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I. Also Admitted in Texas

September 22, 1998

Department of Transportation
United States Coast Guard
Docket Management Facility
U.S. Department of Transportation
Room PL-401
400 7th St. S.W.
Washington, D.C. 20590-0001

Re: Proposal for changes to 46 CFR Chapter 1, Subchapter V, Part 197
Advance Notice U.S.C.G. - 1998-3786 -35

Dear Sir/Madam:

Please accept the below suggestions and proposals in connection with the call for public comments on the proposed changes to 46 CFR, Chapter 1, Subpart V, Part 197 United States Coast Guard Commercial Diving Operations.

As way of introduction, our firm has represented the legal interests of 200 plus commercial divers over the last twenty years. While most of our clients have been involved in litigation related to on-site diving related injuries and fatalities offshore, others have also been involved in employment disputes relative to their association with their individual employers. Over this time period, I have been involved in numerous cases where the injuries/fatalities were

directly caused by oversights of safety and negligence in the diving operations. Many of these cases may have been prevented through more comprehensive U.S.C.G. standards and regulations.

In response to the U.S.C.G.'s call for comments for proposed changes in the U.S.C.G.'s standards and regulations, I offer the following observations and proposals.

GENERAL COMMENTS

1. Certification of Commercial Divers and Support Personnel:

Regulatory standards should be promulgated by the U. S.C.G. addressing certification of commercial divers, entry level tenders and dive-related technicians, such as saturation technicians, diver medical technicians and rack operators.

Presently, the current edition of the regulations is silent with respect to any certification process. Regulations should primarily address acceptable minimum training standards for entry level workers in the aforementioned positions. A competence standard should be established implementing a means by which to examine and test an individual's demonstrable skills in the classroom setting as well as controlled environments simulating working conditions within the industry. In addition to proficiency tests relative to underwater skills and technical application, training should also address recognition and treatment of diving-related illnesses and injuries.

With respect to the specific courses or minimum training requirements, it is suggested that much deference and respect be given to the recommendations and suggestions of the Association of Commercial Diving Educators. The ACDE through its members could provide the expertise, experience and background to recommend specific minimum training requirements. It is important to note that the ACDE individual members have historically enjoyed a cooperative relationship with members of the Association of Diving Contractors and is thus uniquely capable of profiting from the feedback from the ADC and its members in addition to its student/commercial diver alumni.

Certainly, training organizations and providers must meet certification requirements. Said requirements, once again, should be promulgated through the ACDE, as supplemented and complemented by the American National Standards Institute.

With respect to a standard addressing minimum training hours for diving certification, great deference should be given to the experience and expertise of the ACDE and its members. Very recently, attempts to erode a minimum standard of 625 hours have surfaced within the commercial diving industry. Such attempts should be viewed as nothing more than a reaction to the strong demand for “qualified” commercial divers as fueled by the present economics of the industry. The fact that the industry is thriving and that the demand for divers is presently high should not in any way influence the prerequisite of basic instruction, practice and proficiency testing and a minimum standard of at least 625 hours. It is therefore submitted that the U.S.C.G. adopt the ANSI Standards for Commercial Training ANSI/ACDE -01-01998 Commercial Dive Training - Minimum Standard.

If the U.S.C.G. fails in establishing a standard mandating certification, the reality of the economics of the commercial diving industry will encourage diving contractors’ placement of unskilled workers in high risk environments with the resultant foreseeable injuries and fatalities.

2. Diving Supervisor Licensing

Much like marine operators, diving supervisors are empowered with significant authority as a matter of course at commercial diving work sites and installations. Supervisor’s discretion relative to medical, environmental and private property safety decisions has significant impact to maritime commerce. Presently, sections 197.402 and 197.404 are silent with respect to **qualifications** and expertise of diving supervisors. New regulations should be enacted so as to require licensing of the supervisor/designated person-in-charge.

While some companies do address supervisor qualifications in their operations manual and policy mandates, many, however, react to the economic market conditions by appointing

experienced qualified divers to act as supervisors. While these individuals may have considerable skills and expertise in diving, they may lack supervisory or management skills and training. The high demand for supervisory personnel forces diving contractors to place senior divers in positions of authority without the requisite training or vocational/personal background checks for these very vital positions.

Licensing of diving supervisors would “empower” said individuals to exercise legal authority over employer, customer or employee demands in all safety and operational matters. Presently within the commercial diving environment, a supervisor must defer to individuals representing entities who may be unfamiliar with on-site safety concerns or operational situations as they relate to diving operations, procedures and equipment. Yet, the supervisors must follow the orders or instructions as given. Empowerment through U. S.C.G. sanctioned licensing would provide clear and concise chains of command and legal authority relative to safety and operational decisions. Such clarity of authority would result in a beneficial and dramatic impact to diver safety and maritime commerce.

Another example of supervisory authority involves post hyperbaric injury protocol. When a diver sustains a serious case of decompression illness or gas embolism, the assets available for the treatment, i.e., the deck decompression chamber, safety personnel and communication capabilities must be made available to the commercial dive crew and supervisory personnel. In circumstances where the dive vessel is owned by a third party, said assets must be commandeered by the on-site diving supervisor. Under those circumstances, the dive supervisor should have appropriate legal authority through a licensing empowerment; presently there is none.

Licensing of diving supervisors would further benefit the industry in those circumstances where diving supervisors change employment from one diving contractor to another. A licensing scheme would provide proof of certification to prospective employers who presently must rely upon the veracity of the prospect, resumes, background checks or personnel records. A licensing regulation would thus benefit both the prospective employer and employee.

Licensing would also provide the Department of Transportation with additional regulatory authority over the licenses of supervisors who violate DOT policies with respect to drug and/or alcohol abuse. Where violations occur, actions against a guilty violator's license becomes available thus providing a deterrence for drug abuse offshore by supervising personnel.

Without enactment of a U.S.C.G. standard of certification, supervisory credentials will remain a factor of individual diving contractor's discretion. While the major diving contractors may provide sufficient "in house" review of supervisor qualifications, others are not sufficiently manned, managed, interested or capitalized to provide appropriate certification procedures. In conclusion, a licensing requirement would provide the commercial diving industry with a concise and consistent standards of expertise and proficiency at the supervisory level.

3. Diving Contractor Accountability

As the standards are now written all accountability and responsibility for adherence to U.S.C.G. regulations is directed to the "diving supervisor" or the "person-in-charge" - not the diving contractor. Nowhere within the standards is accountability or responsibility addressed, much less directed to the individual diving contractor. The DOT may levy civil fines and criminal referrals; however, promulgation of regulations would have beneficial impact for diver safety.

While most diving contractors spend much time and capital in the form of research directed toward diving safety, others do very little. Without direct accountability to the diving contractors themselves, enforcement of these standards becomes very difficult. The obvious benefit to the commercial diving industry for minimum standards and certification will be a reduction of diver-related fatalities and injuries.

4. Decompression Tables

Without jeopardizing or discouraging the continued development of proprietary

decompression tables, the U.S.C.G. regulations should address the issue of validation of decompression tables.

In February 1987, the Undersea and Hyperbaric Medical Society convened a workshop addressing the issue of validation of decompression tables. In its editorial summary, the Society's consensus and summary discussed the appropriate principles associated with the validation process. Employing the expertise and resources of the UHMS on this issue, the United States Coast Guard should develop standards recognizing an appropriate validation process for air, mixed gas and saturation decompression tables. The obvious benefit would be a reduction of hyperbaric injuries or fatalities caused by inappropriate or untested decompression tables.

5. Fitness-to-Dive, Return-to-Work and Post Hyperbaric Injury Protocol

An ongoing area of study and concern for hyperbaric physicians involves the issues of "fitness-to-dive" and "return-to-work" medical protocol. Because of the unique physiological characteristics inherent in exposure to hyperbaric conditions, the hyperbaric medical community remains proactive in investigating medical contraindications for exposure to hyperbaric conditions within the occupational setting. However, until federal legislation or administrative regulations are prescribed, diving contractors and commercial divers are free to exercise much discretion within this area.

Regulations and standards should require adherence to the learned opinions of the hyperbaric medical community. In doing so, the benefit would be a reduction in number of initial diving injuries and fatalities as well as secondary injuries and fatalities caused by returning to work prior to full or complete recovery of an initial injury.

Under the realities and economics of the work place, diving contractors oftentimes encourage their employees to return to work following a diving related incident without medical approval, or in some cases, any medical advice whatsoever.

Additionally, in light of the financial strains on the individual workers, commercial divers have a natural tendency to delay acceptance of medical attention, care and examination when offered by their employer. The end result is that divers return to work with residual injury or damage. Complicating the situation is the fact that many symptoms of serious central nervous decompression injury or cerebral arterial gas embolism are very subtle in nature. Returning to work with residue greatly increases the risk of permanent damage as well as placing other dive crew at peril should rescue efforts be deemed necessary.

In addition to the aforementioned suggestion, it is also submitted that standards should be enacted governing the on-site emergency care and treatment following an incident of hyperbaric related injury as well as post injury "in office" case management of the individual diving contractor's management or safety officer. Presently, there are numerous emergency medical recompression protocols, (U.S. Navy Tables V, VI, VI-A, etc.). Selection of treatment tables is dependent upon the nature and severity of the diver's injury. For the most part, these tables must be administered in venues hundreds, if not thousands, of miles from a diving medical officer or hyperbaric physician. In light of that reality, on-site personnel must render "quasi-medical" decisions which may have long term and sometimes life sustaining consequences. Often times, individuals "making the call" have neither sufficient training nor skill to make such decisions. While some company policies require direct communications with "on call" hyperbaric physicians, others simply mandate contact with company management.

Enactment of standards relative to the emergency on-site care and treatment including recompression therapy would provide significant benefits to the commercial diver. Standardization and mandated protocol would also serve to provide on-site personnel with guidelines within which there is little or no discretionary decision making.

6. Enforcement

Without improvement in enforcement procedures, changes to the regulations will have nominal, if any, beneficial effects within the industry. The objectives of the Marine Casualty Investigations are clearly delineated in Chapter 3 of the United States Coast Guard Marine Safety Manual.

An important purpose of marine casualty investigations is to obtain information for the prevention of similar casualties, or far as practicable. It is necessary for the causes of casualties to be determined as precisely as possible so that factual information will be available for program review and statistical studies. It is not sufficient to know only how a casualty occurred, it must be clear why it happened.

In recent past, the U.S.C.G. has taken much too long to publish findings and conclusions following investigations. This office has been involved in a number of cases where final reports have been issued in excess of **18** months from the date of the incident, others have never been finalized.

Certainly, if the U.S.C.G. is to have a meaningful effect on safety, these investigations must be completed more timely. It is impossible for beneficial action to take place if the enforcement remedies (Civil penalty, suspension or revocation proceedings, referral to the Department of Justice) are far in time of the violative act. Without swift and decisive action, the U.S.C.G. standards have minimal effect within the industry.

**SPECIFIC CHANGES TO CURRENT EDITION AND
COMMENTS ON ADC PROPOSAL FOR CHANGES**

197.204 - Definitions

Proposed Change¹

Addition of the following definitions:

EXCEPTIONAL EXPOSURE CATEGORY - THE EXCEPTIONAL EXPOSURE AIR DECOMPRESSION SCHEDULES PRESENTED IN STANDARD AIR DECOMPRESSION TABLES ARE FOR DIVES WHICH EXPOSE A DIVER TO OXYGEN, PARTIAL PRESSURES AND ENVIRONMENTAL CONDITIONS CONSIDERED EXTREME BY THE PARTICULAR AIR DECOMPRESSION TABLES.

Reason/Justification

The reason or justification for the addition this definition is desired to promote clarity and understanding or to explain new words or phrases that are proposed for inclusion in the text.

NO FINANCIAL IMPACT. CONSISTENT WITH INDUSTRY PRACTICE.

Proposed Change

DIVING CONTRACTOR- ENTERPRISE WHICH PROVIDES COMMERCIAL DIVERS, COMMERCIAL DIVINGTECHNICAL EXPERTISE, EQUIPMENT AND SERVICES ON A CONTRACT BASIS.

Reason/Justification

The reason or justification for the addition this definition is desired to promote clarity and understanding or to explain new words or phrases that are proposed for inclusion in the text.

NO FINANCIAL IMPACT. CONSISTENT WITH INDUSTRY PRACTICE.

¹ All proposed changes in the present text of the regulations as submitted herein will be in capital letters.

197.208 - Designation of Person-in-Charge

Proposed Change

IT IS PROPOSED THAT LANGUAGE BE INCLUDED WITHIN THE PROPOSED REGULATION WHICH DELINEATES AUTHORITY BETWEEN THE DESIGNATED MASTER OR PERSON-IN-CHARGE AND THE DESIGNATED DIVING SUPERVISOR. DELINEATION OF AUTHORITY AND /OR CHAIN OF COMMAND SHOULD BE IN WRITING AND EXCHANGED BETWEEN THE MASTER OF THE VESSEL AND THE DIVING SUPERVISOR PRIOR TO THE COMMENCEMENT OF ANY DIVING OPERATION.

Reason/Justification

The reason or justification for this proposed change is the often times confusion which results between the master authority of the vessel and the designated diving supervisor during diving operations,

NO FINANCIAL IMPACT. CONSISTENT WITH INDUSTRY PRACTICE.

197.318 - Gauges and Time Keeping Devices

Proposed Change

IT IS PROPOSED THAT SUPPLEMENTAL LANGUAGE UNDER 197.3 18(b) BE ADDED SUCH THAT THERE IS USE OF ONLY ONE TIME KEEPING DEVICE FOR EACH DIVE AND SUBSEQUENT DECOMPRESSION UNDERTAKEN. TIME COMMENCES WHEN THE DIVER "LEAVES THE SURFACE" AND ENDS WHEN THE DIVER COMPLETES DECOMPRESSION OBLIGATIONS.

Reason/Justification

The reason or justification for this standard is to ensure that there is no disparity or incoordination with the transferral of one time keeping device to another during the dive and decompression obligations. Often times, time is kept by more than one time keeping devices which are not synchronized during different stages

of the dive thereby resulting in inaccurate time keeping and logging. Without an appropriate method to coordinate different time keeping devices, true times can not be ensured.

NO FINANCIAL IMPACT. CONSISTENT WITH INDUSTRY PRACTICE.

197.328 - PVHO - General (e)(IO)

Proposed Change

IT IS PROPOSED THAT THERE BE CLARIFICATION OF THE PHRASE “A MEANS OF EXTINGUISHING A FIRE IN THE INTERIOR” [OF THE PVHO]

Reason/Justification

The reason or justification for the change is that there is presently no clear recognized consistent industry practice with respect to the particular “means of extinguishing a fire in the interior” [of the PVHO] Presently, some contractors interpret this “means” as simply a bucket or jug of water or sand.

A recent death of a commercial diver was contributed in part to the diving contractor’s inability to articulate to its personnel an appropriate “means to extinguish a fire”. Clarification of said means would have a minimal financial impact.

CLARIFICATION OF SAID MEANS WOULD HAVE A MINIMAL FINANCIAL IMPACT.

197.405 - Responsibilities of the Diving Contractor

That the following additions be made:

Proposed Change

- (a) THE DIVING CONTRACTOR SHALL:
 - 1. ENSURE THAT THE DIVE CREW IS APPROPRIATELY TRAINED AND CERTIFIED TO UNDERTAKE THE TASKS OF THE DIVING OPERATIONS CONDUCTED; and

2. ENSURE THAT ALL MEMBERS OF ITS DIVE CREW WHO WILL BE EXPOSED TO HYPERBARIC CONDITIONS ARE MEDICALLY CERTIFIED AS “FIT-TO-DIVE” BY A RECOGNIZED HYPERBARIC PHYSICIAN FAMILIAR WITH FITNESS TO DIVE MEDICAL ISSUES PRIOR TO EXPOSURE TO HYPERBARIC CONDITIONS; and
3. ENSURE THAT WRITTEN MEDICAL FITNESS TO RETURN TO DIVE CERTIFICATE BE SECURED FROM A HYPERBARIC MEDICAL PHYSICIAN PRIOR TO RETURNING AN INDIVIDUAL WHO WAS TREATED FOR DECOMPRESSION SICKNESS OR A GAS EMBOLISM WHICH REQUIRED ADMINISTRATION OF A TREATMENT TABLE TO HYPERBARIC CONDITIONS; and
4. PROVIDE TO ANY DIVE CREW MEMBER WHO WAS PROVIDED A TREATMENT TABLE OR WHO WAS SUBJECT TO A DIVING CASUALTY AS DEFINED BY SUBSECTION 197.484 THE FOLLOWING:
 - (i) A COPY OF THE NOTICE OF CASUALTY AS SO DEFINED BY 197.84
 - (ii) A WRITTEN REPORT OF CASUALTY AS SO DEFINED BY SUBSECTION 197.486 AND THAT ATTACHMENT WITHIN SAID REPORTS ARE COPIES OF ALL LOG BOOKS AND RECORDS AS SO DEFINED BY SUBSECTION 197.482, LOG BOOK ENTRIES FROM FIELD NEUROLOGIC EXAMS AND LOGS FROM TREATMENT TABLES.
 - (iii) COPIES OF ALL MEDICAL REPORTS, EXAMINATION AND TESTING PERFORMED BY HEALTH CARE PROVIDERS PROVIDING CARE AND TREATMENT TO INJURED DIVER.

Reason/Justification

The reason and justification for this recommendation is the commercial diver who has sustained a diving related injury rarely is privy to the information associated with the incident in question, the subsequent medical treatment or the data exchanged between the medical staff and diving contractor. Albeit the absence of

information, the injured diver must make significant decisions relative to his/her fitness to dive and return to exposure of hyperbaric conditions. Often times the diver's employer wilfully refuses to exchange such information. The benefits to the diver of having this date far outweighs whatever minimal costs to the diving contractor.

The benefits of such a regulation would be the reduction of diver injury and fatalities.

THERE IS NO FORESEEABLE COST TO THE COMMERCIAL DIVING INDUSTRY.

(b) THE DIVING CONTRACTOR SHALL FOLLOW THE FOLLOWING MEDICAL REQUIREMENTS IN SUBJECTING A WORKER TO YPERBARIC CONDITIONS:

1. General

FOR PERSONS ENGAGED AS DIVERS, OR OTHERWISE SUBJECTED TO HYPERBARIC CONDITIONS, THE FOLLOWING MEDICAL EXAMINATIONS ARE REQUIRED

1. AN INITIAL MEDICAL EXAMINATION EXCEPT AS PROVIDED IN PARAGRAPH B2 BELOW.
2. PERIODIC RE-EXAMINATIONS:
 - (a) RECOMMENDED ANNUALLY, MINIMUM EVERY TWO YEARS.
 - (b) ANNUALLY AFTER THIRTY-FIVE YEARS OF AGE.
3. A RE-EXAMINATION AFTER A DIVING-RELATED INJURY OR ILLNESS AS NEEDED TO RETURN TO DIVING DUTY.

2. Physical Examination

- 1 FOR PERSONS ENGAGED AS DIVERS, OR OTHERWISE SUBJECTED TO HYPERBARIC CONDITIONS, THE INITIAL EXAMINATION, AND PERIODIC MEDICAL RE-EXAMINATIONS, INCLUDE THE FOLLOWING:

- (a) WORK HISTORY
- (b) THE MEDICAL TESTS WHICH ARE APPROPRIATE AND AS DESCRIBED BY THE ASSOCIATION OF DIVING CONTRACTORS CONSENSUS STANDARDS FOR COMMERCIAL DIVING OPERATIONS².
- (c) ANY TESTS DEEMED NECESSARY TO ESTABLISH THE PRESENCE OF ANY OF THE DISQUALIFYING CONDITIONS LISTED IN PARAGRAPH "E" OF THIS SECTION.
- (d) ANY ADDITIONAL TESTS THE PHYSICIAN DEEMS NECESSARY TO PREPARE THE WRITTEN REPORT REQUIRED BY PARAGRAPH "D" OF THIS SECTION.

- 2. IF, WITHIN ONE YEAR, THE PERSON HAS HAD A COMPREHENSIVE MEDICAL EXAMINATION COMPARABLE TO THE INITIAL EXAMINATION SPECIFIED BY THIS SECTION, AND IF THE RESULTS OF THIS EXAMINATION DID NOT INDICATE THE PRESENCE OF SIGNIFICANT ABNORMALITIES AFFECTING THE ORGANS, SYSTEMS, OR GENERAL HEALTH OF THE PERSON, OR ANY OF THE CONDITIONS IN PARAGRAPH "E" OF THIS SECTION, SAID EXAMINATION WILL BE DEEMED TO HAVE SATISFIED THE REQUIREMENTS FOR THE INITIAL EXAMINATION.

c. **Re-examination After Injury or Illness**

- 1. ANY PERSON ENGAGED AS A DIVER, OR OTHERWISE EXPOSED TO HYPERBARIC CONDITIONS, WILL HAVE A MEDICAL EXAMINATION FOLLOWING A KNOWN DIVING-RELATED INJURY OR ILLNESS WHICH REQUIRES HOSPITALIZATION OF 72 HOURS OR MORE, (UNLESS STATE OR LOCAL LAWS DICTATE

² See Attached as Exhibit 1. Consensus for Commercial Diving Operations.

OTHERWISE) OR KNOWN DECOMPRESSION SICKNESS WITH AUDIO-VESTIBULAR OR CENTRAL NERVOUS SYSTEM DYSFUNCTION.

2. THE PERSON SHOULD NOT BE PERMITTED TO RETURN TO WORK AS A DIVER OR OTHERWISE BE SUBJECTED TO HYPERBARIC CONDITIONS, UNTIL HE IS RELEASED BY A PHYSICIAN TO DO SO.
3. THE EXAMINING PHYSICIAN SHOULD DETERMINE THE SCOPE OF THE EXAMINATION IN LIGHT OF THE NATURE OF THE INJURY OR ILLNESS

D. Physician's Written Report

A WRITTEN REPORT OUTLINING A PERSON'S MEDICAL CONDITION AND FITNESS TO ENGAGE IN DIVING OR OTHER HYPERBARIC ACTIVITIES SHOULD BE PROVIDED BY THE EXAMINING PHYSICIAN ANY TIME A PHYSICAL EXAMINATION IS REQUIRED HEREIN. THE WRITTEN REPORT SHOULD BE ACCOMPANIED WITH A COMPLETED COPY OF THE STANDARD *ADC PHYSICAL HISTORY EXAMINATION FORM*³ OR ITS EQUIVALENT.

E. Disqualifying Conditions

A PERSON HAVING ANY OF THE FOLLOWING CONDITIONS, AS DETERMINED BY A PHYSICIAN'S EXAMINATION, SHALL BE DISQUALIFIED FROM ENGAGING IN DIVING OR OTHER HYPERBARIC ACTIVITIES:

- 1) HISTORY OF SEIZURE DISORDER OTHER THAN EARLY CHILDHOOD FEBRILE CONVULSIONS
- 2) CYSTIC OR CAVITY DISEASE OF THE LUNGS, SIGNIFICANT OBSTRUCTIVE OR RESTRICTIVE LUNG DISEASE, OR RECURRENT PNEUMOTHORAX
- 3) CHRONIC INABILITY TO EQUALIZE SINUS AND MIDDLE

³ See attached as Exhibit 2. Consensus Standards for Commercial Diving Operations.

EAR PRESSURE

- 4) SIGNIFICANT CENTRAL OR PERIPHERAL NERVOUS SYSTEM DISEASE OR IMPAIRMENT
- 5) SIGNIFICANT CARDIAC ABNORMALITIES
- 6) CHRONIC ALCOHOLISM, DRUG ABUSE OR HISTORY OF PSYCHOSIS
- 7) SIGNIFICANT HEMOGLOBINOPATHIES
- 8) SIGNIFICANT MALIGNANCIES
- 9) GROSSLY IMPAIRED HEARING
- 10) SIGNIFICANT OSTEONECROSIS
- 11) CHRONIC CONDITIONS REQUIRING CONTINUOUS CONTROL BY MEDICATION
- 12) PREGNANCY

Reason/Justification

A reduction in diver injuries and fatalities and an increase in occupational safety.

THIS CHANGE WILL HAVE A BENEFICIAL FINANCIAL IMPACT. CONSISTENT WITH INDUSTRY PRACTICE.

197.410 - Dive Procedures

It is proposed that the following amendment be considered:

Proposed Change

- 7) After the completion of each dive, THE SUPERVISOR AND DIVING CONTRACTOR SHALL ENSURE THAT:
 - g) The physical condition of the diver is checked AND LOGGED ON THE DIVE SHEET by:

- (A) Visual observation
 - (B) A DIVING SUPPORT PERSONNEL IS INSTRUCTED TO OBSERVE THE DIVER AND INSTRUCTED TO REPORT ANY PHYSICAL PROBLEMS ADVERSE PHYSIOLOGICAL EFFECTS INCLUDING, ACHES, PAINS, CURRENT ILLNESSES OR SYMPTOMS OF DECOMPRESSION SICKNESS OR GAS EMBOLISM TO THE DIVE SUPERVISOR SHOULD THE DIVER EXHIBIT ANY OF THE AFOREMENTIONED SYMPTOMS;
 - (C) QUESTIONING THE DIVER ABOUT HIS PHYSICAL AND PSYCHOLOGICAL WELL-BEING
 - (D) THE ADMINISTRATION OF A FIELD NEUROLOGICAL EXAMINATION WHERE THERE ARE SUBTLE SYMPTOMS DECOMPRESSION SICKNESS OR GAS EMBOLISM.
- (9) When decompression sickness or gas embolism is suspected or symptoms are evident, the (DIVING SUPERVISOR AND DIVING CONTRACTOR) shall ensure that a report is completed containing
- (i) The investigation for each incident including:
 - (D) A description and results of the treatment AS LOGGED BY THE FIELD NEUROLOGIC EXAMINE.
 - (E) THE NAMES OF THE INDIVIDUALS WHO WERE IN ANY WAY INVOLVED IN EACH INCIDENT, INCLUDING THE DIVE SUPPORT TEAM FOR THE DIVE IN QUESTION AND THOSE INVOLVED IN THE POST ACCIDENT TREATMENT, EXAMINATION, AND MEDICAL HEALTH CARE PROVIDERS WHO PROVIDED ADVICE AND COUNSEL RELATIVE TO TREATMENT PROTOCOL.
 - (iii) PROBABLE ACTIONS WHICH WOULD HAVE REDUCED THE PROBABILITY OF REOCCURRENCE
 - (iv) PROBABLE ACTIONS WHICH COULD HAVE BEEN TAKEN TO REDUCE THE PROBABILITY OF THE OCCURRENCE.

- (v) SPECIFIC ACTIONS TAKEN DURING THE INCIDENT BY ALL DIVER SUPPORT PERSONNEL

Reason/Justification

A reduction in diver injuries and fatalities and an increase in occupational safety.

NO FINANCIAL IMPACT. CONSISTENT WITH INDUSTRY PRACTICE.

197.410 - Dive Procedures

The diving supervisor shall ensure that the working interval of the dive is terminated when he so directs or when:

- (5) THE SUPERVISOR IN CONTROL OF THE DIVE DEEMS THAT:
 - (i) CONDITIONS EXIST WHICH PLACE THE SAFETY OF THE DIVER IN JEOPARDY
 - ii) CONDITIONS EXIST WHICH PLACE UNACCEPTABLE PHYSICAL OR PSYCHOLOGICAL DEMANDS ON THE DIVER
 - (a) WEATHER CONDITIONS OR ENVIRONMENTAL CHANGES PRESENT UNACCEPTABLE RISKS OF HARM TO THE DIVER.
 - (iii) THE DIVERS PROFILE BECOMES AN EXCEPTIONAL EXPOSURE DIVE.

Reason/Justification

A reduction in diver injuries and fatalities and an increase in occupational safety.

NO FINANCIAL IMPACT. CONSISTENT WITH INDUSTRY PRACTICE.

197.420 - Operations Manual

Proposed Change

Proposed change: This subsection should be amended to read THE DIVING CONTRACTOR AND DIVING SUPERVISOR SHALL...

- (d) The operations manual must contain the following:
 - (6) MEDICAL CONTRAINDICATIONS TO DIVING AND FITNESS TO RETURN TO DIVING AFTER INJURY.
 - (7) CHAIN - OF - COMMAND AND AUTHORITY AND RESPONSIBILITIES OF EACH DIVE TEAM MEMBER
 - (8) COPIES OF UNITED STATES COAST GUARD COMMERCIAL DIVING OPERATIONS REGULATIONS
- (e) THE DIVING CONTRACTOR SHALL SUBMIT ITS OPERATIONS MANUAL ANNUALLY TO THE OFFICER IN CHARGE, MARINE INSPECTION DIVISION OF THE UNITED STATES COAST GUARD FOR REVIEW AND CERTIFICATION

Reason/Justification

A reduction in diver injuries and fatalities and an increase in occupational safety.

NO FINANCIAL IMPACT. CONSISTENT WITH INDUSTRY PRACTICE.

197.482 - Log Book Entries

- (a) The person-in-charge shall insure that the following information is recorded in the log book for each commercial diving operation:

This subsection should read:

- (5) NAME OF THE DIVING CONTRACTOR CUSTOMER REPRESENTATIVE
- (6) VIDEO OR AUDIO RECORDATION DEVICES USED IN CONNECTION WITH THE COMMERCIAL DIVING OPERATIONS, IF ANY
- (7) NAMES OF INDIVIDUALS CONTACTED IN CONNECTION WITH

ANY INCIDENT WHERE DECOMPRESSION SICKNESS OR GAS EMBOLISM IS SUSPECTED OR SYMPTOMS ARE EVIDENT.

Reason/Justification

A reduction in diver injuries and fatalities and an increase in occupational safety.

NO FINANCIAL IMPACT. CONSISTENT WITH INDUSTRY PRACTICE.

197.482 - Notice of Casualty

This section be amended to read:

- (a) In addition to requirements of subpart 4.05 of this chapter and 33 CFR 146.0 1-20, the person-in-charge shall notify the Officer-in-charge, Marine Inspection, as soon as possible after a diving casualty occurs, if the casualty involves any of the following:
 - (2) Diving related injury to any person CAUSING SYMPTOMS OF DECOMPRESSION ILLNESS OR GAS EMBOLISM WITHIN A 72 HOUR PERIOD.

Reason/Justification

A reduction in diver injuries and fatalities and an increase in occupational safety.

NO FINANCIAL IMPACT. CONSISTENT WITH INDUSTRY PRACTICE.

REQUEST FOR PUBLIC HEARINGS

In order for the proposed standards to have maximum benefit to the commercial diving community, it is respectfully requested that a public hearings be convened on the proposed changes.

At said public hearings, it is urged that all segments of the commercial diving industry be invited and afforded an opportunity to be heard including, in addition to representatives of the

Association of Diving Contractors, members of the Association of Commercial Diving Educators, the hyperbaric medical community and most importantly, the commercial divers themselves.

In reality, it is the commercial diver himself/herself and their families who must bear the burden in the event the promulgated rules and standards are inadequate. Without a public forum including all concerned individuals within the commercial diving industry, the promotion of commercial diving safety will not be appropriately addressed by new regulations.

With kind personal regards, I am,

Very respectfully yours,

A handwritten signature in cursive script that reads "Bobby J. Delise". The signature is written in black ink and is positioned above the printed name.

BOBBY J. DELISE

BJD: arc



TABLE 1
MEDICAL TESTS FOR DIVING

Test	Initial	Periodic	Comments
History & Physical	X	X	Include predisposition to unconsciousness, vomiting, cardiac arrest, impairment of oxygen transport, serious blood loss, or anything which in the opinion of the examining physician will interfere with effective underwater work.
Chest X-Ray	X	X	PA (Projection: 14" x 17" minimum)
Bone & Joint X-Ray Survey	X		Required initially and as medically indicated.
EKG: Standard (12 L)	X		Required initially to establish baseline, annually after age 35, and as medically indicated.
EKG: Stress			Required only as medically indicated.
Pulmonary Function	X	X	Do
Audiogram	X	X	Threshold audiogram by pure tone audiometry; bone conduction audiogram as medically indicated.
EEG			Required only as medically indicated
Visual Acuity	X		Required initially and as medically indicated.
Color Blindness	X		Required initially.
Hematocrit, Hemoglobin, White Blood Count	X	X	
Routine Urinalysis	X	X	

Blumberg No. 5119
EXHIBIT
1



I. ADC Medical Standards Recommendations

A. Introduction

The following recommendations are set forth by the Association of Diving Contractors Safety, Medical and Education Committee. They are intended to be used with the ADC medical history and physical examination forms. They deal with specific aspects of the subject's physical fitness to dive by item number. These standards are offered in what we believe to be, in most cases, the minimum requirements. The use of these standards is intended to be tempered with the good judgement of the examining physician. Where the examining physician is in doubt about the medical fitness of the subject, he should seek further opinion/consultation and recommendations of an appropriate specialist in that field. Particular attention must be paid to past medical and diving history. In general, a high standard of physical and mental health is required for diving. Consequently, in addition to excluding major **disqualifying** medical conditions, **examining** physicians should identify and give careful consideration to minor, chronic, recurring or temporary mental or physical illnesses which may distract the diver and cause him to ignore factors concerned with his own or others' safety. The standards, in general, apply to all divers, with the most stringent requirements applied to the entry level diving candidate. Some consideration must be given to the subject's medical history, work history, age, etc.

There is no minimum or maximum age limit, providing all the medical standards can be met. Serious consideration must be given to the need for all divers to have adequate reserves of pulmonary and cardiovascular fitness for use in an emergency. The lack of these reserves may possibly lead to the termination of a professional diving career. **Examining** physicians are encouraged to exercise considerable discretion to decide what ancillary tests are necessary in particular circumstances.

The numbered items within these standards refer to boxes on the ADC Medical/History form. These forms are available from the offices of the ADC and should be used by all examining physicians conducting ADC Diving Physical examinations.

If any further clarification of the recommended standard is desired, please contact the ADC Safety, Medical and Education Committee.

B. ADC Medical Standards

1 Name

Record

2 Social Security Number

Record

3 Height

No set **limits**.

4 Weight

The weight standards **listed** below **shall** apply. If a diver exceeds these standards and the cognizant physician feels the increase is due to **muscular build** and physical fitness, a waiver is appropriate. **Furthermore**, individuals who **fall** within these weight standards but who present an excess of fatty tissue **shall** be disqualified.

Height In. (cm)	Max. Weight lbs. (kg)	Height In. (cm)	Max. Weight lbs. (kg)
64 (162.56)	164 (73.80)	72 (162.88)	205 (92.25)
65 (165.10)	169 (76.05)	73 (185.42)	211 (94.95)
66 (167.64)	174 (78.30)	74 (187.96)	218 (98.10)
67 (170.18)	179 (80.55)	75 (190.50)	224 (100.80)
68 (172.72)	184 (82.80)	76 (193.04)	230 (103.50)
69 (175.26)	189 (85.05)	77 (195.58)	236 (106.20)
70 (177.80)	194 (87.30)	78 (198.12)	242 (108.90)
71 (180.34)	199 (89.55)		

5 Temperature

The diver **shall** be free of any **infection/disease** which would cause an abnormal temperature.

6 Blood Pressure

Ideally the resting blood pressure **should** not exceed **140/90** mm Hg. In cases of apparent hypertension, repeated daily blood pressure determinations should be made before a **final** decision.

7 Pulse/Rhythm

Persistent tachycardia, marked arrhythmia except of the sinus type of other significant disturbances of the heart or vascular system should be **disqualifying**.

8 Hygiene

Should be good.

9 Nutrition

Must be good.

10 Build

Record

11 Distant Vision

Uncorrected - **20/200** either, **20/70** both. No less than **20/100** vision either eye.

12 Near Vision

Uncorrected - **J6**

13 Color Vision

Record

14 Field of Vision

Should be **normal** with any discrepancies documented.

15 Contact Lenses

Record if used.



16 Head, Face and Scalp

The causes for rejection:

- a) Deformities of the skull in the nature of depressions, exostosis, etc. of a degree which would prevent the individual from wearing required equipment.
- b) Deformities of the skull of any degree, associated with evidence of disease of the brain, spinal cord or peripheral nerves.
- c) Loss or congenital absence of the bony substance of the skull.

17 Neck

The causes for rejection:

- a) Cervical ribs if symptomatic.
- b) Congenital cysts of **branchial** cleft origin or those developing from the remnants of the thyroglossal duct, with or without **fistulous** tracts.
- c) Fistula, chronic draining, of any type.
- d) Spastic contraction of the muscles of the neck - persistent and chronic.

18 Eyes

No active pathology.

19 Fundus

No pathology.

20 thorough # 24 - Ears, Nose, Throat and Eustachian Tube

The following conditions are disqualifying: acute disease, chronic serous otitis or otitis media, perforation of the **tympanic** membrane, (**#23**), any **significant** nasal or pharyngeal respiratory obstruction, chronic sinusitis if not readily controlled, speech impediments due to organic defects, or inability to equalize pressure due to any cause.

25 Mouth

- a) Candidates should have a high degree of dental fitness; any abnormalities of dentation or malformation of the mandible likely to impair the diver's **ability** to securely and easily retain **an standard** diving equipment mouthpiece should disqualify.
- b) Removable dentures should not be worn while diving.
- c) Record the date of most recent dental X-rays. Record Dentist's name and address to enable X-ray location if needed for postmortem identification.

26 Lungs and Chest (Include Breasts)

Pulmonary: congenital and acquired defects which may restrict pulmonary function, cause air entrapment or affect the ventilation-perfusion balance shall be disqualifying for both initial training and continuation. In general, chronic obstructive or restrictive pulmonary disease of any type shall be disqualifying.

27 Heart (Thrust, size, rhythm, sounds)

Cardiovascular system: There must be no evidence of heart disease and any arrhythmias must be fully investigated.

28 Pulse

Record

29 Vascular System

Cardiovascular system: The cardiovascular system shall be without significant abnormality in all respects as determined by physical examination and tests as may be indicated. Persistent tachycardia and arrhythmia except of sinus type, evidence of arteriosclerosis (an **op-**thalmoscopic examination of the retinal vessels shall be included in the examination), severe varicose veins and marked symptomatic hemorrhoids, shall be disqualifying.

30 Abdomen and Viscera

- a) Peptic ulceration should be a cause for rejection unless healed and the candidate has been asymptomatic for at least 3 months without supportive medication.
- b) Any other chronic gastro-intestinal disease (e.g. ulcerative colitis, cholelithiasis) should be cause for rejection.

31 Hernia

Any abdominal herniation should be a cause for rejection until satisfactory repair has taken place.

32 Endocrine System

Any endocrine disorder requiring daily or intermittent medications for control is **disqualifying**. Diabetes mellitus, either insulin, oral hypoglycemic agent or diet controlled is disqualifying.

33 G.U. System (Genital-urinary) system:

- a) Venereal disease will disbar until adequately treated.
- b) Evidence or history of nephrolithiasis must be fully investigated and treated.
- c) Evidence or history of urinary dysfunction or retention must be fully investigated and treated.

34 Upper Extremities (Strength, ROM)

Any impairment of musculoskeletal function should be carefully assessed against the general requirements which would interfere with the individual's performance as a diver.

35 Lower Extremities (Except feet)

Any impairment of musculoskeletal function should be carefully assessed against the general requirements which would interfere with the individual's performance as a diver.

36 Feet

Any impairment of musculo-skeletal function should be carefully assessed against the general requirements which would interfere with the individual's performance as a diver.

37 Spine

Any impairment of musculo-skeletal function or skeletal structure should be carefully assessed against the general requirements which would interfere with the individual's performance as a diver.

38 Skin-Lymphatic

There shall be no active, acute or chronic disease of the skin.

39 Anus and Rectum

Any conditions which interfere with normal function, e.g. stricture, prolapse, severe hemorrhoids.

40 Sphincter Tone

Note and record.

41 Pelvic Exam

Must be within normal limits. Pregnancy at any stage is disqualifying. **Any** menstrual disorder manifested by abnormal or prolonged bleeding, as well as excessive pain is disqualifying.

42 Neurological Exam

Sensorium - A full examination of the central and peripheral nervous system must show normal function, but localized minor abnormalities, such as patches of anaesthesia, are allowable provided generalized nervous system disease can be excluded. Any history of seizure (apart from childhood febrile convulsions), intracranial surgery, loss of consciousness, severe head injury involving more than momentary unconsciousness or concussion, should be cause for rejection. If the severity of head injury is in doubt, special consultation and studies are indicated.

43 Cnial Nerves

Do and record.

44 Reflexes

Must be normal or any abnormality documented and free from pathology.

45 Cerebmi Function

Do and record.

46 Power and Tone of Muscles

Do and record.

47 Proprioception - Stereognosis

Do and record.



- # **48 Romberg**
Do and record.
- # **49 Uterberger**
Optional, (if done, record.)
- # **50 Nystagmus**
Do and record.
- # **51 Sensations**
Do and record.
- # **52 Miscellaneous Remark8 and Dermatome Diagram**
Do and record.
- # **53 Laboratory Finding8**
Annual urinalysis should include color, PH, specific gr., Glucose, albumin, micro and all be within normal limits.
- # **54 Blood Tests**
 - a) Hematology: Any significant anemia or history of hemolytic disease must be evaluated. When due to a variant hemoglobin state, it shall be disqualifying.
 - b) Serology test done. If positive, cause for rejection until properly treated and cleared.
 - c) All applicants for diving duty should have a sickle cell and aids test done and recorded in the Health Record.
- # **55 Pulmonary Function**
Pulmonary function tests:
 - a) All divers must have annual pulmonary function tests to establish Forced **Expiratory** Volume at one (1) second (FEW) and Forced Vital Capacity (FVC) recording best of three measurements.
 - b) An FVC of less than 3-5 liters and an **FEV1/FVC** x 100 ratio of less than 75% at the pre-employment medical examination and 70% at subsequent examinations require additional specialist pulmonary function tests to determine suitability.
- # **56 X-rays**
 - a) 14 x 17 Chest - no pathology within normal limits
 - b) Lumbar Sacral Spine - see spine
 - c) Long Bones - any lesions, especially juxta-articular, should be evaluated to determine patient's fitness to dive.
- # **57 Electrocardiogram**
ECG examinations: all divers should have a resting standard 12 Lead ECG at initial examination and annually after the age of 35 years.
- # **58 Audiogmm Pure Tone**
A hearing loss in either ear of 35 **dB** or more at frequencies up to 3000 Hz and **50dB** or more at frequencies above **3000Hz** to a minimum of 6000 Hz is an indication for referral of the candidate to a specialist for further opinion, unless the **examining** doctor is convinced that such hearing loss is unlikely to be significantly increased by continuous diving activities. Doubts about function of labyrinths require specialist examination.
- # **59 SMA-12**
Optional, if done record
- # **60 Drug Screen**
Do and record.

C. Psychiatric

The special nature of diving duties requires a careful appraisal of the individual's emotional and temperamental fitness. Personality disorders, neurosis, immaturity, instability and asocial traits shall be **disqualifying**. Severe stammering or stuttering shall disqualify. Any past or present evidence of psychiatric illness shall be cause for rejection unless the examining doctor can be confident that it is of **a** minor nature and unlikely to recur. Particular attention should be paid to any past or present evidence of alcohol or drug abuse. Any abnormalities should be noted in Block **#52** of the physical examination form.

D. Temperament

The special nature of diving duties requires a careful appraisal of the candidate's emotional, temperamental and **intellectual** fitness. Past or recurrent symptoms of neuropsychiatric disorder or organic disease of the nervous system **shall** be disqualifying. No individual with a history of any form of epilepsy, or head injury with sequelae, or personality disorder **shall** be accepted. Neurotic trends, emotional immaturity or instability and asocial traits, if of **sufficient** degree to militate against satisfactory adjustment, shall be disqualifying. Stammering or other speech impediment which might become manifest under excitement is disqualifying. Intelligence must be at least normal. Any abnormalities should be noted in Block **#52** of the physical examination form.



ASSOCIATION OF DIVING CONTRACTORS

Medical History Form

Company's Name

Form with fields for: 1. Last Name, First Name, Middle Name, 2. Date of Birth, sex, 3. SSN, 4. Address, 5. Area Code/Telephone Number, 6. Position, 7. Spouse Name, 8. CHECK ONE: () Single () Divorced () Married () Widowed, 9. No. Children, 10. Next of Kin/Relationship/Address/Telephone Number

I I. My Present State of Health is: () Excellent () Good () Fair () Poor

12. MEDICAL HISTORY: Have you ever had or been treated for:

Medical history checklist with columns for Yes/No and categories: Skin Rash, Convulsions, Epilepsy, Head injury, Disabling Headaches, Nervous Breakdown, Uncorrectable Vision, Color Vision Defect, Eye Trouble, Eye Surgery, Defective Hearing, Ear Trouble, Perforated Eardrum, Hay Fever, Nose Bleed, Airway Obstruction, Chest Pain, Heart Murmur, High Blood Pressure, Rheumatic Fever, Varicose Veins, Heart Attack, Abnormal Heart Rhythm, Fainting Spells, Heart Trouble, Asthma, Coughing of Blood, Tuberculosis, Shortness of Breath, Lung Trouble, Chronic Cough, Gallbladder Trouble, Stomach Trouble or Ulcers, Jaundice, Rupture, Liver Disease, Appendicitis, Kidney Trouble, Protein in Sugar in Urine, Blood in Urine, Rectal Prolapsus (Piles), Hemorrhoids, Rheumatism, Back Strain, Dislocations, Paralysis, Muscle Weakness, Knee Injury or "Trick Knee", Shoulder Injury, Arthritis, Broken Bones, Disc Problems, Swollen Ankles, Foot Trouble, Elbow Injury, Diabetes, Tumor or Cancer, Goiter or Thyroid Trouble, Blood Disease, Anemia: Sickle Cell or other, Irregular Menses, Painful Menstrual Cycle, Pregnant

PLEASE EXPLAIN THE DETAILS OF ALL CHECKED YES ITEMS. _____

13. LIST ALL SURGERIES, SERIOUS ILLNESSES OR INJURIES: _____ YEAR _____

14. ANSWER THE FOLLOWING QUESTIONS: Every Item Checked Yes Must Be Fully Explained In Blank Space

Table with 6 columns: Question, Yes, No, Question, Yes, No. Questions include: physical defects, surgical operations, resignation, insurance rejection, alcohol/drug use, marijuana/controlled substances, allergic reactions, and physician care.

COMMENTS: _____

16. MY PERSONAL PHYSICIAN IS:

17. HOW LONG HAVE YOU BEEN DIVING? _____
Max. Depth: Sur. Air _____
Sur. Mixed Gases _____
Longest Bottom Time: Air _____
Mix Gas _____
HAVE YOU MADE ANY SATURATION DIVES? () Yes () No
Gas Mix: Heilox o Trimix o Nitrox o
Max. Depth _____ Total Duration (Days) _____

18. DIVING EXPERIENCE: (Number of Years Experience)
AIR _____ MIXED GASES _____ SATURATION _____
HAVE YOU PASSED AN OXYGEN TOLERANCE TEST? _____ NAME OF COMPANY/SCHOOL _____

19. NUMBER OF DECOMPRESSION INCIDENTS:
Bends: Pain Only _____ Neurologist _____
Serious Symptoms: Chokes _____ Inner Ear _____
List any residuals: _____

20. IN DIVING HAVE YOU HAD A HISTORY OF: (Provide details of dates and severity)

Gas Embolism _____	Lung Squeeze _____
Oxygen Toxicity _____	Near Drowning _____
CO2 Toxicity _____	Asphyxiation _____
CO Toxicity _____	Vertigo (Dizziness) _____
Ear Squeeze _____	Pneumothorax _____
Ear Drum Rupture _____	Nitrogen Narcosis _____
Sinus Squeeze _____	Loss of Consciousness _____
Deafness _____	

Have you been involved in a diving accident (decompression sickness or other) since your last physical examination? _____
Date of last physical examination _____

For what company or organization were you examined? _____
Name and address of physician who performed your last examination. _____

22. Have you ever had any of the following? If so, give approximate date.

() Chest X-Ray _____	() Nerve Condition Studies _____
() Longbone Series _____	() Pulmonary Function Studies _____
() Back (Spine) X-Ray _____	() Audiogram _____
() ENG _____	() EKG _____
() EEG _____	() Exercise EKG _____
() EMG _____	() Treadmill EKG _____

23. Physician's Remarks: _____

I CERTIFY THAT I HAVE REVIEWED THE FOREGOING INFORMATION SUPPLIED BY ME AND THAT IT IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT LEAVING OUT OR MISREPRESENTING FACTS CALLED FOR ABOVE MAY BE CAUSE FOR REFUSAL OF EMPLOYMENT OR SEPARATION FROM THE COMPANY. I AUTHORIZE ANY OF THE DOCTORS, HOSPITALS OR CLINICS MENTIONED ABOVE TO FURNISH THE COMPANY MEDICAL EXAMINER A COMPLETE TRANSCRIPT OF MY MEDICAL RECORD FOR PURPOSES OF PROCESSING MY PHYSICAL EXAM.

DATE

NAME (Print)

WITNESS

SIGNATURE

Physical Examination Form

Company's Name _____

Last Name _____			First Name _____			Middle Name _____			Date of Examination _____		Date of Birth _____	
2. Social Security Number _____												
3. Height (Inches) _____		4. Weight _____		5. Temperature _____		6. Blood Pressure Right _____ Left _____			7. Pulse/Rhythm _____			
8. General Appearance/Hygiene _____				9. Nutrition _____			10. Build () Slender () Muscular () Obese					
11. Distant Vision: Snellen R. 20/ _____ Corr. to 20/ _____ L. 20/ _____ Corr. to 20/ _____						12. Near Vision: Jaeger R. _____ % Corr. to _____ L. _____ % Corr. to _____						

13. Color Vision (Test & Results) _____				14. Field of Vision R. _____ % L. _____ %				15. Contact Lenses () Yes () No			
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Normal	Check each item in appropriate column (enter NE for not evaluated)	Abnormal	REMARKS
	16. Head, Face & Scalp		SAMPLE
	17. Neck		
	18. Eyes		
	19. Fundus		
	20. Ears - General (Int. & Ext. Canal)		
	21. Eustachian Tube Function		
	22. Drum Perforation		
	23. Nose (Septal Alignment)		
	24. Sinuses		
	25. Mouth & Throat		
	26. Lungs & Chest (Include Breast)		
	27. Heart (Thrust, size, rhythm, sounds)		
	28. Pulses (Equality, etc.)		
	29. Vascular System (Varicosities, etc.)		
	30. Abdomen & Viscera		
	31. Hernia (All Types)		
	32. Endocrine System		
	33. G-U System		
	34. Upper Extremities (Strength, ROM)		
	35. Lower Extremities (Except Feet)		
	36. Feet		
	37. Spine		
	38. Skin, Lymphatics		
	39. Anus & Rectum		
	40. Sphincter Tone		
	41. Pelvic Exam		

NEUROLOGICAL EXAMINATION

42. Sensorium _____

43. CRANIAL NERVES

I Olfactory _____ II Optic _____ III Oculomotor _____ IV Trochlear _____ V Trigeminal _____ VI Abducent _____	VII Facial _____ VIII Auditory _____ IX Glossopharyngeal _____ X Vagus _____ XI Spinal Accessory _____ XII Hypoglossal _____
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44. REFLEXES: Deep Tendon (Gradation of 4)

	Right	Left			
Triceps	_____	_____	Babinski	_____	_____
Biceps	_____	_____	Hoffman	_____	_____
Patella	_____	_____	Ankle Clonus	_____	_____
Achilles	_____	_____			

Superficial

Right Left Upper Abd. _____
Lower Abd. _____
Cremasteric _____

45. CEREBELLAR FUNCTION Ataxia _____ Tremor (Intention) _____ Finger to Nose _____ Heel to Shin (Sliding) _____	Yes	No	46. POWER & TONE OF MUSCLES Right Upper Extremity _____ Left Upper Extremity _____ Right Lower Extremity _____ Left Lower Extremity _____
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47. Proprioception-Stereognosis Joint Position Sense _____ Astereognosis _____ Vibratory Sensations _____	Right	Left	48. ROMBERG SIGN _____	49. UNTERBURGER (If Performed) Degrees 10 Sec. _____ 20 Sec. _____ 30 Sec. _____ Direction R L
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50. NYSTAGMUS End Point _____ Pathological _____	Yes	No	51. SENSATIONS Hot _____ Cold _____ Sharp _____ Soft _____ Two Point Discrimination NL _____ ABN _____
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52. Additional remarks regarding abnormal findings on physical

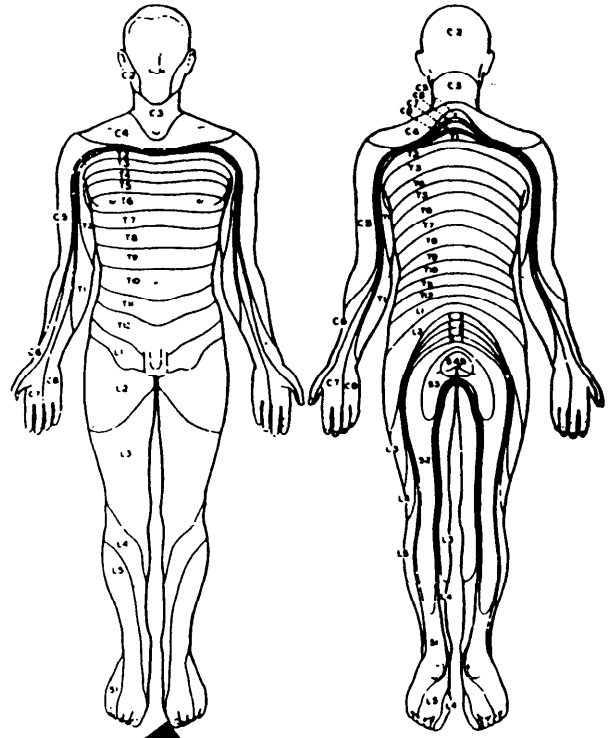


Diagram in areas of altered sensations, surgical scars, and traumatic scars.

LABORATORY FINDINGS

53. URINALYSIS
 Color _____
 Appearance _____
 Sp. Gravity _____
 Ph _____
 Albumin _____

Sugar _____
 Blood _____
 Ketones _____
 Bilirubin _____
 Microscopic _____

54. BLOOD TESTS
 WBC _____ Serology _____
 RBC _____ Test _____
 Hct _____ Result _____
 Hb _____
 Blood Type & Rh _____
 Sickl \ddot{c} Cell Index _____
 Aids _____

55. PULMONARY FUNCTION
 FVC _____
 FEV _____
 FEV/FVC _____

56. X-RAY
 Chest (1 or 2) _____
 Sacrospine _____
 Lumbar Series _____
 Other _____

57. ELECTROCARDIOGRAM
 Static _____
 Stress or Exercise _____

58. AUDIOGRAM PURE TONE

HZ	500	1000	2000	3000	4000	6000	8000
Right							
Left							

59. SMA-12
 60. Drug Screen
 The examinee () Fit for diving
 is () Fit for employment
 () Unfit

This certificate is issued subject to condition(s) that:
 () No restrictions
 () Restrictions: _____

Summarize findings resulting in disqualification:

Date of Examination _____
 Name and Address of Physician (Print/Type)

Name of Examinee _____
 Signature of Physician _____
 Area Code; Telephone Number _____