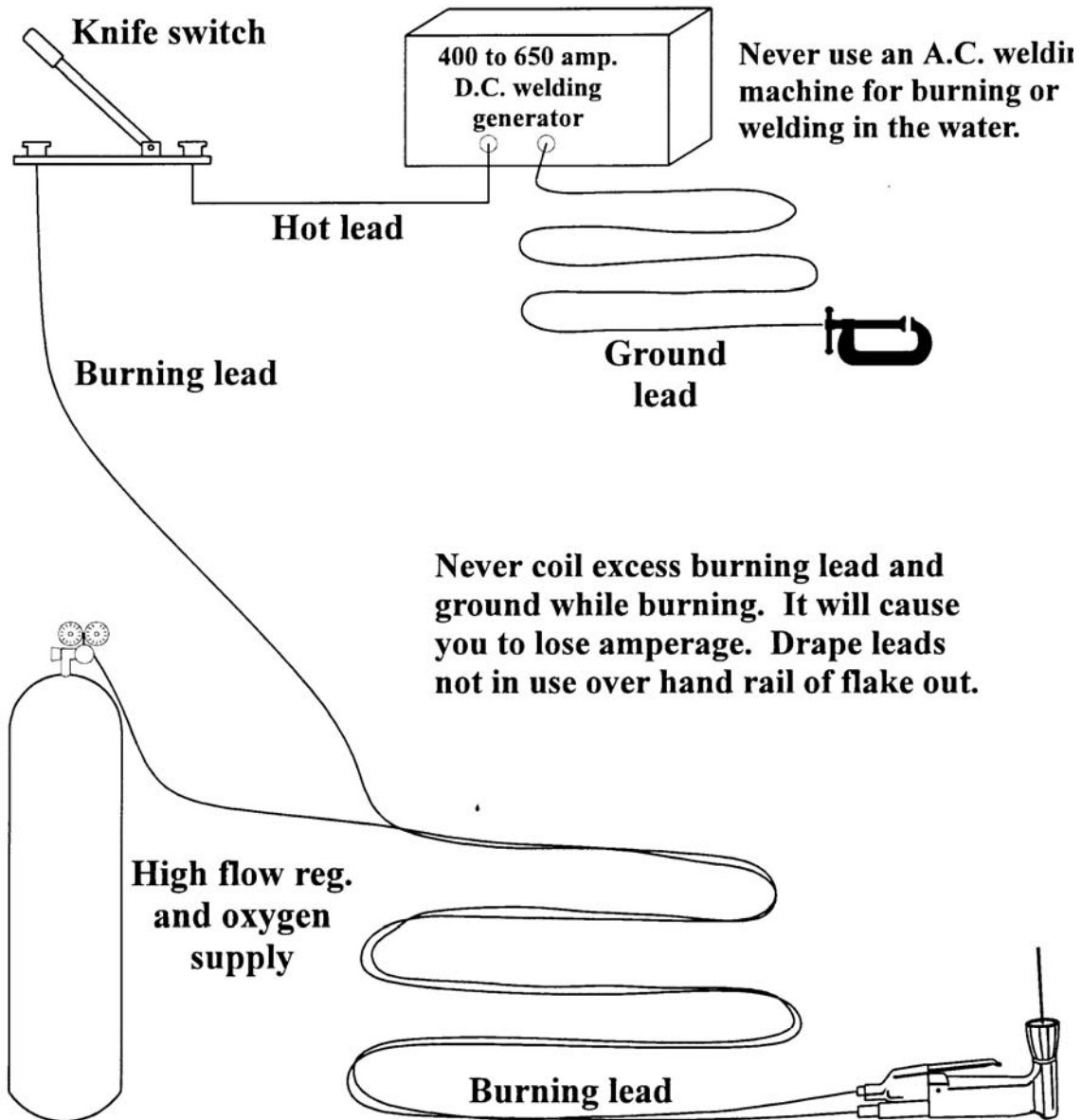
Safety begins with understanding the tools you are using and then using them properly.

By: John C. Roat



No. 3

BURNING GEAR SET-UP



No. 8

HANGERS (BLOW-BACKS)

When you get a blow-back, molten steel on your side of the cut, you have left a hanger. Do not keep burning. Pull out of the steel and make it cold. Move back into the good cut, make it hot, and undercut the hanger.

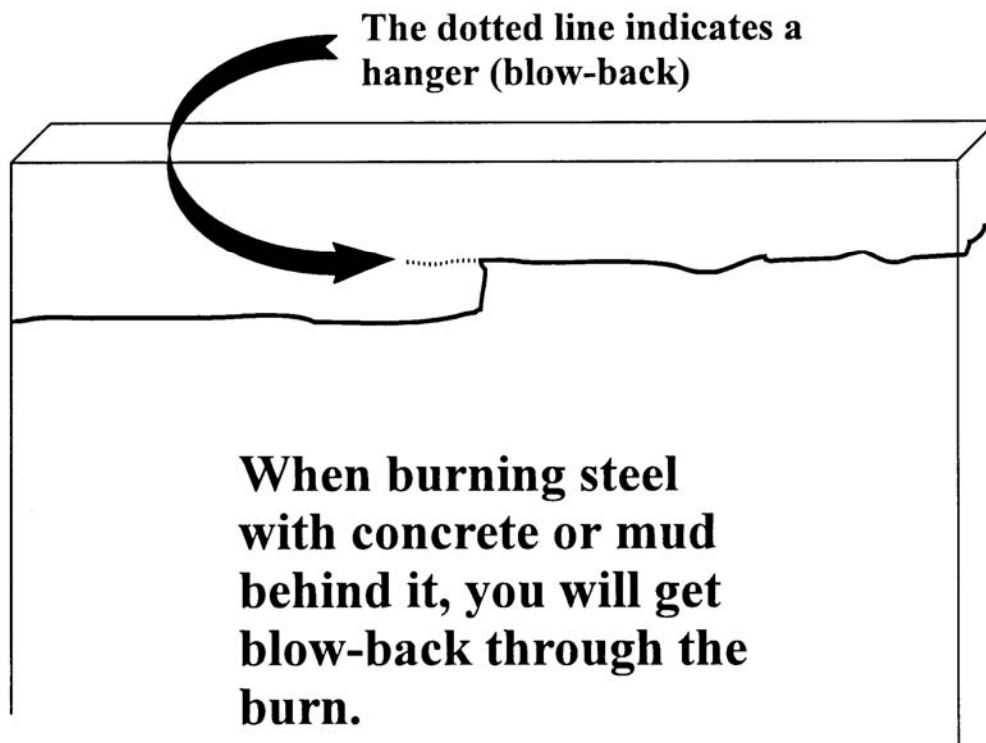


Table 1-12 Surface Interval for Repetitive Group Designation Matrix and Table 1-13 Residual Nitrogen Timetable for Repetitive Dives

Locate the diver's repetitive group designation from his previous dive along the diagonal line above the table. Read horizontally to the interval in which the diver's surface interval lies.

Next read vertically downward to the new repetitive group designation. Continue downward in this same column to the row which represents the depth of the repetitive dive. The time given at the intersection is the residual nitrogen time, in minutes, to be applied to the repetitive dive.

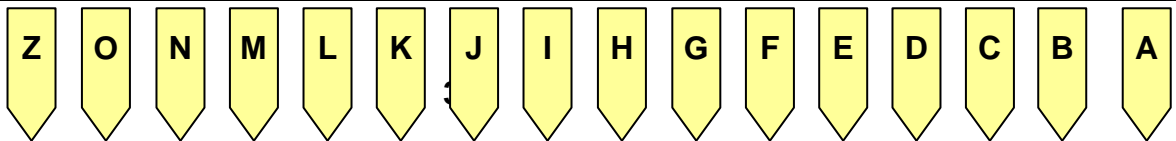
*Dives following surface intervals of more than 12 hours are not repetitive dives. Use actual bottom times in the Standard Air Decompression Tables to compute decompression for such dives.

**If no Residual Nitrogen time is given the repetitive group does not change.

These numbers were taken from 1995 U.S. Navy Divers Handbook

A		0:10															
B		0:10	3:21														
C		0:10	1:40	4:50													
D		0:10	1:10	2:39	5:49												
E		0:10	0:55	1:58	3:25	6:35											
F		0:10	0:46	1:30	2:29	3:58	7:06										
G		0:10	0:41	1:16	2:00	2:59	4:26	7:36									
H		0:10	0:37	1:07	1:42	2:24	3:21	4:50	8:00								
I		0:10	0:34	1:00	1:30	2:03	2:45	3:44	5:13	8:22							
J		0:10	0:32	0:55	1:20	1:48	2:21	3:05	4:03	5:41	8:51						
K		0:10	0:29	0:50	1:12	1:36	2:04	2:39	3:22	4:20	5:49	8:59					
L		0:10	0:27	0:46	1:05	1:26	1:50	2:20	2:54	3:37	4:36	6:03	9:13				
M		0:10	0:26	0:43	1:00	1:19	1:36	2:06	2:35	3:09	3:53	4:50	6:19	9:29			
N		0:10	0:25	0:40	0:55	1:12	1:31	1:54	2:19	2:48	3:23	4:05	5:04	6:33	9:44		
O		0:10	0:24	0:37	0:52	1:08	1:25	1:44	2:05	2:30	3:00	3:34	4:18	5:17	6:45	9:55	
NO REPET		0:10	0:23	0:35	0:49	1:03	1:19	1:37	1:56	2:18	2:43	3:11	3:46	4:30	5:28	6:57	10:06
		0:22	0:34	0:48	1:02	1:18	1:36	1:55	2:17	2:42	3:10	3:45	4:29	5:27	6:56	10:05	12:00

Repetitive



Dive Depth Feet	Residual Nitrogen Times (minutes)	Z	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A	
10	**	**	**	**	**	**	**	**	**	**	**	**	**	797	279	159	88	39
20	**	**	**	**	**	**	**	917	399	279	208	159	120	88	62	39	18	
30	**	**	469	349	279	229	190	159	132	109	88	70	54	39	25	17	7	
40	257	241	213	187	161	138	116	101	87	73	61	49	37	25	17	7	7	
50	169	160	142	124	111	99	87	76	66	56	47	38	29	21	13	6	6	
60	122	117	107	97	88	79	70	61	52	44	36	30	24	17	11	5	5	
70	100	96	87	80	72	64	57	50	43	37	31	26	20	15	9	4	4	
80	84	80	73	68	61	54	48	43	38	32	28	23	18	13	8	4	4	
90	73	70	64	58	53	47	43	38	33	29	24	20	16	11	7	3	3	
100	64	62	57	52	48	43	38	34	30	26	22	18	14	10	7	3	3	
110	57	55	51	47	42	38	34	31	27	24	20	16	13	10	6	3	3	
120	52	50	46	43	39	35	32	28	25	21	18	15	12	9	6	3	3	
130	46	44	40	38	35	31	28	25	22	19	16	13	11	8	6	3	3	
140	42	40	38	35	32	29	26	23	20	18	15	12	10	7	5	2	2	
150	40	38	35	32	30	27	24	22	19	17	14	12	9	7	5	2	2	
160	37	36	33	31	28	26	23	20	18	16	13	11	9	6	4	2	2	
170	35	34	31	29	26	24	22	19	17	15	12	10	8	6	4	2	2	
180	32	31	29	27	25	22	20	18	16	14	11	10	8	6	4	2	2	
190	31	30	28	26	24	21	19	17	15	13	10	10	8	6	4	2	2	

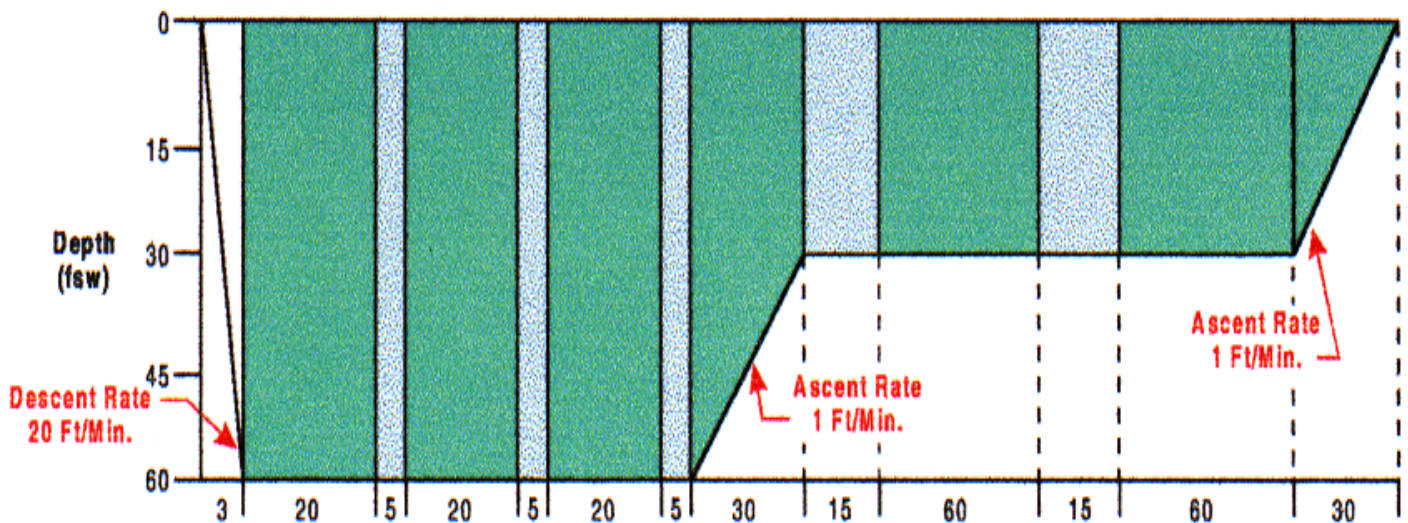
- The Diver should be familiar with the following:

U.S. NAVY TREATMENT TABLE 6

For All Treatment Tables Use The Cal Dive, Dive Safety Manual
Call Safety Department 1-800-678-5017

1. Descent rate – 20 feet/minute.
2. Ascent rate – Not to exceed 1 foot/minute. Do not compensate for slower ascent rates. Compensate for faster rates by halting the ascent.
3. Time on oxygen begins on arrival at 60 feet.
4. If oxygen breathing must be interrupted because of CNS Oxygen Toxicity, allow 15 minutes after the reaction has entirely subsided and resume schedule at point of interruption.
5. Table 6 can be lengthened up to 2 additional 25-minute periods at 60 feet (20 minutes on oxygen and 5 minutes on air), or up to 2 additional 75-minute periods at 30 feet (15 minutes on air and 60 minutes on oxygen), or both.
6. Tender breathes 100 percent O₂ during the last 30 minutes at 30 fsw and during ascent to the surface for an unmodified table or where there has been only a single extension at 30 or 60 feet. If there has been more than one extension, the O₂ breathing at 30 feet is increased to 60 minutes. If the tender had a hyperbaric exposure within the past 12 hours an additional 60-minute O₂ period is taken at 30 feet.

TREATMENT TABLE 6 DEPTH/TIME PROFILE



Time at Depth (minutes)

Total Elapsed Time: 285 Minutes [4 Hours 45 Minutes] (Not Including Descent Time)