Site Safety Health and Diving Operations Plan

PROJECT: PORTLAND HARBOR SUPERFUND PRE-REMEDIAL INVESTIGATION

LOCATION: WILLAMETTE RIVER, PORTLAND, OREGON

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Submitted To: Gravity Marine

Submitted by:
Calypso Diving LLC

The following personnel have reviewed and prepared this Site Safety Health and Diving Operations Plan:

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In order to provide information in a clear and concise manner, this Site Safety Health and Diving Operations Plan has been divided into sections identified by the following headings:

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1. GENERAL PROVISIONS

The following document concerns the sampling, survey and recovery work to be performed in the Willamette River in Portland Oregon, and addresses the associated site-specific health, safety, and diving operational requirements. Calypso Diving ("Calypso") and its subcontractors will follow Calypso's Injury and Illness Prevention Plan, Calypso manual of safe diving practices (Calypso MSDP), Site Specific Health and Safety Plan, and all applicable state, federal, and industry health and safety guidelines. Calypso's safety manuals are available at any time upon request.

1.1 *Regulatory Compliance*

As a rule, Calypso performs all diving related work to the standards set forth by the governing body of the Association of Diving Contractors International (ADCI) (version 6.4). If there is any conflict between operational standards set forth by the ADCI or any other governing organization such as OSHA, Calypso will follow whichever rule is the strictest when applied to the safety of any person working at the site. For this specific work the dive plan will follow the latest EPA Diving Safety Manual Revision 2.0 (2022)[1] for EPA controlled hazardous waste sites.

All site activities will also comply with the following regulations and industry guidance publications. Calypso personnel and their subcontractors will follow the strictest requirement on the work site:

a) Occupational Safety and Health Administration (OSHA) Construction Industry Standards, 29 CFR 1926
b) Occupational Safety and Health Administration (OSHA) General Industry Standards, 29 CFR 1910
c) Occupational Safety and Health Administration (OSHA) Commercial Diving Standards 29 CFR Part 1910, T
d) Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response, 29 CFR 1926.65 or 29 CFR 1910.120
e) United States Coast Guard (USCG), 46 CFR 197, Subpart B
f) ADCI, Industry Standards, 6.4th Edition
g) United States Army Corps of Engineers (USACE)EM385 – 1- 1
h) EPA Diving Safety Manual (revision 2.0 May 2022)

1.2 *Personnel Requirements*

Manning requirements will be a four person dive team to meet EPA best practices and requirements to ensure the project is completed in a safe manner (EPA 2022). All crew will have the specific certifications and training required for the project. All Calypso personnel receive new hire orientations, annual training, and specific training to their position. All certifications or proof of training are kept electronically and are available upon request. The diver team will include four personnel: designated person in charge, control box operator, tender/standby diver, and primary diver.

1.2.1 Job Specific Personnel Requirements

[1] https://www.epa.gov/system/files/documents/2023-01/EPA%20Diving%20Safety%20Manual%20Version%202.0%20May%202022_0.pdf

a) Crew will receive an overview of Site Specific Health and Safety Plan
b) Daily safety topics and JSA's reviewed at Tailgate Meetings
c) Unexpected HAZWOPER site conditions will fall under OSHA 29 CFR 1910.120

1.2.2 Personnel Certification Requirements

a) First Aid, cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), BLS, O2 Provider, ADCI certificates submitted at least 2 weeks prior to mobilization
b) 40 hr Initial 1910.120 HAZWOPER with current 8 hr. HAZWOPER refresher
c) Current Fit to Work *(Diving personnel must have ADCI and Calypso compliant physical)*
d) Personally-owned diving equipment shall have (but not limited to) the following:

I. Current helmet certification. Personally-owned diving equipment shall have (but not limited to) the following.
   Current helmet certification. Divers personal hats. In addition to following the regulations set forth by OSHA, CFR Part 1910. 430 (h), subpart T, divers hats must be of modern manufacture, be impact resistant, capable of supporting a two-way or four-way diver-surface communication system and be certified annually to the manufacturers recommended specifications
II. 50 cu ft.(minimum) Emergency Bailout System (EGS) – must have pressure gauge visible to diver as per MSDP and (calibration tested annually), current visual, and current hydro (5 years)
III. ADCI approved diving harness
IV. All Calypso personnel which may experience significant exposure at a HAZWOPER site (30 days or more within any contiguous 12-month period) will be subject to a chemical/biological medical monitoring program. As Calypso divers normally do not reach this threshold. A log will be available upon request to prove that personnel have not approached the 30-day requirement

1.2.3 Personnel Training Requirements

a) Employee training (required annually; meets Calypso programs and regulatory requirements)
b) Divers are required to have a commercial diving diploma from an accredited commercial diving school
   - Divers at a minimum must have a current ADCI qualifications card on file (All Calypso divers are certified for chamber operations, as chamber operations are part of achieving a commercial diver certificate)
   - Supervisors must have ADCI Supervisor Card, Calypso's Supervisors Training, and Letter of Appointment on file.
c) Diving Medical Technician's (DMT) are required to maintain current refreshers and a National Board of Hyperbaric Medical Technology certification.
d) All divers and tenders and on-site management and supervisors directly responsible for, or who supervise employees engaged in, hazardous waste operations shall receive 40 hours (1910.120 HAZWOPER) initial training, and three days of supervised field experience and at least eight additional hours of specialized training at the time of the job assignment on such topics as, but not limited to, the employer's safety and health program and the associated employee training program, personal protective equipment program, spill containment program, and health hazard monitoring procedure and techniques. One person on the dive platform will have HAZWOPER Site Supervisor training. Which includes at a minimum 16 hours of training during the year they become a designated supervisor. This includes 8 hours of management and supervisory training in addition to 8 hours of refresher training.

HAZWOPER requires supervisors and managers to receive training that is, at least, equivalent to the level of training those they supervise have received, and to have at least 8 additional hours of specialized training on the topics listed in 29 CFR 1910.120(e)(4).

e) Incident Reporting
f) Lock Out Tag Out
g) Hazard Communication
h) Personal Protective Equipment, Marine Debris Training (Offshore), Emergency Action Plan & Procedures
i) Hearing Loss Prevention
j) O2 Provider (within 2 years)
k) CPR, First Aid, and AED (within 2 years), Blood Borne Pathogens
l) Behavior Based Safety Program (BBS)
m) Rigging & Signal Person Training (as applicable)
n) Personnel new to the project site, they shall complete a vessel orientation.

*See attachment *

1.2.4 PPE (Personal Protective Equipment)

PPE should be used as a last line of defense to mitigate safety concerns after all engineering controls have been exhausted. PPE requirements vary project to project; however, these are the requirements for this project in particular:

- Hard hat
- Proper clothing to protect against the elements
- Steel toed boots
- Safety glasses
- Reflective high visibility vest, or garment
- Gloves to be carried at all times and used during tending, rigging, mooring and as appropriate
- Hearing protection, fall-arrest or fall-protection and respirators will be worn as required by state and federal regulations.
- High visibility life jackets shall be worn when working over or near the water
- Boots, rain gear, latex gloves and safety glasses will be utilized to protect against chemical and biological exposure during decontamination.

1.2.5 Visitors

Visitor access to the regulated project area (the dive station and area above or around where the diver will be working) will be restricted. The following criteria must be met for visitors to gain access to this area:

- Visitors will be employees and/or representatives or other designated contractors. All visitors must wear PPE, including approved life jacket or high visibility vest if necessary, hardhat if necessary, safety glasses, and safety toed shoes.
- Visitors must read and sign the Safety Plan Acknowledgement Sheet. By signing the form, visitors agree to comply with all specifications contained in the Site Specific Health and Safety Plan and with all applicable requirements.

Visitors who do not adhere to these requirements will not be allowed access and/or will be requested to leave the regulated work area.

2. DIVING OPERATIONS

All Diving Operations for this project follow ADCI Protocols with the following considerations and site-specific information to be reviewed and additional hazards identified and addressed prior to commencing dive operations.

2.1 *Scope of Work*

Title: Survey for lost coring tube

Location: WILLAMETE RIVER, PORTLAND HARBOR (Gasco)

Date of Ops: April-May 2023

Client: Gravity Marine

Calypso shall provide a (4) person certified commercial diving team to assist with the survey and recovery of a lost coring tube at the Gasco Site. Dive operations will be to survey and assist in reconnecting the bridle for lift operations. Divers will survey site and connect coupler to lost drilling pipe with a lift strap to buoy on the surface. Once this is complete Divers will demobilize and a Crane Barge from HME construction will connect to the lift strap on buoy and pull the drilling pipe to surface. Divers will not be involved or near any lift operations.

2.2 *Diving Station*

All operations will be safely performed from the deck of Dive support vessel (DSV). The Diving Supervisor directs the diving operations from the diving control station onboard the DSV, maintaining full visibility of diving operations: tending operations, diver entry and exit, and other concurrent operations. Communication is maintained by the Diving Supervisor with deck crew via a two way communication system as well as a separate two way communication system with the diver. In addition, the Diving Supervisor monitors the diver's work and movements via a diver helmet mounted video camera system.

2.3 *Surface Supplied Diving Equipment*

The following equipment below (but not limited too) will support diving operations throughout the project and are considered life support systems.

- Surface Control Station
- DV systems 247 LP compressor must meet or exceed the Compressed Gas Association Grade E standard and have been tested within the last 6 months (EPA 2022, Appendices A and J)
- System tested within the last year to 1.5 times working pressure (consistent with OSHA 29 CFR 1910.430)
- 444cf k bottle with grade E diving air to provide redundancy as secondary air source
- Air supply manifold with low pressure alarm and pneumo depth gauges
- Diving umbilicals. Primary diver umbilical length 300ft, standby diver umbilical length 330 feet
- Commercial diving vulcanized rubber dry suits that include the following: (will be dawned when dealing with any amount of contamination)
    - Latex wrist seals with cuff-rings mated to Atlas gloves for a water tight seal
    - Latex neck seal mated to a Kirby Morgan Superlight helmet neck dam for a water tight seal

  - Attached heavy duty rubber boots for a water tight seal
  - Heavy duty water tight zipper
- Closed circuit television (CCTV) video system with recording capabilities *(Note: Not applicable if full HAZMAT gear is used due to DESCO helmet configuration)*
- ADCI approved first aid kit and Divers Alert Network (DAN) Emergency Oxygen kit
- AED
- Alpha Flag (1 x1 meter blue/white) & Recreational (Red/White) dive flags will be hoisted during diving operations
- Diver work emergency gas supply (min. 50cf)
- Oxygen kit capable of ventilating two-non breathing divers simultaneously with enough supply to reach emergency medical services (at least 2 D cylinders or 1 E or any combination totaling 640 liters) will be aboard the vessel including 2 AMBU bags capable of connection to o2 kit

2.3.1 Critical Surface Supplied Redundant Diving Equipment

- DV systems 247 LP compressor
- Air bank rack (1) 444cf air cylinder
- Deck whips (low and high pressure)
- Diving umbilicals
- AED
- Divers Alert Network (DAN) Emergency Oxygen kit
- Stokes litter
- Certified commercial diving helmets

2.4 *Diving Mode*

Surface supplied air diving shall be used throughout the project. Diving umbilicals will be used for providing breathing medium to the divers. All breathing umbilicals will be mani-folded to allow for cross connection of supply to the diver(s) as required. Divers will utilize lightweight diving helmets fitted to accept an emergency gas supply (EGS). Each diver will use a minimum 50cuft (EGS) cylinder. Once the diver enters the water, two-way voice communications shall be established between the diver and the dive station. Electronic communications will be backed up with line pull signals. In the event that voice communications are lost during the dive, the diver shall be signaled by line pulls or by signals using the diver's light to surface immediately, and diving operations will be suspended until voice communications can be re-established. The dive supervisor will relay communications from the diver to the dive tenders and deck crew.

2.4.1 Maximum Anticipated Depth and Bottom Times

Anticipated depth is < 30 feet in fresh water (ffw). Shown below Is a sample No Decompression Limits and Repetitive Group Designators table.

Depth (fsw)	No Stop Limit	Repetitive Group Designation															
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
10	unlimited	57	101	158	245	426	*										
15	unlimited	36	60	88	121	163	217	297	449	*							
20	unlimited	26	43	61	82	106	133	165	205	256	330	461	*				
25	1102	20	33	47	62	78	97	117	140	166	198	236	285	354	469	992	1102
30	371	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371
35	232	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232
40	163	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	
45	125	11	17	24	31	39	46	55	63	72	82	92	102	114	125		
50	92	9	15	21	28	34	41	48	56	63	71	80	89	92			
55	74	8	14	19	25	31	37	43	50	56	63	71	74				
60	63	7	12	17	22	28	33	39	45	51	57	63					
70	48	6	10	14	19	23	28	32	37	42	47	48					
80	39	5	9	12	16	20	24	28	32	36	39						
90	33	4	7	11	14	17	21	24	28	31	33						
100	25	4	6	9	12	15	18	21	25								
110	20	3	6	8	11	14	16	19	20								
120	15	3	5	7	10	12	15										
130	12	2	4	6	9	11	12										
140	10	2	4	6	8	10											
150	8		3	5	7	8											
160	7		3	5	6	7											
170	6			4	6												
180	6			4	5	6											
190	5			3	5												

2.5 *Decompression Mode*

No decompression diving schedules shall be utilized as per US Navy (Rev 7) Diving Tables

2.6 *Diver Ingress and Egress*

A ladder will be the primary means of diver ingress and egress to and from the water.

- The Diver shall be tended from the deck of the DSV and the dive control conducted from the diving control station onboard the DSV to allow the Diving Supervisor to be in continuous communication during the dive.

2.6.1 Project Specific Tools and Equipment

Additional tools/equipment utilized on this project will be**:**

- Sampling and collection items

2.6.2 Equipment Certifications

Biannual air purity certification for breathing air compressors per OSHA 29 CFR 1910.430, annual hose certifications, and biannual pneumofathometer certifications used on this project will be submitted for review at least 2 weeks prior to project mobilization.

2.7 *Ambient Conditions*

The Diving Supervisor on site will determine safe working conditions, taking into account the following.

- When planning multiple dive sites for a daily work plan, diving the deepest dive first followed by subsequently shallower locations to minimize exposure to pressure related illnesses.
- When mooring to a structure is not available the implementation of 3 point anchoring system will be conducted to mitigate the weather and conditions associated with working in busy waterways
- Electrical hazards should be controlled on board by using grounded plugs connected to GFCI outlets, any AC equipment on board shall be grounded to the vessel, and extreme diligence should be used to visually inspect any potential hazards when working near or around shore structures.
- Heat stress on hot days while topside should be mitigated by waiting as long as possible to don dry suit, as well as removing dry suit when long periods out of water are expected
- Divers may encounter limited visibility and strong currents
- Water temperatures are expected to be between 47-49 degrees Fahrenheit depending on depth, average depth expected to be 35 FFW.
- Water velocity is expected to range from 0 – 1.5 knots during operations

3. DIVING OPERATIONAL ROLES AND ASSIGNMENTS

A (4) person commercial diving team shall be assigned the following assignments throughout the project. The Diving Supervisor is ultimately responsible for the safety of all personnel and equipment working on the project. He is responsible for working with the Calypso Management on all matters concerning the safety of the operation. ADCI certifications, initial HAZWOPER and 8-hour refresher, diver first aid and AED, and emergency 02 administrator will be submitted 2 weeks prior to mobilization.

3.1 *Dive Team Members Project Assignments*

Diving personnel shall be assigned their duties prior to the start of any dive. These duties are to be assigned by the Diving Supervisor and may be changed from time to time as required.

3.2 *Diving Supervisor*

The Diving Supervisor is responsible for safe and efficient conduct of the entire job and is ultimately responsible for all diving operations. Duties include (but are not limited to) the following:

- Monitors air/gas supplies to divers
- Has the ultimate responsibility and stop work authority in commercial diving operations
- Monitors diver radio communications to constantly remain abreast of events of the dive
- Remains at the dive station throughout the entire dive, including any in-water decompression that may be required
- Monitors real-time video feed via a helmet-mounted camera
- Involved in all topside communications (especially crane operations, if applicable)

3.2.1 Log book

For each dive, a dive log will be filled out completely. In addition, the Diving Supervisor shall keep a running log of the day's events both on deck and in the water.

3.2.2 Pre-Dive

The Diving Supervisor will conduct a pre-dive conference with all members of the dive team and on-site client personnel prior to commencement of diving operations. Items of discussion will include the day's activities, safety awareness items, and development and discussion of JSA's that may be pertinent to the activities.

3.2.3 Safety Inspections

The Diving Supervisor will conduct a safety inspection of the worksite, equipment, and materials prior to commencing diving. Any identified safety items or procedures brought up by the crew or client will be mitigated prior to work.

3.2.4 Post Dive

After the completion of each dive, the Diving Supervisor shall:

- Question each Diver as to his physical condition

- Instruct Divers to report any physical problems or adverse physiological effects, including symptoms of decompression sickness or gas embolism

3.3 *Divers*

The diver reports to the diving supervisor or DPIC and is not only responsible for the performance of his/her duties in a safe and professional manner, but also is required to have an understanding of diving theory and the practice and use of commercial diving equipment. Under no circumstances shall a diver be required to dive when he/she considers the conditions to be unsafe or his/her physical condition dictates that he/she cannot safely perform the dive. Any concerns or issues should be reported to the diving supervisor. Ascent to Altitude/Flying After Diving. Wait a minimum surface interval of 12 hours prior to flying after diving. When making daily, multiple dives for several days or making a dive requiring an emergency decompression stop, extend the surface interval beyond 12 hours. Whenever possible wait 24 hours before flying. When waiting less than 24 hours, the Diver should adhere to the more conservative of the latest published NOAA Ascent to Altitude table or dive computer recommendations (EPA 2022).

The Diver's duty is to perform tasks as required and directed by the Diving Supervisor, including the following specific tasks:

1. Provide clear, concise, and constant communications to topside.
2. Be aware of surrounding underwater hazards at all times.
3. Maintain proper ascend /descend rates as per US Navy Diving Tables (Rev7).
4. Maintain umbilical management practices throughout the dive.
5. Do your best to maintain neutral buoyancy at all times to mitigate substrate disturbances during dive operations to preserve data quality. Daily discussions will be in place to keep its importance relevant to daily operations.

3.4 *Standby Diver*

The duty of the standby diver is to provide assistance to the diver(s) in an emergency. The standby diver should have all required equipment readily available and be ready to provide emergency assistance when called upon by the supervisor. The standby diver should be versed in the scope of work the diver is performing in order to render assistance immediately if required.

A qualified surface standby diver shall be readily available. Duties include, *(but are not limited to)* the following:

- Ensure the surface diving equipment is maintained and ready for intervention within the surface diving range
- The surface standby diver shall be dressed for diving, with equipment readily available
- Be ready to make an emergency surface dive for an emergency situation

The standby diver will be versed in the scope of work the diver is performing so as to be ready to render assistance at a moment's notice if required. The standby diver's Air/Gas supply shall be segregated from the main supply in case of gas contamination. The standby diver will not occupy any other position or perform other duties while performing standby diver duties. The standby diver shall remain near the dive radio to stay abreast of all underwater activities.

3.5 *Tenders*

Tenders are qualified to tend divers and assist in operating surface support equipment. Tender duties include (but not limited to) the following tasks:

- Assist in dressing and undressing the diver's equipment
- Continuously tend the diver while the diver is entering, working in and exiting the water and to be aware of the diver's location and depth throughout the dive
- Be aware of the scope of work the diver is performing so tooling can be readied

3.6 *Time Keeper*

The diving supervisor or DPIC, as designated by the diving supervisor shall conduct time keeping procedures for diving operations.

4. SITE SPECIFIC SAFETY

This section addresses the site specific safety considerations for the project. Additional hazards identified are to be mitigated utilizing a Job Safety Analysis (JSA) and at tailgate meetings. All Calypso safety policies are to be followed in addition to the site specific safety concerns.

4.1 *Job Safety Analysis (JSAs)*

The JSA is an important tool used to identify and analyze all of the hazards associated with each task on a given project to then formulate a safe working procedure to eliminate or minimize exposure to the potential hazards.

4.1.1 Specific JSAs for this project (but not limited too) are the following:

- Diver Recovery
- Vessel Traffic
- Umbilical Management

JSAs shall be performed for all heavy lift operations; work tasks with a history of injury/near miss incidents; operations with catastrophic potential such as fire, explosion, toxic atmosphere, or oxygen deficient atmosphere; new personnel performing the task; or work rarely performed.

A JSA may be developed and completed at the client request or when directed by the Diving Supervisor or Project Manager. *See Attachment

4.2 *Stop Work Authority*

Anyone can stop work, make a hazard observation, or fix an unsafe condition. Calypso authorizes anyone on the job site to exercise "Stop Work Authority" immediately if there is a safety concern on any portion of the operation or if they believe there is an immediate threat to life, health, or the environment so it can be addressed immediately.

Anyone may stop work with fellow co-workers and/or go to their supervisor, before continuing an operation, the designated person in charge, supervisor, everyone on site has the authority to evaluate the stop work and ensure the appropriate mitigations are put into place prior to resuming work.

A "time out for safety" may be exercised in the event that an employee feels a risk needs to be addressed prior to it becoming a threat to life, health, or environment. For "time out for safety," the team, including the direct supervisor, will address the situation before continuing operations.

4.3 *Management of Change (MOC)*

Management of Change is utilized when a deviation occurs from established processes and procedures. The purpose of the MOC is to maintain an acceptable level of safety and quality to Calypso's standards while satisfying operational needs. In addition, a MOC is utilized for safety policies, procedures, and regulations. The MOC is initiated onsite by the Designated Person in Charge or the Diving Supervisor.

4.4 *Lock Out / Tag Out Procedures*

Lock Out/Tag Out procedures are not anticipated at this time beyond standard operational practices onboard the DSV. Any work performed which requires taking project operating equipment out of service shall be done only after proper notification and formal approval is obtained through the Diving Supervisor.

All Calypso employees are required to comply with the restrictions and limitations imposed upon them during the use of Lock Out/Tag Out; however, it is management's/supervisor's responsibility to enforce the standard to make sure that all employees perform the Lock Out/Tag Out in accordance with this procedure. All employees, upon observing a machine or piece of equipment which is locked out or tagged out, shall not attempt to start, energize, or use that machine or equipment. Employees shall not attempt to use a piece of equipment with a red tag on it.

4.5 *Environmental Controls Management*

Calypso ensures that environmental hazards are addressed to protect site personnel and the environment. All onsite crew members shall participate in an emergency spill orientation. During the orientation, crew members will be informed of the potentially hazardous exposures and the client's contingency and emergency plans.

4.5.1 Pollution Control Management

In the day-to-day operations at the job site, personnel may routinely handle chemicals and other materials that may degrade the environment. Calypso will take proactive measures (such as routine inspections) to mitigate any potential damage that could occur from products released from our inventory or equipment.

4.5.2 Pollution Control Prevention

Only chemicals used for routine maintenance of equipment are expected on this project. All equipment will be maintained through preventative maintenance and routine visual inspections. During inspections, personnel will clean up free-floating oils and products from equipment or the work area. During preventative maintenance, hoses and fittings will be inspected and repaired as necessary to prevent an unplanned release. Preventative booming and absorbent materials/equipment will be available for emergency deployments (if applicable).

4.5.3 Control Procedures

Work in well-ventilated areas when working with chemicals or where ventilation can be portably installed.

4.5.4 Work Practices

- Handle all hazardous material containers with care.
- Isolate hazardous materials from other materials so that no combining can occur.
- Do not leave hazardous materials unattended for any amount of time.
- Clean up spills promptly.
- Wash hands and face after working with hazardous materials.
- No smoking is allowed around any hazardous chemicals.
- Avoid heat and sparks when working with hazardous materials.
- Store all flammable materials in tightly closed approved containers and in a single location.

4.5.5 Prevention of Exposure

To prevent employee exposure to hazardous chemicals, ensure control procedures, work practices, and proper personal protective equipment are to be available to trained employees.

4.5.6 Symptoms of Over-Exposure

The symptoms of exposure are classified in two groups:

Acute: symptoms generally occur during or shortly after exposure to sufficiently-high concentrations of contaminants
Chronic: symptoms generally occur after exposure to lower concentrations of contaminants over longer periods of time.

After appropriate emergency and first aid procedures are taken, the incident should be immediately reported to the Diving Supervisor.

4.6 *Vessel Traffic*

Vessel traffic, rough waters, and wakes are to be expected. Visual awareness and precautions will include the following:

- Monitoring of vessel traffic on the appropriate VHF channels (#9, and #16)
- Set boundary marker buoys (if applicable)
- Display international and SCUBA dive flags
- Notify Coast Guard of ongoing diving activities at all times when working in or around a navigation channel.

4.7 *Weather Contingency*

The overall objective is to provide for the safety of diving operations during weather events. Personal safety is of prime importance at all times. A weather event may require the diving operations to halt and secure equipment until conditions get better. Each weather event is different and will pose its own unique hazards and concerns due to variations in storm track, wind intensity, storm surge, port congestion, river stage, etc. As there may be no "safe havens," evasion may be the safest course of action for all vessels, barges, and dive stations if sustained winds of twenty-five knots or greater are deemed imminent.

Weather Events:
Supervisory personnel shall interpret weather conditions obtained from weather stations. This information will be conveyed to field personnel upon receipt. It is essential that all personnel on duty remain alert and share any pertinent current weather alert conditions with their supervisor.

The following guidelines below may support halting diving operations. The diving supervisor shall have the ultimate decision on all safe diving operations.

Wave Height greater than 2.5' - Large wave heights may create a safety hazard to the diver and diving support crew in the *(but not limited too)* following

- Diver ingress/egress
- Diving support platform surge *(upward and downward movements)* affecting down lines, retrieval lines, tooling, and suspended loads
- Diving support platform positioning, whether by hand or vessel assisted

Wind greater than 25 knots can pose a safety hazard in the *(but not limited too)* following

- Crane activities
- Diving support platform positioning, whether by hand or vessels assisted

Low visibility resulting from fog, precipitation or snow

Currents – strong currents generally greater than 2 knots severely impact underwater operations.

Shown below are suggested restrictions taken from Calypso's Manual of Safe Diving Practices (MSDP) when working in currents. Note that conditions may vary enormously and that the following restrictions should be flexible.

Current *(Knots)*	0-0.8	1.0	1.2		1.5	1.8	2+
Mid-Water	Normal Work	Observation	*See Note 1*	*See Note 2*			
On Bottom	Normal Work	Light Work	Observation	*See Note 1*	*See Note 2*		

Note 1: Diving by means of this method in these currents should not be a routine operation. The supervisor should consult with the divers involved and any other necessary personnel about the best way to conduct such an operation.

Note 2: Diving by means of this method in these currents should not be considered unless the operation has been pre-planned, taking account of the presence of high current from the early stages of the project. Special solutions involving equipment techniques and procedures should have evolved to overcome – or protect the diver from – the effects of currents and to provide contingencies for foreseeable emergencies.

Snow and Icy conditions - Icing conditions and accumulation of snow on decks, walkways, and ladders can impose safety hazards.

4.71 Heat Stress Management

HEAT AND COLD STRESS
Overexposure to temperature extremes can represent significant risks to personnel if simple precautions are not observed. All work occurring is anticipated to occur over various seasons. Typical control measures designed to prevent heat/cold stress also include dressing properly and establishing an appropriate work/break regimen. The onsite supervisor must assure that the following appropriate heat and cold stress control measures are implemented.
Selection of appropriate PPE to reduce the risk of heat and/or cold related illnesses (Select PPE based on Site data and working conditions);
Hydration (fluid replacement with cool water or electrolyte replacement);
Cool rest areas (provide shaded rest areas, including on vessels during over-water work);

Engineering controls (if feasible provide air-conditioned or heated cabs in heavy equipment or vessels, cool water drenching during breaks during warm weather);
Administrative controls (adjust work schedules by starting work earlier in the day, acclimate work force to working in heat/cold, and provide appropriate work/rest regimens);
PPE (provide ice vests, heat packs, and vortex tubes where appropriate);
Maintain a cold-water immersion and hypothermia emergency kit(s) on vessel(s) during winter;
Maintaining fall controls to prevent personnel from falling into the water;
Having prompt rescue services should personnel fall into the river;
Incorporating cold stress into dive planning;
Monitoring (body core temperature with thermometer, check pulse rate of workers);
Identification of heat-related illness (Including heat cramps, heat exhaustion, and heat stroke); and,
Employee training (train employees on health effects of heat and cold stress related illnesses).

4.7.2 Dive Platform Anchorage Requirements

The diving support vessel will be anchored at the work areas to provide a stationary work platform. The diving support vessel will utilize a three-point mooring spread that will be deployed in pre-planned and pre-plotted anchor sets. The anchors will be deployed with assistance from the supporting anchor handling vessel. The diving support vessel may move within each anchorage to the limits of that anchorage as needed to perform work within that anchorage.

An “anchorage” is defined as any combination of anchors set at predetermined locations to provide anchorage within a defined work area. For example, a three-point anchor set involves the deployment of one anchor from the bow and one anchor each from the starboard stern and port stern corners of the diving support vessel.

The anchors will anchor the diving support vessel through wire ropes (anchor wires) that are connected to anchor winches fastened to the deck of the vessel. A wire rope pennant (crown line) will be attached to the crown (bottom end) of each anchor and connected to floating buoys (crown buoys) to facilitate environmentally friendly transportation and recovery of the anchors. A combination of one anchor, the attaching anchor wire, a crown line, and a crown buoy represent one “anchor leg”.

All anchorages have been predefined for the planned work and plotted on the anchor pre-plot drawings. However, final locations and sizes of the anchorages may be adjusted as needed to suit the site conditions in existence when the work is performed. Additionally, each anchorage provides for a specific amount of lateral movement by the diving support vessel within the confines of the anchorage.

The projects dedicated person in charge alongside the captain will direct the placement of the anchors at pre-determined locations on the seafloor to ensure that the anchors are not endangering any hard bottom or underwater infrastructure near the offshore worksite. A navigational safety zone around the offshore worksite will be defined as an imaginary boundary drawn between each anchor crown buoy of the anchor set. The purpose of this safety zone is to provide a visual boundary that helps commercial and recreational vessels from entering the immediate work areas. The safety zone will be physically discernable at the work areas by visually sighting between the crown buoys of the anchor set. The crown buoys will be marked with appropriate colors, striping and lettering, and will be also be marked with strobe lights.

4.8 *Lightning Safety*

Thunderstorms can often threaten the safety of crews while working and can pose serious risk to those in the storm area.

4.8.1 Lightning Awareness

- Lightning strikes occur approximately 40-50 times a second, or nearly 1.4 billion times a year. (Wikipedia)
- Approximately 25 million lightning strikes hit the ground in the United States every year. (NOAA)
- Lightning kills an average of 49 people in the United States each year, and hundreds more are severely injured. (NOAA)
- Lightning is the second highest cause of weather-related deaths in the United States annually. (NWA)

4.8.2 Lightening Safety

From NOAA:

- When thunderstorms are in the area, there is no safe place outdoors
- Lightning can strike up to 10 miles from a storm
- Lightning can strike from blue sky and in the absence of rain. At least ten percent of lightning occurs when there is no rainfall and when blue sky is visible; this is especially prevalent with summer thunderstorms
- If you hear thunder, lightning is close enough to strike you
- When you hear thunder, immediately move to safe shelter (i.e.: SCV, wheelhouse, etc.). Remain sheltered for at least 30 minutes after you hear the last rumble of thunder
- If you cannot find shelter:
    - Seek a thick grove of small trees or bushes surrounded by a dry ditch (if able to get to the beach). Never shelter under an isolated tree.
    - Stay away from lakes, ponds, and other bodies of water *(difficult during diving operations)*
    - Stay away from objects that conduct electricity (uncovered bleachers, standing pools of water, barbed wire fences, power lines, metal structures, and so on)
    - Get low. Crouch down with legs together, weight on the balls of your feet, arms wrapped around knees, and head down with ears covered. Never lie flat on the ground

4.8.3 Estimating Distance from a Storm

To estimate distance from a storm, use the flash-to-bang method: After you see lightning, count the number of seconds until you hear thunder. To obtain the distance in miles, divide the number of seconds by five.

a) For example: If you see lightning and it takes 15 seconds before you hear thunder, then the storm is 3 miles away.
   x = miles the lightning is away from you
   s = seconds between seeing lightening and hearing thunder
   to solve for x: $s \div 5 = x$

4.8.4 Jobsite Safety Procedures

During work routines in high areas of thunders storms, storms should be monitored by the supervisor and client on hearing initial thunder for the first time

a) Both Supervisor and client shall announce that a thunder storm warning is in effect to the crew and diver(s), work can resume

4.8.5 Thunder and Lightning Detected

If either thunder or lightning is detected within 30 minutes **AFTER** the initial sound of thunder

a) The supervisor should return the diver to the surface immediately, suspend all work activities and notify the client that the lightning safety plan is in effect. All work activities are suspended for a minimum of 30 minutes
b) Workers are to immediately take shelter

If **NO** thunder or lightning is detected within the next 30 minutes, work may resume.

If either **ADDITIONAL** thunder or lightning is detected **WITHIN** the 30 minutes:

a) Work will not resume until either the thunder and lightning is not present in the area for at least 30 consecutive minutes and the storm is moving away from the project site
b) The Supervisor and client will monitor weather conditions closely and consult local Doppler radar (if possible)
c) If the thunderstorm persists and does not leave the area within a reasonable period of time, or if Doppler radar shows that the storm is unlikely to subside, the Supervisor may cancel all work activities as necessary.

4.9 *Struck by Lightening*

- Call 911
- If necessary, move victim carefully to a safe location. Stay away from metal, pools of water, and other things that conduct electricity
    - Lightning victims are safe to touch. They do not carry a charge
- Evaluate airway, breathing, and circulation. Begin CPR if necessary
- Find and use an AED if possible.

5. DECONTAMINATION

The following decontamination section is to be followed only if the site location(s) are deemed contaminated at levels that require HAZMAT diving equipment and decontamination procedures. Shown below are the minimal protection levels. These conditions may become present in the water column due to evolving weather conditions and should be monitored by ways of available information, such as USGS water and Department of Ecology, and considered in accordance with OSHA 1910.120.

In the event that hazardous materials are identified the following PPE would be advised, in addition to development of a HAZMAT plan.

5.1 *Protection Level*

Topside personnel exposure gear levels:

- Rain Gear
- Oil and chemical resistant gloves (i.e.: Atlas 660 gloves, with nitrile inner)
- Chemical resistant boots
- Face shields and safety glasses
- PFDs will be worn and fully secured when personnel are outside the cabin or not fully zipped into dry suit. Hydrostatic inflation vests must be checked daily for operational status (per OSHA 29 CFR 1926.106).

Diver exposure gear levels:

- Heavy duty commercial dry suit (vulcanized rubber)
    - Kirby Morgan Superlight helmet with Triple exhaust system
    - Viking HAZMAT diving suit
        - Suit-attached chemical resistant boots
        - Suit attached cuff rings for sealing the gloves to the suit
        - Dry suit gloves (divers could also wear Atlas 660 on the outside for additional protection)
        - Integrate yoke attachment for helmet

Decontamination Procedures

The following lists general minimum decontamination level procedures.

- Diver exits water onto vessel
- Crew members perform a potable water spray off, removing all mud and silt debris from the diver
- Diver moves to a cold location on the vessel for equipment removal
- Tenders will aid in the removal of the divers helmet, EGS system, and suit
- Post diving would require wash of the divers umbilical, and tools. Additionally, the diver helmet, suit, and EGS system could obtain a secondary wash.

Step/Action	Decontamination on Dive Vessel
1. Initial Potable water rinse	Diver will hold at the top of the ladder or on the landing ramp and rinsed head-to-toe with potable water. Diver remains on the ladder or landing ramp for the next 5 steps. Divers have the option of removing their weight belts now or in the next step. Weight belts will be temporarily stored in containment and will be decontaminated after the diver.
2. Removal of accessory gear/equipment	Divers will remove weight belts and bail out with harness. Gear will be placed in containment and sprayed with Simple Green solution. Solution will sit on gear for at least 5 min before potable water rinse.
3. Remove disposable nitrile outer gloves	Tenders will remove and dispose of outer gloves in a lined container labeled “Contaminated Waste”. Dry gloves will be inspected for any obvious tears or punctures. Dry gloves ARE NOT removed at this time.
4. Apply Simple Green solution if necessary Note: Simple Green is only necessary if hydrophobic chemicals are present. If used, it should be collected and not discharged to the water body.	Simple Green solution is applied to the diver head-to-toe if necessary, after a potable water wash is utilized. Solution will sit on the diver for at least 5 min before potable water rinse.
5. Scrub down	The applicable waste water shall be contained the diver is scrubbed completely with brushes. Particular attention must be paid to the helmet, neck, dry suit zipper, hands, feet, lower arms and cuff seals.
6. Potable water rinse	Diver is rinsed head-to-toe with potable water as a final step to remove Simple Green solution (potable water rinse will still be implemented regardless of the use of simple green) and remaining contaminants from scrubbing. This discharge solution will only be collected if a decontamination solution is added. Diver leaves the ladder or landing ramp and walks onto the vessel deck.

Step/Action	Decontamination on Dive Vessel
	Tenders will assist the diver as needed to prevent slips, trips and falls and will ensure the walkway remains clear of debris.
7. Helmet and dry suit removal	Tenders will help the diver remove the dive helmet, dry suit, dry gloves and nitrile under gloves. Nitrile under gloves will be disposed of in lined containers labeled "Contaminated Waste". Dry gloves will be decontaminated, inspected for damage and repaired or replaced as needed.

After removing the dry suit, divers will wash their hands or will use antibacterial gel sanitizer and will enter the support zone to dress back into their work clothes and don jobsite required PPE. Tenders will complete decon on remaining dive gear (including definitive decon on diving helmets, dry suit exhaust valves and bail out QD's), tools and equipment and will decontaminate themselves before entering the support zone.

5.1.1 Decontamination Best Work Practices

- Direct water flow away from potential leak points (e.g. exhaust valves, seal junctions, etc.)
- Direct spray away from the support zone – particularly during moderate to high wind events
- Assist the diver to prevent slips, trips and falls
- Contain waste water
- Make sure any seal that may come into contact with the diver when gear is removed is completely decontaminated before moving on to the next step

5.1.2 Procedures for Leaks in Dive Gear or Gloves

Divers will immediately report any known or suspected leaks or damage to their gloves or dive gear. Supervisors will alert the tenders that the diver will be surfacing and will inform them which procedure they will need to perform.

Divers can elect to abort the dive after exposure if they are uncomfortable with the following exposure procedures.

Damage to Outer Glove:

Tenders will remove the damaged glove and inspect the integrity of the inner glove. If the inner glove is intact, the diver's hand will be decontaminated with Simple Green solution, dried and a new outer glove will be sealed to the cuff ring.

Damage to Inner and Outer Glove:

The diver will have both gloves removed, their skin will be washed with antibacterial soap, and their cuff will be inspected for further leaks. If no further leaks are found, the diver will receive a new inner and outer glove.

Dry Suit Leak:

The dive will be aborted and the suit will be repaired and leak tested before being used again. The diver will remove all contaminated undergarments and will wash all exposed skin with antibacterial soap and potable water.

Helmet or Neck Seal Leak:

The dive will be aborted and the hat/neck seal will be repaired and tested before being used again. The diver will remove
all contaminated undergarments and will wash all exposed skin with antibacterial soap and potable water. If the diver has ingested contaminated water; they will immediately be examined by a medical professional.

5.1.3 Specific Decontamination Procedures for Specific Contaminants

The following is a table of specific contaminate removal procedures. The same standard procedures should be followed as in the Standard Decontamination Procedures with the addition of the following:

Sediment contamination (PCBs, metals, phthalates, pesticides) Bacteria from stormwater runoff Dioxins and Furans Note: cleaning solutions are listed below.	For dive operations on a small boat involving low levels of contaminants and a simple decon, contaminant reduction will be initiated on swim ladder/bow ramp and the area of the boat immediately around the ladder. All hand-held equipment will be passed to the dive tender, who places everything in a designated area for potentially contaminated equipment. The entire diver decontamination process is then carried out on the ladder/bow ramp, beginning with a river water rinse then brushing off loose sediment followed by spray with Alconox and DI water. DI water should be used so as to not introduce outside chemicals found in tap water—contaminants are attracted to its pureness, which aids in the decontamination of diver-worn equipment. DI water won't interfere with potential lab samples collected. Then there will be a final potable water spray with a Hudson sprayer. The diver is considered to be in the Safety Zone as soon as he or she is out of the dry suit and away from the immediate area of the ladder/bow ramp.

Decontamination Solution	Use against Biological Contaminants	Use against Chemical Contaminants	Safety for Diver Skin Contact	Dive Gear Compatibility
Potable Water	C	C	1	1
Antimicrobial Soap	A	C	1	1
Alconox	A	A	1	1
Betadine	A	C	2	2
Simple Green	B	B	1	1
Quaternary Ammonium (quats)	A	B	3	2

Decontamination Solution	Use against Biological Contaminants	Use against Chemical Contaminants	Safety for Diver Skin Contact	Dive Gear Compatibility
TSP	B	A	3	3
Alcohol	A	C	3	2
Easy DECON ™ Df 200	A	A	2	1
	Effectiveness: A = Very Effective B = Effective C = Somewhat Effective		**Safety/Compatibility:** 1 = Not Harmful 2 = Potentially Harmful 3 = Harmful if other precautions are not followed	

Sources:
https://www.navsea.navy.mil/Portals/103/Documents/SUPSALV/Diving/Contaminated%20Water%20Dive%20Man%20Rev2.pdf?ver=2019-12-02-075531-380
https://www.navsea.navy.mil/Portals/103/Documents/SUPSALV/Diving/Appendix%20Q%20Decon.pdf?ver=2019-08-26-093431-387

5.2 *Equipment Maintenance*

Proper maintenance for surface supplied equipment is required. All equipment that enters the contaminated water shall require regular maintenance.

5.2.1 Most Vulnerable Helmet Parts:

- Helmet regulator diaphragm (if equipped)
  - to inspect hold the diaphragm up to light and look for defects
- Helmet exhaust valves

5.2.2 Helmet Rinsing

One of simplest methods is to cap off the inlets *(Main and EGS)* and rinse from the inside out. Do not depress the purge button *(if equipped)* as you rinse the inside of the regulator or you will introduce water and other foreign matter in the regulator seat.

5.2.3 Suit Maintenance Procedures:

- Suit decontaminated and cleaned
- Suit thoroughly dried (inside and outside)
- Inlet and exhaust valves tested and or changed out
- Suit pressure tested
- Suit tagged as ready or not ready for use

5.2.4 Most Vulnerable Dry Suit Parts:

- Inlet and exhaust valves
- Zipper, wrist, and neck seals

Note: Dry suit zippers shall be waxed before storing the suit

5.2.5 Equipment Maintenance Logging

All of the equipment used in HAZMAT operations shall have 'Use' and 'Maintenance' logs which record the details of the history of the gear.

The **Use Log** details the situations where each piece of equipment was used. Important details include the following:

- Dates of use
- Number of hours used
- Chemicals the gear was exposed to
- Any gear malfunctions

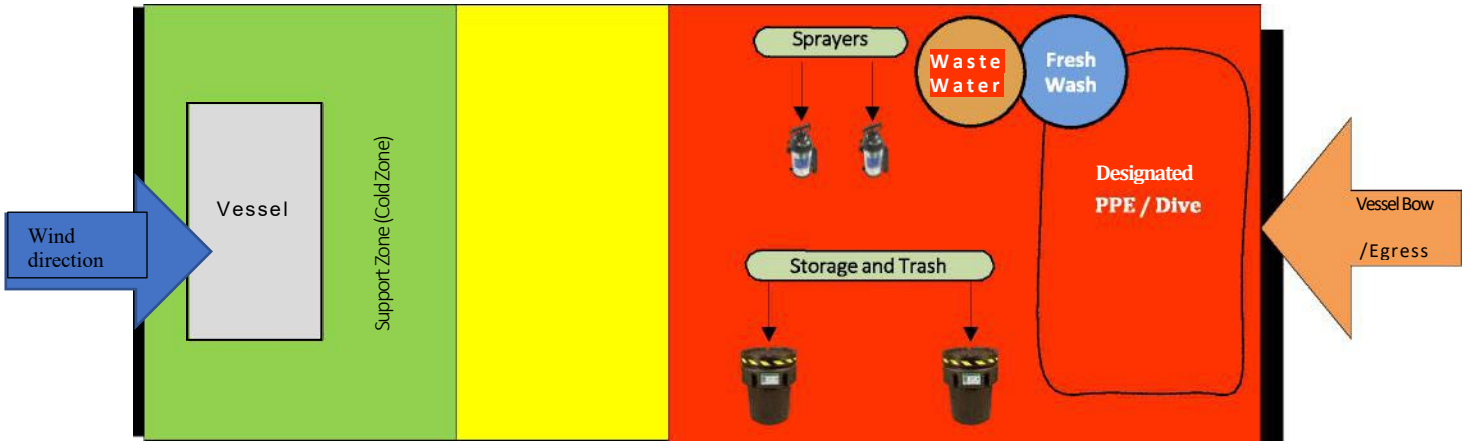
The **Maintenance Log** includes the following:

- Date of maintenance
- Who performed the maintenance
- Maintenance actions taken
- Any parts that were replaces
- Ready or not ready for used label

Note: The information in the Maintenance Log is essential in contaminated water diving operations, as these items cold become legal documents in the event of a diving accident.

5.3 *Zone Management*

Shown below are Identified zones on the Diving Support Vessel (DSV). Zones may be identified using physical/visible means if the Diving Supervisor desires, however physical means used to identify zones cannot interfere with emergency diver rescue procedures. The worksite will be broken up into three (3) zones to effectively contain and minimize the spread of contaminants during the work shift and planned operations. The following diagram shows how the zone management system will be implemented on the dive site. These zones will be identified to all dive team members during the initial pre-dive and tailgate meeting.


Wind direction
Vessel
Support Zone (Cold Zone)
Sprayers
Waste Water
Fresh Wash
Designated PPE / Dive
Storage and Trash
Vessel Bow /Egress

6. EMERGENCY MANAGEMENT PLAN

6.1 *Site Specific Emergency Procedures*

Recommended procedures have been developed to deal with accidents and/or emergency situations should they occur as detailed in the following sections. Additionally, the Diving Emergency Protocols section provides a list of potential diving emergency situations that may arise and suggested actions to be taken in the event of an emergency occurrence. The person in charge (PIC) of maintaining communications and for making or assigning the responsibility to make all emergency calls will be designated before the start of the project.

6.1.1 Incident Investigation, Reporting and Recordkeeping

Calypso strives to promote and enforce both a safe working environment and safe working habits; however, at times incidents may occur. All incidents are reported Supervisor. Refer to T**able (A) - Emergency (CP) Phone Numbers**. Calypso records and may investigate team observations, near misses, or incidents. An incident may be an Injury, Illness, Equipment damage or failure, spill, theft, etc.). All recordable injuries and significant losses are investigated. If the incident is a recordable injury or illness pursuant to OSHA recordkeeping requirements, it will be indicated on the OSHA 300 and 300a Log. Near Misses and Team observations are documented for internal review

6.1.2 Activating Emergency Services

The primary means of activating emergency services shall be via marine radio communications on board the DSV, or utilizing cellular phones if reception is available and or satellite phones for backup. Emergency contact numbers will be available and posted at the work site. A list of the contact numbers is provided in **Table (A) - Emergency (CP) Phone Numbers**. In the event of an emergency, the action taken will be followed on this SSHP plan based on section *(Injury Awareness and Treatment Contingency)*.

6.2 *Emergency Victim Transport Plan*

6.2.1 Diver Hyperbaric Injury

In the event of a diving incident with DCS symptoms 911 will be called and the emergency transport of diver will be initiated. Diving related injuries or illness consultation will be sought from Calypso's designated hyperbaric physician per the Emergency Contact numbers in **Table (A) - Emergency (CP) Phone Number.** The onsite Diver Medic Technician (DMT), or the Dive Supervisor will perform neurological assessments and will maintain clear communications with the hyperbaric physician and the Diving Supervisor.

Hyperbaric chamber operational status must be verified daily before beginning dive operations (EPA 2022, Appendix M).

6.2.2 Topside or Other Injury

In the event of a topside injury, on-site personnel will provide the initial first aid response. The Diving Supervisor will seek medical direction from the topside medical consult line if applicable. If transport is necessary the Diving Supervisor will initiate emergency transport. The injured worker will be transported to the nearest dock facility via vessel where they will be transferred by stretcher and or, stokes litter to shoreline for transport to the nearest medical facility as listed in **Table (A) - Emergency (CP) Phone Numbers.**

6.2.3 Emergency Egress of Diver

In the event a diver is unable to board vessel by way of dive ladder the vessels davit will be implemented for safe retrieval.

6.3 *Injury Awareness and Treatment Contingency*

6.3.1 Non-Life Threatening Injury

Non-life-threatening injury which can be supported by DSV (Cuts, Type 1 decompression sickness, etc.). Initial response is to utilize first aid trained on site. Notify the dive supervisor immediately to evaluate and treat.

6.3.2 Non-Life-Threatening Illnesses (Needing Medical Assistance)

Non-life-threatening illness needing medical assistance more than the DSV can support (Illnesses, Action after Type 2 decompression sickness treatments and or need for hospitalization). Notify the Dive Supervisor upon the initial response the team which are first aid certified to administer first aid. The Dive Supervisor will contact the medical consult line for medical direction and care. If transportation to nearest medical facility is required, contact the emergency contacts, and refer to Map 1 for closest hospital and **Table (A) - Emergency (CP) Phone Numbers**.

6.3.3 Life Threatening Injury (Needing Immediate Medical Attention)

A life threatening injury needing immediate medical attention
Initial response is to utilize first aid personnel to administer first aid. The Dive Supervisor may determine transport via Medi-vac or other immediate transport to the nearest medical facility on shore for further treatment. If transporting to nearest medical facility is required, contact 911 Refer to **Table (A) - Emergency (CP) Phone Numbers** to forward coordinates, symptoms, and dive profile to the hyperbaric physician.

6.3.4 Life Threatening Injury (AGE/DCS)

This will most likely be a situation of a diver getting seriously injured while diving and needing to be decompressed. The initial response is utilizing the Dive Supervisor to administer first aid. The Diving Supervisor will call the hyperbaric physician. The diver will be treated in the nearest recompression chamber as soon as possible. Refer to **Table (A) - Emergency (CP) Phone Numbers** to forward coordinates, symptoms, and the dive profile. The Diving Supervisor or Hyperbaric Physician may determine transport to hyperbaric facility is necessary.

6.3.5 Other Emergency

Should the Dive Supervisor and DSV be notified that a natural or manmade emergency is imminent or exists, every effort will be made to recover the Diver and return to shore. If a Diver is in the water, he will be instructed to surface or come up to his decompression stop (if applicable) and complete his decompression obligation. The Diving Supervisor will keep the Client and dive crew of the situation concerning the Diver.

6.4 *Fuel Spill Emergency Response*

The PRIMARY concern during a spill event will always be the safe recovery and decontamination of the diver. See **Table (A). Emergency Phone Numbers.** If a fuel spill occurs, all resources will be devoted to containment and cleanup of the fuel. If a diver is in the water, he will be instructed to surface or come up to his

decompression stop (if applicable) and complete his decompression obligation. After the diver and tenders have undergone decontamination procedures, all hands will assist in the containment and cleanup.

Calypso will stage all equipment in containment or be able to contain leakage. Furthermore, Calypso will provide absorbent boom and absorbent pads capable of encompassing and securing any leakage.

Should Calypso have a release from equipment or products on the job site, personnel will follow the Spill Response Action Steps:

1. STOP PRODUCT FLOW
2. WARN PERSONNEL
3. SHUT OFF IGNITION SOURCES
4. DON PERSONAL PROTECTIVE EQUIPMENT
5. CONTAIN/CONTROL SPILL
6. CLEAN SPILL UP

What to Do When You've Had a Spill

Contact local emergency services

Call 911 for medical emergency and public safety assistance from the local fire, police and medical services authority over the oil or hazardous material. You may need to hire a qualified contractor or properly trained and equipped personnel to respond immediately to the spill. If you fail to clean up your spill, DEQ may clean it up for you.

Report the spill immediately

Immediately report the spill or threatened spill to the Oregon Emergency Response System, 1-800-452-0311, when the spill or threat of a spill includes:

- Any amount of oil to Waters of the State;
- Oil spills on land in excess of 42 gallons;
- Hazardous materials and reportable quantities that are equal to the Code of Federal Regulations, 40 CFR 302.

Provide information

When you report the spill to the Oregon Emergency Response System, you will need to provide basic spill information:

- Contact names and phone numbers
- Type of oil or hazardous material
- Estimated quantity
- Location descriptions (land or water)

U.S. Environmental Protection Agency notification

Some oil or hazardous material spills will require a separate notification to the National Response Center, 1-800-424-8802. Visit EPA's Emergency Response website for information necessary to determine if you need to report to the federal system.

Other actions to take

- Move away or upwind from the spill if you detect an odor and are unsure if it is safe.
- Avoid contact with liquids or fumes.
- Keep non-emergency people out of the area.
- Control and contain the spill.
- Clean up what you can immediately.
- Remove cleanup materials to an approved facility (such as a solid or hazardous waste landfill or recycling facility). Save your receipts for documentation.
- Continue with long-term cleanup measures.
- File a completed Spill Release Report Form with DEQ.

The field team is responsible for the immediate cleanup of spill, regardless of the quantity involved. The responsibility lies with the person who spills the product, and the person owning or having the product and, as allowed by law, DEQ may levy fines of up to 3 times the cost of the cleanup in addition to the actual cost of the cleanup (Oregon Administrative Rules 340-142). Contractors can work to control, contain and mitigate difficult spills.

DEQ's role

DEQ is responsible for ensuring that the cleanup is completed in a way that protects human health and the environment. Oregon law also requires DEQ to recover its costs in carrying out this responsibility. Depending on the type and quantity of material spilled, and the potential threat to people or the environment, DEQ may choose to oversee the cleanup. This oversight may take the form of DEQ staff at the scene, phone contact, document review, or a combination of these actions. DEQ can hold the person(s) responsible for these oversight costs and will normally bill the cleanup costs within 45 days.

Contact the State On-Scene Coordinator in your area:

Emergency Response
700 NE Multnomah St., Suite 600
Portland, OR 97232
Phone: 503-229-5696
800-452-4011
Fax: 503-229-6124
Contact: Wesley C. Risher Wes.risher@deq.state.or.us
www.oregon.gov/DEQ

DEQ is a leader in restoring, maintaining, and enhancing the quality of Oregon's air, land and water.

Northwest Region Portland-Metro and North Coast
Kevin Chan
971-563-8819
Kevin.Chan@deq.oregon.gov

Alternative formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.oregon.gov.

EPA EMERGENCY SPILL RESPONSE HOTLINE 1-800-424-8802

6.5 *Fire Prevention on DSV*

The purpose of this plan is designed to cover fire safety and prevention while on DSV.

6.5.1 Company Policy

Calypso will take preventative actions to prevent fires in the work area and on the job site. Employees will be notified of the locations of the fire extinguishers, muster point, and fire procedures during the initial project overview. Employees will assist in keeping the job site and work area free of fire hazards.

6.5.2 Training

The training of employees in the use of fire suppression equipment is a step to prevent massive loss of life, equipment, and resources. Training in fire extinguishers will take place once a year, with an annual refresher for all employees, as well as review at daily tailgate safety meetings and JSAs as necessary.

6.5.3 Prevention

- Fire extinguishers will be kept on board the DSV and made available in the event of a fire.
- Keep access to all fire equipment clear of debris and clutter.
- Flammable materials will be kept in a fire proof cabinet on the job site.
- Any product that is not able to be stored in a fire proof cabinet must be stored in approved containers, properly identified, a safe distance from open flames, welding operations, or other spark-producing operations.
- SMOKING IS PROHIBITED NEAR FLAMMABLES OR WELDING, CUTTING, AND BURNING OPERATIONS.
  While refueling:
- Gasoline engines must be shut off.
- Approved containers shall be used.
- Area is free of spark or potential ignition sources.
- Keep sorbent materials on hand and nearby refueling operations.
- Stow fueling supplies back in designated areas after complete.
- Extinguishers are inspected annually by a certified fire extinguisher inspecting vendor. Please refer to the label on the side of the extinguisher to ensure the extinguisher is compliant.

6.5.4 In the Event of a Fire

- Notify other surface support personnel for assistance by voice and/or yelling. (Personnel are within range of voice while on duty).
- Locate fire extinguisher, water source, etc. and attempt to extinguish the fire
- Use the proper extinguisher for the type of fire
- Use the PASS (Pull Aim Squeeze & Sweep) method when attempting to use a fire extinguisher on a small fire. If you are not familiar with how to use an extinguisher allow personnel who are to fight the fire.

7. DIVING EMERGENCY PROCEDURES

7.1 *Protocols & Procedures for Surface Supplied Air -Diving Emergencies & Unplanned Events*

The following emergency procedures and protocols are to address events or emergencies that may arise during the course of surface supplied air diving (SSA). Any emergency or unusual situation that arises on a project may require internal reporting. Refer to emergency contacts for each project or report internally following Calypso's standard incident reporting protocol.

1. Emergency Diving Protocols:

1. LOSS OF COMMUNICATION
2. LIGHT HEADED OR DIZZY DIVER ON THE BOTTOM
3. ENTRAPPED OR FOULED DIVER
4. LOST OR DISORIENTED DIVER
5. INJURED DIVER
6. LOSS OF BREATHING MEDIUM
7. UNRESPONSIVE DIVER (INCLUDING LOSS OF CONSCIOUSNESS)
8. OXYGEN TOXICITY IN WATER
9. DECOMPRESSION INCIDENT
10. SURFACE CREW MEMBER INJURY/ILLNESS WITH DIVER IN WATER
11. ADVERSE ENVIROMENTAL CONDITIONS
12. CRITICAL EQUIPMENT FAILURE WITH DIVER(S) IN THE WATER
13. FIRE IN EQUIPMENT OR ONBOARD DIVE PLATFORM
14. SEVERED DIVE UMBILICAL
15. TREATMENT OF AN UNCONSCIOUS DROWNING VICTIM

1. LOSS OF COMMUNICATIONS	
Diving Supervisor	1. Dive supervisor attempts to re-establish electronic communications. (Record audio and video if available.)
Diving Supervisor Topside Crew	2. If communications cannot be re-established, dive supervisor directs topside crew to attempt communications through USN Rev 7 line pull signals.

Diving Supervisor Diver	3. Dive supervisor attempts communications with video light (if using); diver reports back into camera with hand-signals video and hand response based on line pull signals.
Diving Supervisor	4. If applicable, dive supervisor puts breathing media to diver's Pneumofathometer.
Diving Supervisor Standby Diver Topside Crew	5. If communications are not established, dive supervisor directs standby diver and crew to stand ready to assist primary diver if required.
Diver	6. If line pull signals are recognized, primary diver proceeds to down line/stage/surface as applicable and commences ascent.
Diving Supervisor	7. Dive supervisor recovers primary diver to first stop once communications through line pull signals are established.
Diving Supervisor Standby Diver	8. If no form of communication with primary diver is established, the dive will be terminated. The dive supervisor will send the standby diver to diver's assistance prior to bringing primary diver to his first stop or the surface.
Diving Supervisor	9. Loss of communication will be assessed and repaired if necessary, prior to commencing diving operations.
2. LIGHT HEADED OR DIZZY DIVER ON THE BOTTOM	
Diver	1. Diver reports vertigo, light headedness or is dizzy.
Diving Supervisor	2. Have the diver stop work and ventilate.
Diving Supervisor	3. If the diver reports symptoms are relieved work may resume.
Diving Supervisor	4. If symptoms are not relieved, switch the diver to an alternate gas supply and continue ventilation.
Diving Supervisor	5. If symptoms are relieved, isolate the suspect bank of gas for analysis. If necessary, flush the system.
Diving Supervisor	6. If at least two safe gas supplies remain, work may resume.
Diving Supervisor	7. If symptoms are not relived or at least two banks of safe gas are not available, terminate the dive.
3. ENTRAPPED OR FOULED DIVER	
Diver	1. Primary diver informs topside he/she is trapped or fouled.
Diving Supervisor	2. Dive supervisor works to keep the primary diver calm and ensures the primary diver does not ditch equipment.

Diving Supervisor Standby Diver	3. Dive supervisor directs standby diver and crew to stand ready to assist primary diver as required.
Diver	4. Primary diver determines the extent of entrapment or fouling and communicates status to dive supervisor.
Diver Diving Supervisor	5. Primary diver attempts to free himself/herself. Dive supervisor provides primary diver a reasonable amount of time to clear himself/herself from entrapment or entanglement in umbilical or debris.
Diving Supervisor	6. If the primary diver frees himself/herself, it will be the decision of the dive supervisor whether or not to continue the dive.
Diving Supervisor Standby Diver Tender	7. In the event the primary diver is unable to free himself/herself, the dive supervisor will deploy the standby diver to assist. A separate tender should be utilized (if available) to tend the standby diver.
Standby Diver	8. The standby diver assesses the situation and reports to the dive supervisor.
Diving Supervisor	9. The dive supervisor determines the best way to proceed and communicates plan to both primary diver and standby diver.
Standby Diver Diving Supervisor	10. Standby diver works at the direction of the dive supervisor to free and/or recover primary diver.
Diving Supervisor	11. Once primary diver has been freed by standby diver, the dive will be terminated and the conditions will be reassessed by the entire dive crew, utilizing a Stop Work or safety tailgate.
Diving Supervisor	12. If planned decompression table was exceeded, dive supervisor should refer to Procedure #9 – Exceeded Maximum Decompression Table. If omitted decompression occurred, the dive supervisor should refer to Procedure #12 – Asymptomatic Omitted Decompression.
Diving Supervisor	13. If standby diver deployed and/or decompression table or omitted decompression occurred, dive supervisor to complete internal reporting at his earliest opportunity.
4. LOST OR DISORIENTED DIVER	
Diving Supervisor Diver	1. Dive supervisor works to keep the primary diver calm and has diver review recent movements to ascertain general vicinity of primary diver. **Dive supervisor records (if not already) all activities from this point on with video/audio if possible.*
Diving Supervisor Diver	2. Dive supervisor has primary diver turn on mask free flow and looks for bubbles to verify position. If position cannot be verified, dive supervisor has diver follow his hose back until his/her recognizes where he/her is.
Diving Supervisor Standby Diver	3. Dive supervisor directs standby diver and crew to stand ready and assist primary diver as required.

Diving Supervisor Standby Diver	4. Dive supervisor launches standby diver to recover primary diver and/or assist as applicable.
Diving Supervisor	5. If planned decompression table was exceeded, dive supervisor should refer to Procedure #9 – Exceeded Maximum Decompression Table. For omitted decompression, diving supervisor should refer to Procedure # 12 – Asymptomatic Omitted Decompression.
Diving Supervisor	6. If standby diver deployed or omitted decompression occurred, the dive supervisor is to complete internal reporting.
5. INJURED DIVER	
Diver Diving Supervisor	1. Primary diver immediately informs topside of the nature and extent of injury. **If possible, dive supervisor records all activities from this point on with audio/video if not*
Diving Supervisor	2. If handheld radios are being utilized on deck, dive supervisor directs radio channels to be kept clear of chatter and deck personnel to remain ready for further directions**.**
Diving Supervisor Standby Diver	1. Dive supervisor directs standby diver and crew to stand ready to assist diver as required.
Diving Supervisor	3. Dive supervisor aborts dive and primary diver is surfaced either by himself, or (if necessary) the dive supervisor launches standby diver to assist.
Standby Diver	5. If standby diver is deployed, he/she should remain with primary diver, administering first aid and evaluating injury. Standby diver recovers primary diver to surface, monitoring primary diver's breathing during ascent. If primary diver stops breathing, standby diver over pressurizes primary diver's regulator if possible.
Diving Supervisor	6. Dive supervisor follows decompression procedures, except when severity of injury indicates a greater risk than omitting decompression.
Diving Supervisor Topside Crew	7. Dive supervisor implements planned primary diver recovery procedure. If surface decompression is required, the DMT or dive supervisor will designate a topside crew member to lock into chamber with the injured primary diver.
Diving Supervisor	8. If planned decompression table was exceeded, dive supervisor should refer to Procedure #9 – Exceeded Maximum Decompression Table. If omitted decompression, dive supervisor refers to Procedure # 12 – Asymptomatic Omitted Decompression.
Diving Supervisor	9. Dive supervisor proceeds with requesting required medical assistance and emergency evacuation if required.
Diving Supervisor	10. Dive supervisor completes internal reporting.
6. LOSS OF BREATHING MEDIUM	
Diver	1. Primary diver informs topside of loss of primary breathing medium and activates primary diver-worn or carried EGS (bailout).
Diving Supervisor	2. Dive supervisor works to keep the primary diver calm and ensures the primary diver has closed his free flow. Dive supervisor directs standby diver and topside crew of situation and advises to stand ready.

Diving Supervisor Diver	3. Dive supervisor opens up primary diver's Pneumofathometer on manifold and requests that primary diver check Pneumofathometer for air supply. Primary diver is instructed to insert Pneumofathometer under neck dam if air is observed. 4. If possible, dive supervisor records all activities from this point on with audio/video.
Diving Supervisor	5. Dive supervisor determines if the loss of breathing medium is due to topside supply issues or a compromised umbilical. Dive supervisor works to re-establish breathing media supply by activating topside secondary breathing medium supply.
Diving Supervisor	6. If breathing medium is re-established through secondary supply, the dive is terminated. The primary diver is returned to the surface following any decompression commitments.
Diving Supervisor Topside Crew	7. After the primary diver is safely returned to the surface, conditions will be reassessed by entire crew before any further diving commences. Prior to resuming dive operations, an AHA will be performed to address relevant mitigations.
Diving Supervisor Standby Diver	8. If breathing medium is not re-established to the primary diver, the dive supervisor deploys the standby diver into the water to assist primary diver.
Diving Supervisor Diver Standby Diver	9. Dive supervisor determines the best way to proceed and communicates plan to both primary diver and standby diver. If handheld radios are being utilized on deck, dive supervisor directs radio channels to be kept clear of traffic and directs deck personnel to remain ready for further directions. The standby diver proceeds at the direction of the dive supervisor to provide recovery assistance of the primary diver to the stage/surface.
Diving Supervisor	10. Dive supervisor returns divers to the surface and determines options if decompression commitments are required.
Diving Supervisor Topside Crew	11. Following the safe return of the primary diver to the surface, conditions will be reassessed by entire dive crew before any further diving commences. Prior to resuming dive operations, an Activity Hazard Analysis will be performed to address relevant mitigations.
Diving Supervisor	12.
Diving Supervisor	13. Dive supervisor completes internal reporting.
7. UNRESPONSIVE DIVER (INCLUDING LOSS OF CONSCIOUSNESS)	
Diving Supervisor Standby Diver	1. Dive supervisor directs standby diver and crew as well as deploys standby diver on a separate breathing supply mix if possible.
Diving Supervisor	2. If handheld radios are being utilized on deck, dive supervisor directs radio channels to be kept clear of chatter and deck personnel to remain ready for further directions. Maintain audio/video recording.
Diving Supervisor	3. If air supply issue is suspected, primary diver should be switched to secondary supply or standby alternate supply. Diver's Pneumofathometer should also be activated.

Diving Supervisor Standby Diver	4. At dive supervisor's direction, the standby diver will enter the water and swiftly advance, following the primary diver's hose to aid the primary diver in his ascent to the surface. Primary diver shall not be recovered to surface if convulsing or seizing. The standby diver will restrain the primary diver at current depth. Once convulsions have subsided, allow a short period for stabilization; then the standby diver may recover primary diver to surface/stage.
Standby Diver	5. Standby diver monitors diver's breathing during ascent. If breathing stops with primary diver, the standby diver is to free flow DIVE HELMET periodically during ascent if possible. Care should be taken not to create a forceful and continuous free flow that could cause pulmonary overinflation. If the primary diver appears not to be breathing, the standby diver should attempt to reposition the primary diver's head to open the airway. Airway obstruction will be the most common reason why an unconscious diver fails to breathe.
Diving Supervisor Standby Diver	6. If the primary diver appears to be breathing (whether conscious or unconscious), decompress primary diver on standard decompression schedule using surface decompression.
Diving Supervisor Standby Diver	7. If the primary diver remains unconscious and breathing cannot be detected in spite of repeated attempts to position the head and open the airway, an extreme emergency exists. The dive supervisor must weigh the risk of catastrophic, even fatal decompression sickness if the primary diver is brought to the surface, versus the risk of asphyxiation if the primary diver remains in the water. As a general rule, if the dive supervisor has any doubt about the primary diver's breathing status, the dive supervisor may assume the diver is breathing and continue normal decompression in the water. If the dive supervisor is certain that the primary diver is not breathing, the primary diver will be surfaced at 30 feet fresh water or feet sea water (FFW/FSWminute, deploying the standby diver as required. Recompress the diver immediately and treat for omitted decompression. Dive supervisor refers to
Diving Supervisor	8. Dive supervisor follows decompression procedures except when severity of injury indicates a greater risk than omitting decompression.
Diving Supervisor	9. Dive supervisor (if required) will request medical assistance and emergency evacuation. Dive supervisor seeks hyperbaric consultation if applicable. Upon reaching the surface, deck crew will administer first aid until consciousness is regained or emergency response personnel arrive. Dive supervisor completes internal reporting. *with continued assessment.*
8. OXYGEN TOXICITY IN WATER	
Diving Supervisor	1. If dive supervisor notes signs or primary diver reports symptoms of O_2 toxicity, dive supervisor immediately instructs primary diver open free flow. (if diver is alert)

Diving Supervisor	2. Dive supervisor recovers primary diver to shallower depth if possible. *Note: Care must be taken when reducing depth if diver is convulsing.*
Diving Supervisor Standby Diver	3. Dive supervisor directs crew and deploys standby diver. Standby diver assists primary diver as required.
Diving Supervisor	4. Dive supervisor Instructs team to transport injured diver to muster point for transportation to medical facility
9. DECOMPRESSION INCIDENT	
Diving Supervisor Topside Crew	1. If DCS is suspected, a quick neurological exam should be performed to determine if Type I or II symptoms are present. The dive supervisor will direct a topside crew member to perform neurological examination. *Note: It is important to not delay treatment when performing the initial neurological exam..*
10. SURFACE CREW MEMBER INJURY/ILLNESS WITH DIVER IN THE WATER	
Diving Supervisor	1. Dive supervisor evaluates the effect of loss of personnel on the current operations.
Diving Supervisor	2. Dive supervisor informs the primary diver of the situation. Dive supervisor determines whether to continue or abort dive.
Diving Supervisor	3. Dive supervisor completes internal reporting.
11. ADVERSE ENVIRONMENTAL CONDITONS	
Diving Supervisor	1. Dive supervisor evaluates effect of sudden adverse conditions (weather, sea state, currents, lightning, winds, methane/swamp gas and dangerous marine life) on dive operations to determine the need to abort dive.
Diving Supervisor	2. Dive supervisor informs primary diver of plan of action. Dive supervisor directs standby diver and topside crew.
Diving Supervisor	3. When primary diver acknowledges he/she is ready, dive supervisor terminates dive using appropriate decompression schedule.
Diving Supervisor	4. Dive supervisor completes internal reporting for Stop Work Authority.
12. CRITICAL EQUIPMENT FAILURE WITH DIVER(S) IN THE WATER	
Diving Supervisor	1. Dive supervisor evaluates effect of equipment failure on primary diver. **If possible, dive supervisor records all activities from this point on with audio/video if not already doing so. Dive supervisor informs primary diver of problem and plan of action.*

Diving Supervisor Standby Diver	2. Dive supervisor directs standby diver and crew to stand ready to assist primary diver as required. Dive supervisor deploys standby diver if applicable.
Diver Diving Supervisor	3. When primary diver acknowledges he/she is ready, dive supervisor activates plan and terminates dive if required.
Diving Supervisor	4. Dive supervisor completes internal reporting if applicable.
13. FIRE IN EQUIPMENT OR ONBOARD DIVE PLATFORM	
Topside Crew Diving Supervisor	1. Topside crew extinguishes fire and secures equipment if possible. Dive supervisor informs the primary diver of the situation.
Diving Supervisor	2. Dive supervisor to ascertain damage and effects on the current operation prior to determining the best way to proceed. If required, dive supervisor terminates dive using appropriate decompression schedule.
Diving Supervisor	3. Dive supervisor secures electrical power to non-essential systems.
Diving Supervisor	4. Dive supervisor completes internal reporting
14. SEVERED DIVE UMBILICAL	
Partial Severance:	
Diver	1. Diver reports umbilical is partially severed
Diver	2. Diver goes on EGS.
Diving Supervisor	3. Supervisor notifies standby diver and crew.
Standby Diver	4. Standby diver leaves surface to locate diver.
Diving Supervisor Diver	5. Supervisor and diver determine if current gas flow is sufficient. If not, standby diver inserts Pneumofathometer in diver's neck dam. EGS is saved for last.
Standby Diver	6. Standby diver assists diver back to the down line or stage for recovering to the surface.
Diving Supervisor	7. Supervisor is to evaluate the situation as to decompression requirements and the ability to supply the diver with breathing media after stabilization.
Diving Supervisor	8. Supervisor follows omitted decompression protocols if necessary or, if possible, decompresses on the appropriate schedule.
Complete Severance:	
Diver	1. Diver initiates EGS.
Standby Diver	2. Standby diver leaves surface to locate diver.
Diving Supervisor	3. Gas flow delivered through standby diver's Pneumofathometer.
Standby Diver	4. Standby diver locates diver to insert Pneumofathometer in the diver's neck dam.
Diver	5. Diver secures EGS system and breathers Pneumofathometer gas from standby diver.
Standby Diver	6. Standby diver assists diver back to the down line or stage for recovering to the surface.

Diving Supervisor	7. Supervisor is to evaluate the situation as to decompression requirements and the ability to supply the diver with breathing media after stabilization.
Diving Supervisor	8. Supervisor follows omitted decompression protocols if necessary or, if possible, decompresses on the appropriate schedule.

Notes:

- If an additional umbilical is available, a change out in the water may be done to re-establish breathing media and communication, and allow for decompression if necessary.
- The standby diver's Pneumofathometer should always be considered as a gas supply to the diver to avoid completing the EGS supply and omitted decompression.
- *Stage gas should be of sufficient quantity to permit in water decompression when required.*

15. TREATMENT OF AN UNCONSCIOUS DROWNING VICTIM	
Diving Supervisor Standby Diver	1. Dive supervisor informs standby diver and crew to prepare to recover the victim to deck.
Diving Supervisor	2. If handheld radios are being utilized on deck, the dive supervisor directs radio channels to be kept clear of chatter and deck personnel to remain ready for further directions.
Diving Supervisor	3. At the earliest opportunity, contact the emergency medical response entities on call for the site.
Diving Supervisor Standby Diver	4. If feasible and appropriate, the Dive Supervisor will direct the standby diver to enter the water and assist in recovering the victim.
Standby Diver Surface Crew	5. Standby diver assists Surface crew members in recovering the victim to the deck in accordance with the established recovery procedures for the project.
Surface Rescuer	6. Use ABC rescue protocol • A = Airway – Use the head tilt-chin lift maneuver to make sure the airway is open • B = Breathing - If the victim is not breathing give two rescue breaths • C = Circulation – If victim is not breathing normally initiate chest compressions • Patient should be placed on 100% O2 – Attach 100% O2 to oxygen delivery device and provide ventilation assistance • AED pads placed on patients' bare chest. Patients' chest must be dry before placing pads • Follow AED instructions, if no shockable rhythm is detected continue with compressions and rescue breathing • Should the patient regain consciousness or vomit, roll patient to their right side into the recovery position
Support Crew	7. Assist the primary rescuer with compressions and breathing and make preparations for transporting the victim to the nearest medical facility. Be prepared to transfer the victim to a litter for transport.
Diver Medic Technician	8. The diver Medic will perform advanced airway management with the placement of an advanced airway and assist ventilations. Portable suction may be used to clear the airway.
Diving Supervisor	9. Coordinate the evacuation of the victim to the nearest emergency medical facility. Even though AGE/DCS may be a possibility, the victim must be treated for cardiac/respiratory arrest before recompression treatment.

8. HEALTH, SAFETY, AND ENVIRONMENTAL MISSION STATEMENT

Calypso Diving LLC has and will continue to place the safety of its employees in the highest regard. Our employees are the very backbone of this company. Acknowledgment of this commitment is imperative to a sound policy of hazard control and employee safety.

This commitment provides a safe workplace for all employees by developing a written plan for accident prevention, identifying and eliminating workplace hazards through management and employee cooperation, and proactive training to inform employees of potential hazards associated with their work.

It is the basic safety policy of this company that no task is so important that it puts the employee at risk. This is the foundation of an effective safety program. If there is any question regarding proper procedure, wait and ask someone who knows. Calypso Diving will provide the necessary resources needed to implement this program.

With this proactive approach to safety and health come expectations for the concerned individuals who are to participate in the program. Only through group effort and cooperation can the safety program serve its intended purpose: protect employees from workplace hazards.

Employees are required to comply with all company safety rules and are encouraged to actively participate in identifying ways to make our company a safer place to work. Every employee is empowered to exercise their Stop Work Authority should there be a safety concern.

Supervisors are responsible for the safety of their employees and must monitor the workplace for potential hazards and eliminate them as a part of their daily duties.

Safety is always of the utmost importance; both employee and employer benefit in a safe working environment. Let’s keep Calypso Diving a safe and healthy place to work.

In addition, Calypso believes that protection of the environment is of equal importance; we foster a culture of environmental responsibility. It is through managed, proactive efforts that we continue our operations, mindful of the collateral consequences our actions might bring. In continuing this goal, Calypso provides continued training and an environment where we attempt to reduce our negative impact on the environment in which we operate.

9. FORMS & TEMPLATES (ATTACH IF NECESSARY)

Each project requires hazard mitigations, safety meetings, and pre-work checks to ensure safety. Additional documentation may be warranted based on the project or if an incident occurs.

Standard forms and templates on each project site shall be at a minimum:

Forms:

a) Pre-Post Diver Condition
b) Diver Attention Sheets
c) Job Safety Analysis (blank)
d) Management of Change
e) Daily Tailgate Safety
f) Pre-Dive Checklist
g) Dive Log
h) Incident Report
i) Injury/Illness Report

Template:

Anticipated Job Safety Analysis

10. SITE SPECIFIC HEALTH & SAFETY PLAN ACKNOWLEDGEMENT SHEET

This is to certify that I have read the Site Specific Health and Safety Plan for Dive Operations and understand its contents. Failure to comply with the requirements contained in this plan may result in disciplinary action, including removal from this project.

Print Name	Signature	Date

10.1 *Table (A) - Emergency Phone Numbers*

PROJECT CONTACTS			
Anchor QEA LLC	Ryan Barth	Project Manager	206-903-3334
CD LLC	Derek Nelson	Dive Supervisor	360-2323604
Gravity Marine Consulting LLC	Shawn Hinz	Project Manager	425-281-1471

CALYPSO DIVING LLC. – HQ CONTACTS – REPORT ALL INCIDENTS TO:				
management		**&**	**Supervisor**	
Primary	Calypso Health & Safety Team Member	Incident Contacts 3602323604	Derek Nelson 3602323604	Na
Secondary	Derek Nelson 3602323604			

OTHER EMERGENCY		
Spill	1. Report to CP. – (phone call to incidents, #'s above) 2. Report to National Response Center	See Incident Management team #'s 800-424-8800
Other	Emergency/Police Services (911)	

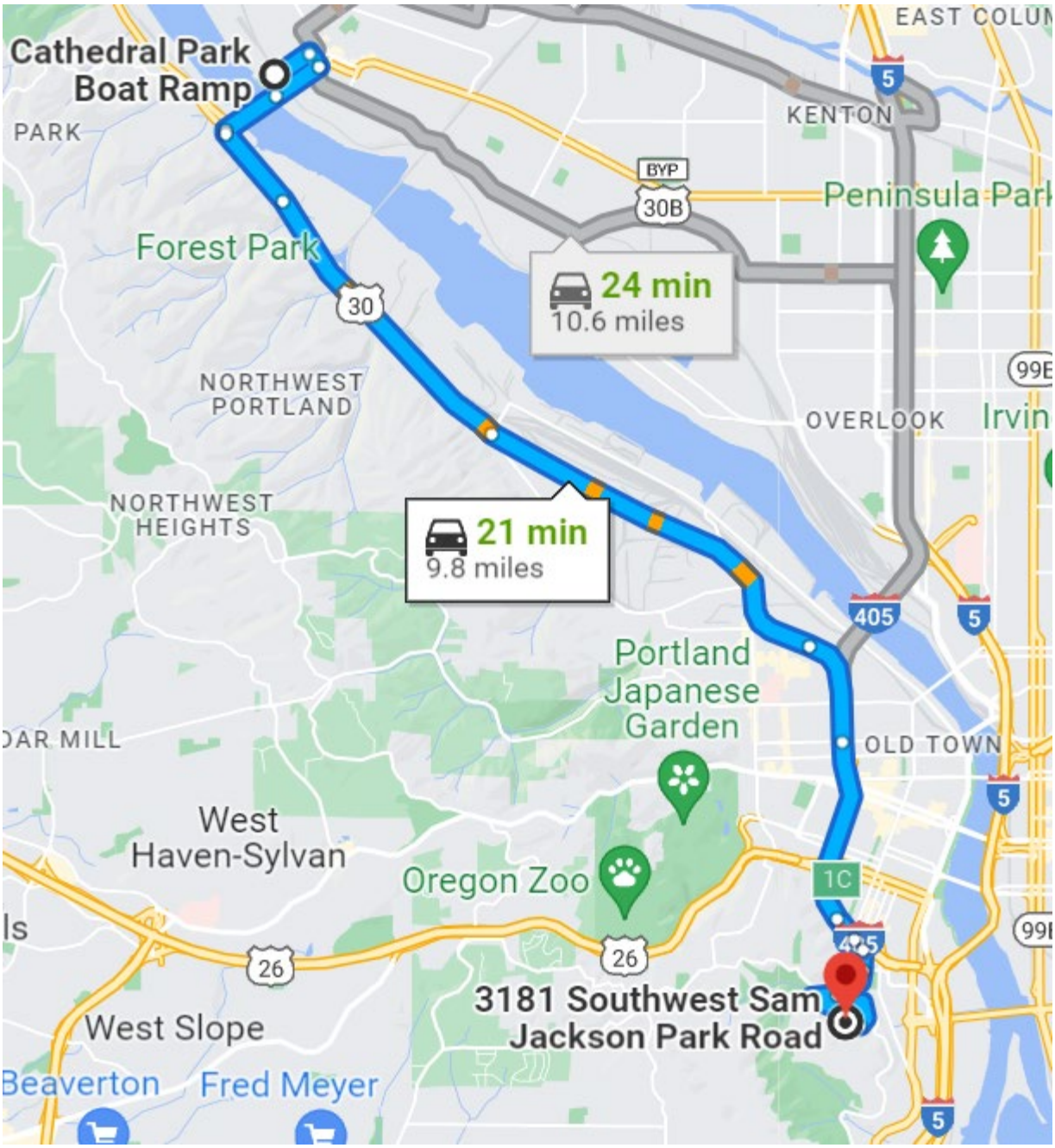
MEDICAL EMERGENCY	
Hyperbaric Emergencies > Follow USNavy (Rev7) > Follow hyperbaric	(DCS or other diving related) Treatment Tables consult for additional treatment and care. **Hyperbaric Consult:** Dr. Joseph Serio Occupational and hyperbaric medicine (504)813-0368 Cell or (337) 451-4263 Office Dr. Tony Alleman Clinic of South Louisiana, New Iberia, LA (337)322-8137 Cell or 337-365-5484 Office **Diver Alert Network (DAN)** 1-919-684-9111
	Topside Emergencies Provide care and first aid Seek medical assistance Call 911 if available Call medical consultant If applicable assist in transport to hospital onsite DMT if available Topside consultant/urgent care (888)449-7787
VHF Radio Channels #9 and #16 (for emergency)	

NEAREST CHAMBER LOCATION	LOCAL HYPERBARIC FACILITIES	NEAREST CLINIC	NEAREST HOSPITAL
multi lock chamber capable of treating Table 4 and Table 6 Seattle Virginia Mason /CHI Franciscan	**Virginia Mason Medical Center** **1100 9th Ave** **Seattle, WA 98101** **Contact 206-624-1144** 24/7 multilock chamber **Treatments include DCS type1 and 2, AGE, ETC**	**Concentra Urgent Care** 3449 N Anchor St. Suite 300A Portland, OR 97217 (503) 285 6627	**Oregon Health & Science University** (Level I) 3181 S.W. Sam Jackson Park Rd. Portland, OR 97239 (503) 494-7551

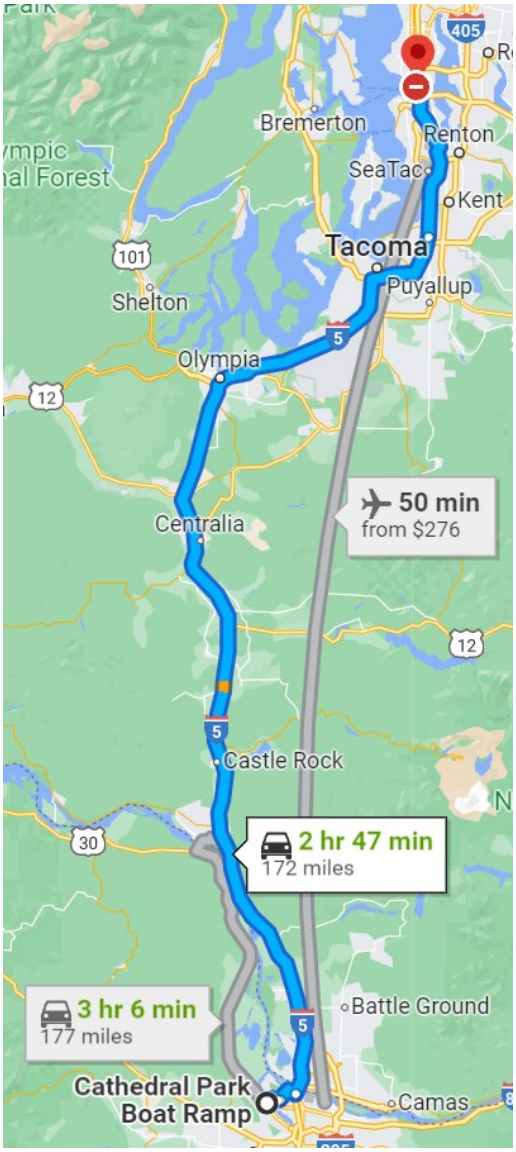
Medi-vac
Low elevation flight may be needed for diving related incidents.
US Coast Guard Channel 16 and command "Pan, Pan, Pan"

Address or Latitude/Longitude:

Map 1. Route to closest hospital - OHSU



Map 2. Route to Hyperbaric Chamber - Seattle



Air Quality Test & FAD Certificate

Low Pressure Compressor

Company: DIVE 14

Order Number: TT- 20365

Compressor Package: 247DE-30F

Compressor Package Serial Number: 24712651221

Compressor Manufacturer/Model: Devair 247

Compressor Serial Number: 28870

Engine Manufacturer/Model: Yanmar 4100

Engine Serial Number: W13032

Certification Date: 02/08/22

Expiration Date: 01/08/23

Air Quality Test Results

Test	Lot Number	Max. Spec. as Per USCG/OSHA	Result
Oxygen	897405	20-22%	21%
Carbon Monoxide	329120	20 ppm	0 ppm
Carbon Dioxide	711051	1000 ppm	500 ppm
Oil Mist	729051	5 mg/m^3	0 mg/m^3
Odor	N/A	No Objectionable	None

Test Equipment Utilized:
Testing Apparatus: 8014BAK-02
Detector Tubes: CO (600SP), CO_2(601SP), Oil Mist (602SP); O_2 Analyzer: EXP

Free Air Delivery Results

Engine RPM	Compressor Pump RPM	Free Air Delivery
3200 RPM	850 RPM	26.6 CFM

Test Equipment Utilized:
RPM: Westward Tachometer, 5-4000 RPM Range (±3%)
FAD: Lake Monitors, Inc. G3A4B05 Flow Meter, 5-50 SCFM (±2.5% center 1/3 of scale)

☑ Unit was tested and functions as designed.

General Remarks: _____

Tested By: Shelby T. Rhodes
Signature

SHELBY T RHODES
Print Name

DIVERS SUPPLY, INC.
2396 Belle Chasse Hwy.
Gretna, LA 70056
504-392-2800

2016-05-02

GASCO0050051

GLOBAL
CALIBRATION SERVICES

502 South Lucile Street · Seattle, WA 98108
Phone: 206-957-4479 Website: www.gcscal.com

CERTIFICATE OF CALIBRATION #329047

Issued To:
CALYPSO DIVING LLC
2343 NE 94TH ST
SEATTLE, WA 98115

Calibration Compliant To:
ISO 9001:2015 / AS9100 Rev. D
ANSI/NCSL Z540-1
ISO/IEC 17025:2017
ISO 10012:2003

Item ID: DIVER 1

Item Description: PRESSURE GAGE

Item Size: (0 to 225) ftSW (0.5 % FS)

Manufacturer: DIVER SUPPLY INK

Model Number: TDACB

Serial Number: 80463/DIVER1

Assigned Department: N/A

Item Location: N/A

Calibration Location: INHOUSE LAB

Instrument DIVER 1 As Found: In Tolerance

Instrument DIVER 1 As Left: In Tolerance

Date Certificate Issued: 03/20/2023

Purchase Order Number: CREDIT CARD

Calibration Date: 03/18/2023

Calibration Due: 09/18/2023

Temperature (Deg F): 66

Humidity (%): 33

Procedure: NAVAIR 17-20MP-06

Nathan W. Mach, Technician

See Page 2 for Calibration Data Sheet.

Global Calibration's Quality System is Accredited to ISO/IEC 17025:2017.

Global Calibration Services' quality management system conforms to ISO 9001:2015, AS9100 Rev. D, ANSI/NCSL Z540-1, ISO/IEC 17025:2017, ISO 10012:2003, and the technical requirements of the customer's order. All calibrations are performed using internationally recognized standards traceable to the SI Units. Traceability is achieved through the National Institute of Standards and Technology (NIST), other National Measurement Institutes (NMIs), or by using natural physical constraints, intrinsic standards or ratio calibration techniques. Unless otherwise indicated, the combined estimated uncertainty of the measurement has a coverage factor of k=2 at a confidence level of 95% and calibrations are performed at a minimum 4:1 accuracy ratio. Any number of factors may cause the instrument to drift out of specification before the recommended recalibration date contained in this certificate. The information shown on this certificate applies only to the instrument identified above and may not be reproduced, except in full, without prior written consent from Global Calibration Services.

CERTIFICATION SHEET

Umbilical Pressure Leak Test

Umbilical Serial #	System Component Part Description /Identification
um01	diver 1 umbilcal

Purpose of Tests (check test box)
☒ Conventional Umbilical Routine Pressure Test, as well as visual inspection of umbilical for cuts, slices, bulges, fitting slippage, excessive wear, signs of kinking, and any other signs of damage or deformity, 1.5 times working psig for 15 min.
☐ XLDS Umbilicals Routine Pressure Test, as well as visual inspection of umbilical for cuts, slices, bulges, fitting slippage, excessive wear, signs of kinking, and any other signs of damage or deformity, 800 psig for 10 min.

Maximum System Design Pressure	Maximum Umbilical Rated Working Pressure
400 psig	1125 psig

Test Pressure Used	Test time Used	Test Media Used
300 psig	15min	☐ Water ☐ Divers Air ☐ N2 ☒ Other

Test 1
Start Time 0905 Start Pressure 300
Stop Time 0920 Stop Pressure 300
☒ Pass ☐ Fail

Remarks (if any)
both diver end fittings tested with 200pound axial load. no slippage of fitting measured .

Print Name	Signature	Date
derek nelson	Derek Nelson	2/11/23

GLOBAL
CALIBRATION SERVICES

502 South Lucile Street · Seattle, WA 98108
Phone: 206-957-4479 Website: www.gcscal.com

CERTIFICATE OF CALIBRATION #329048

Issued To:
CALYPSO DIVING LLC
2343 NE 94TH ST
SEATTLE, WA 98115

Calibration Compliant To:
ISO 9001:2015 / AS9100 Rev. D
ANSI/NCSL Z540-1
ISO/IEC 17025:2017
ISO 10012:2003

Item ID: DIVER 2

Item Description: PRESSURE GAGE

Item Size: (0 to 225) ftSW (0.5 % FS)

Manufacturer: DIVER SUPPLY INK

Model Number: TDACB

Serial Number: 80463/DIVER2

Assigned Department: N/A

Item Location: N/A

Calibration Location: INHOUSE LAB

Instrument DIVER 2 As Found: In Tolerance

Instrument DIVER 2 As Left: In Tolerance

Date Certificate Issued: 03/20/2023

Purchase Order Number: CREDIT CARD

Calibration Date: 03/18/2023

Calibration Due: 09/18/2023

Temperature (Deg F): 66

Humidity (%): 33

Procedure: NAVAIR 17-20MP-06

Nathan W. Mach, Technician

See Page 2 for Calibration Data Sheet.

Global Calibration's Quality System is Accredited to ISO/IEC 17025:2017.

Global Calibration Services' quality management system conforms to ISO 9001:2015, AS9100 Rev. D, ANSI/NCSL Z540-1, ISO/IEC 17025:2017, ISO 10012:2003, and the technical requirements of the customer's order. All calibrations are performed using internationally recognized standards traceable to the SI Units. Traceability is achieved through the National Institute of Standards and Technology (NIST), other National Measurement Institutes (NMIs), or by using natural physical constraints, Intrinsic standards or ratio calibration techniques. Unless otherwise indicated, the combined estimated uncertainty of the measurement has a coverage factor of k=2 at a confidence level of 95% and calibrations are performed at a minimum 4:1 accuracy ratio. Any number of factors may cause the instrument to drift out of specification before the recommended recalibration date contained in this certificate. The information shown on this certificate applies only to the instrument identified above and may not be reproduced, except in full, without prior written consent from Global Calibration Services.

GASCO0050054

CERTIFICATION SHEET

Umbilical Pressure Leak Test

Umbilical Serial #	System Component Part Description /Identification
um2	stanby diver umbilical

Purpose of Tests (check test box)
☑ Conventional Umbilical Routine Pressure Test, as well as visual inspection of umbilical for cuts, slices, bulges, fitting slippage, excessive wear, signs of kinking, and any other signs of damage or deformity, 1.5 times working psig for 10 min.
☐ XLDS Umbilicals Routine Pressure Test, as well as visual inspection of umbilical for cuts, slices, bulges, fitting slippage, excessive wear, signs of kinking, and any other signs of damage or deformity, 800 psig for 10 min.

Maximum System Design Pressure	Maximum Umbilical Rated Working Pressure
175 psig	1125 psig

Test Pressure Used	Test time Used	Test Media Used
300 psig	15min	☐ Water ☐ Divers Air ☐ N2 ☑ Other

Test 1
Start Time 1001 Start Pressure 300psig
Stop Time 1016 Stop Pressure 300psig
☑ Pass ☐ Fail

Remarks (if any)
200 pound axial load for duration of test with no measurable slippage of end fitting

Print Name	Signature	Date
Derek Nelson	Derek Nelson	2/11/23

CERTIFICATION SHEET

Umbilical Pressure Leak Test

Umbilical Serial #	System Component Part Description /Identification
dw1	Deck whip 1/2" i.d.

Purpose of Tests (check test box)
☑ Conventional Umbilical Routine Pressure Test, as well as visual inspection of umbilical for cuts, slices, bulges, fitting slippage, excessive wear, signs of kinking, and any other signs of damage or deformity, 1.5 times working psig for 10 min.
☐ XLDS Umbilicals Routine Pressure Test, as well as visual inspection of umbilical for cuts, slices, bulges, fitting slippage, excessive wear, signs of kinking, and any other signs of damage or deformity, 800 psig for 10 min.

Maximum System Design Pressure	Maximum Umbilical Rated Working Pressure
250 psig	1125 psig

Test Pressure Used	Test time Used	Test Media Used
375 psig	15min	☐ Water ☐ Divers Air ☐ N2 ☑ Other

Test 1
Start Time 1221 Start Pressure 375psig
Stop Time 1236 Stop Pressure 375psig
☑ Pass ☐ Fail

Remarks (if any)
200 pound axial load for duration of test with no measurable slippage of end fitting

Print Name	Signature	Date
Derek Nelson	Derek Nelson	2/12/23

Certificate
OF COMPLETION

IN RECOGNITION OF SUCCESSFUL COMPLETION IN:

Bloodborne Pathogens

Infectious Disease Control

Best Practices / Precautions

THIS CERTIFICATE IS PROUDLY PRESENTED TO:

Derek Nelson

The above mentioned Student is now certified in the above mentioned course by demonstrating proficiency in the subject by passing the examination in accordance with the Terms & Conditions of National CPR Foundation - Valid for 1 year. Course administered in accordance with the **2020** ECC/ILCOR and AHA® guidelines. ID#:**A6E1CB5**

Completion: **November 21, 2022**

Instructor: **Paul J. Scruton**

Signature: 

COURSE PROVIDED BY:

NationalCPRFoundation

GASCO0050057

National University
Polytechnic Institute

PROFESSIONAL CERTIFICATE

This is to certify that

Derek Nelson

has successfully completed the educational curriculum, maintained the required attendance, and demonstrated a technical proficiency to be qualified for recognition in

MARINE TECHNOLOGY
WITH A CONCENTRATION IN DIVE MEDICINE

This program consists of basic Commercial Diving courses, EMT-1, Module 16 Diver Medic Training and Advanced Diving Medicine. The holder of this certificate is qualified for entry level work as a commercial diver on underwater contracts in harbors, rivers, lakes and offshore projects, specializing in and able to provide basic life support and pre-hospital emergency medical care for diving diseases and injuries.

Given this September 25, 2020

Dr. Gangaram Singh
Provost, National University

Dr. Michael Cunningham
Chancellor, National University

GASCO0050058

Certificate of Completion

DEREK JOSPEH NELSON

Has diligently and with merit completed training in

Hazwoper 8hr Refresher

on

5/2/2022

from the USF OTI Education Center

USF Health
College of Public Health

Mylene Kellerman, CWCP
Program Manager
USF OTI Education Center

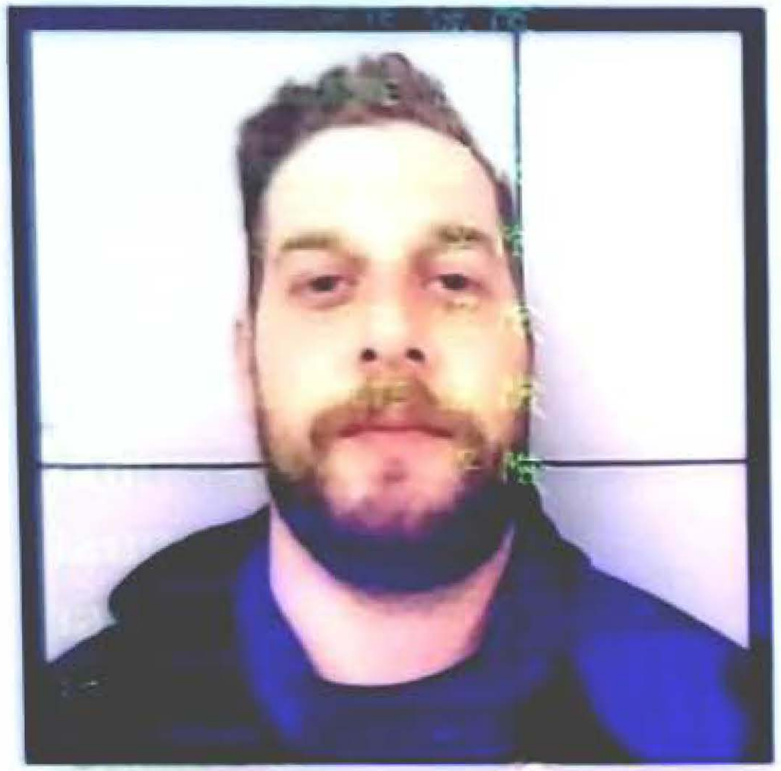
University of South Florida
An Authorized
OSHA Training Institute Education Center®

This course references current OSHA 29 CFR 1910.120(e) standards to assist employers in meeting training requirements.

Certificate #: 00162159

GASCO0050059

Association of Diving Contractors International



Cert. # 61743

Expires 10/13/2024

ADCI

ENTRY LEVEL TENDER/DIVER

DEREK NELSON I.D. 3068

Commercial Diver Certification Card

GASCO0050060

Diving First Aid for Professional Divers

Provider

Includes: CPR, Oxygen, First Aid, Neuro Assessment, & Hazardous Marine Life Injuries

Name: DEREK NELSON
Completed: March 24, 2023
Instructor: Nathan Schwarck ID# 11409

Meets ILCOR/AHA 2021 Guidelines

This person has met or exceeded the performance requirements for course completion set by Divers Alert Network.
Expires two years from completed date.

DAN®

GASCO0050061

National Health & Safety Association

Standard CPR/AED & First Aid (adult, child, infant)

STUDENT **Derek Nelson**

This card certifies that the individual has successfully completed the requirements in accordance with the National Health & Safety Association curriculum.

CERTIFIED ON **Aug 5, 2022** VALID 2 YEARS

Course administered by the National Health & Safety Association following the 2020 ECC/ILCOR and American Heart Association guidelines.

ID **366023-2359649261** For course details and recertification, visit cpr.io

You'll find your card above. It includes the date of certification, a unique id, and the title of the course you took with National Health & Safety Association.

Print your card, cut it out, and then fold it down the center. You can then tape or glue it together. Carry the card in your wallet or purse, to have available if you need to reference it.

We have also sent an email with a link to your wallet card. Make sure to save the email so you can print additional copies of your card at any time.

Congratulations,

National Health & Safety Association

GASCO0050062

National University
Polytechnic Institute

CERTIFICATE OF COMPLETION

This is to certify that

Derek Nelson

has successfully completed

40 Hour OSHA HAZWOPER

In accordance with OSHA 29 CFR 1910.120 and State of California Regulation 5192 Title 8.

William C. Hyder
General Manager, National University Polytechnic Institute

February 28, 2020
Training Date

GASCO0050063

360 TRAINING™

CERTIFICATE OF COMPLETION

This certifies that

Derek Nelson

has successfully completed the course

8 Hour HAZWOPER SUPERVISOR Initial Training Online

Course Duration
8.0

Completion Date
03/20/2023

Samantha Montalbano, Chief Operating Officer

5000 Plaza on the Lake, Suite 305 | Austin, TX 78746 | 877.881.2235 | www.360training.com

(CUT HERE) (CUT HERE)

360 TRAINING™

This certifies that the person named below has successfully completed the

Derek Nelson

8 Hour HAZWOPER SUPERVISOR Initial Training Online

Samantha Montalbano, Chief Operating Officer

03/20/2023
Completion date

5000 Plaza on the Lake, Suite 305 | Austin, TX 78746 | 877.881.2235 | www.360training.com

This is your pocket card which may be used as proof of training completion. This training program is intended to provide supplementary job safety training and is not required or approved by any regulatory authority.
Please check Federal, State, and local regulations for additional training requirements related to your specific job.

Questions? support@360training.com

visit: www.360training.com/osha-campus 877.881.2235

DIVERS INSTITUTE OF TECHNOLOGY

The DIVERS INSTITUTE OF TECHNOLOGY

Presents this Diploma to

Jedd E. Hoffman

This 8th *day of* December, 2020

Who has demonstrated the skill and proficiency with Surface Supplied Air and Helium Diving Equipment to be eligible for graduation as a Professional Commercial Diver.

EXECUTIVE DIRECTOR

DIRECTOR OF TRAINING

DIT, LLC Official Document

Seattle, Washington

GASCO0050065

Diving First Aid for Professional Divers — Provider

Includes: CPR, Oxygen, First Aid, Neuro Assessment, & Hazardous Marine Life Injuries

Name: Jedd Hoffman
Completed: March 24, 2023
Instructor: Nathan Schwarck ID# 11409

Meets ILCOR/AHA 2021 Guidelines

This person has met or exceeded the performance requirements for course completion set by Divers Alert Network.
Expires two years from completed date.

DAN®

GASCO0050066

Association of Diving Contractors International

Cert. # 62041

Expires 03/22/2025

ADCI

INTERNATIONAL ENDORSEMENT

ENTRY LEVEL TENDER/DIVER

JEDD E. HOFFMAN I.D. 1564

Commercial Diver Certification Card

Certificate of Completion

The completed course complies with OSHA regulations under OSHA Code 29 CFR 1910.120

SCAN ME

*Scan QR Code to Verify Certificate Authenticity

This certificate is hereby awarded to:

Jedd Hoffman

SIGNATURE OF OPERATOR X

ON-SITE EVALUATION X

Signature of Test Administrator & Date

AWARDED CERTIFICATE # **NHF-1679086682-4729-5530**

COURSE COMPLETION DATE ***March 17, 2023***

Renewal Due 1 Year from Completion Date

COURSE NAME ***Hazwoper 8 Hour Certification Course***

Hands on Evaluation Form Must Accompany This Certificate

NationalHazwoperFoundation.com

8 HOUR HAZWOPER CERTIFICATION

Operator: Jedd Hoffman

Course: ***Hazwoper 8 Hour Certification Course***

Completion Date: ***March 17, 2023***

Certification ID# ***NHF-1679086682-4729-5530***

Renewal Due 1 Years from Completion Date | Certificate of Completion Must Accompany Card

NATIONALHAZWOPERFOUNDATION.COM

Official Wallet Card

GASCO0050068

DIVERS INSTITUTE OF TECHNOLOGY

This is to attest that

Jedd E. Hoffman

Has satisfactorily completed 40 Hours of Training in Health & Safety at Hazardous Waste Sites in compliance with Federal Occupational Safety & Health Administration (OSHA) 29 CFR 1910.120, and has successfully met the 80 hours Training requirement for Washington Administrative Code (WAC) 296-62-3040 Including 20 hours Contaminated Water Diving Procedures.

Presented by: DIVERS INSTITUTE OF TECHNOLOGY, Seattle, WA

Given this 8th day of December, 2020

Joel Duker	Mike Redeen	John Paul Johnston
Instructor	Director of Training	Executive Director

DIVERS INSTITUTE OF TECHNOLOGY

ACCSC

ADC

GASCO0050069

Association of Diving Contractors International

Cert. # 61744

Expires 03/20/2025

ADCI

ENTRY LEVEL TENDER/DIVER

LOGAN NELSON I.D. 041397840

Commercial Diver Certification Card

Diving First Aid for Professional Divers

Provider

Includes: CPR, Oxygen, First Aid, Neuro Assessment, & Hazardous Marine Life Injuries

Name: Logan Nelson
Completed: March 24, 2023
Instructor: Nathan Schwarck ID# 11409

Meets ILCOR/AHA 2021 Guidelines

This person has met or exceeded the performance requirements for course completion set by Divers Alert Network.
Expires two years from completed date.

DAN®

GASCO0050071

National University Polytechnic Institute

PROFESSIONAL CERTIFICATE

This is to certify that

Logan Nelson

has successfully completed the educational curriculum, maintained the required attendance, and demonstrated a technical proficiency to be qualified for recognition in

MARINE TECHNOLOGY WITH A CONCENTRATION IN DIVE MEDICINE

This program consists of basic Commercial Diving courses, EMT-1, Module 16 Diver Medic Training and Advanced Diving Medicine. The holder of this certificate is qualified for entry level work as a commercial diver on underwater contracts in harbors, rivers, lakes and offshore projects, specializing in and able to provide basic life support and pre-hospital emergency medical care for diving diseases and injuries.

Given this September 25, 2020

Dr. Gangaram Singh
Provost, National University

Dr. Michael Cunningham
Chancellor, National University

GASCO0050072

RECORD OF MEDICAL EXAMINATION

Name of Person Examined _____

Date of Examination 8/17/22

Type of Examination Comm. Diver

Date of Commencement 8/17/22 Expiration 8/17/23

Duration of Validity of Medical Examination 1 yr.

Patient's Employer (Supervisor) _____

(Company) _____

Recommendation:

- ☑ Fit for Diving
- ☐ Not Fit for Diving (see Remarks)
- ☐ Other (see Remarks)

Remarks _____

X-Ray Record:

Date	Views/Type
8/17/22	CxR 2v

Medical Examination in Accordance with the Requirements:

Physician's Name Paul Park, MD

CONCENTRA MEDICAL CENTERS
3449 N. ANCHOR ST., STE 300A
PORTLAND, OR 97217
PHONE (503) 283-0013
FAX (503) 283-0785

Address _____

City/State/Country _____

Telephone Numbers _____

Physician's Signature _____

GASCO0050073

National University Polytechnic Institute

CERTIFICATE OF COMPLETION

This is to certify that

Logan Nelson

has successfully completed the educational curriculum for

40 Hour OSHA HAZWOPER

This course satisfies the requirements for generalized employee training under OSHA 1910.120 and State of California Regulation 5192 Title 8.

Given this September 25, 2020

Certificate #1055

ID # 041397840

William Hyder
General Manager, National University Polytechnic Institute

Brian Hall
Instructor

GASCO0050074

Certificate of Completion

BRANDON LUKE NELSON

Has diligently and with merit completed training in

Hazwoper 8hr Refresher

on

3/18/2023

from the USF OTI Education Center

USF Health
College of Public Health

Mylene Kellerman, CWCP
Program Manager
USF OTI Education Center

University of South Florida
An Authorized
OSHA Training Institute Education Center®

This course references current OSHA 29 CFR 1910.120(e) standards to assist employers in meeting training requirements.

Certificate #: 00168351

GASCO0050075

National Health & Safety Association

Standard CPR/AED & First Aid (adult, child, infant)

STUDENT **Brandon Logan Nelson**

This card certifies that the individual has successfully completed the requirements in accordance with the National Health & Safety Association curriculum.

CERTIFIED ON **Aug 5, 2022** VALID 2 YEARS

Course administered by the National Health & Safety Association following the 2020 ECC/ILCOR and American Heart Association guidelines.

ID **366041-235984A3DE**

For course details and recertification, visit cpr.io

You'll find your card above. It includes the date of certification, a unique id, and the title of the course you took with National Health & Safety Association.

Print your card, cut it out, and then fold it down the center. You can then tape or glue it together. Carry the card in your wallet or purse, to have available if you need to reference it.

We have also sent an email with a link to your wallet card. Make sure to save the email so you can print additional copies of your card at any time.

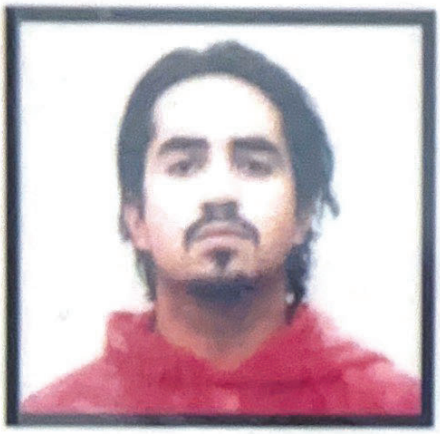
Congratulations,

National Health & Safety Association

GASCO0050076

GASCO0050077

Association of Diving Contractors International



Cert. # 64959

Expires 08/24/2027

ADCI

SURFACE-SUPPLIED AIR DIVER

RAFAEL MENDEZ I.D. 041409007

Commercial Diver Certification Card

SSI ID: 3550096

RAFAEL MENDEZ

REACT RIGHT COURSE
FIRST AID, CPR, AED, O2
Cert: 800508E6633708538987-US

CERTIFICATION DATA

Date: 13 Sep 2022
Expire Date: 13 Sep 2024
Pro: Kimberly Collingham
Pro ID: 9822
The Dive Shop

(810) 732-3900

REACT RIGHT

CERTIFICATION RANGE

This card is to certify that the person has satisfactorily finished an Emergency Training program. This certification expires and needs to be updated reg arly.

DIVESSI.COM

EMERGENCY OXYGEN ADMINISTRATION
BLOODBORNE PATHOGENS & OPIM

For The Community And Workplace

RAFAEL MENDEZ

This card certifies that the above individual has successfully completed the requirements and cognitive skills examination in accordance with the American Safety Training Institute curriculum in:

♥ Administration ♥ Safety ♥ Storage ♥ Preventation ♥ Cleanup

10/3/2021
Issue Date

10/3/2023
Renewal Date

GASCO0050080

UNIVERSAL FIRST AID

For The Community And Workplace

RAFAEL MENDEZ

This card certifies that the above individual has successfully completed the requirements and cognitive skills examination in accordance with the American Safety Training Institute curriculum in:

♥ Basic First Aid ♥ Adult First Aid ♥ Pediatric First Aid

10/3/2021
Issue Date

10/3/2023
Renewal Date

CPR & AED CERTIFICATION

For The Healthcare Professional

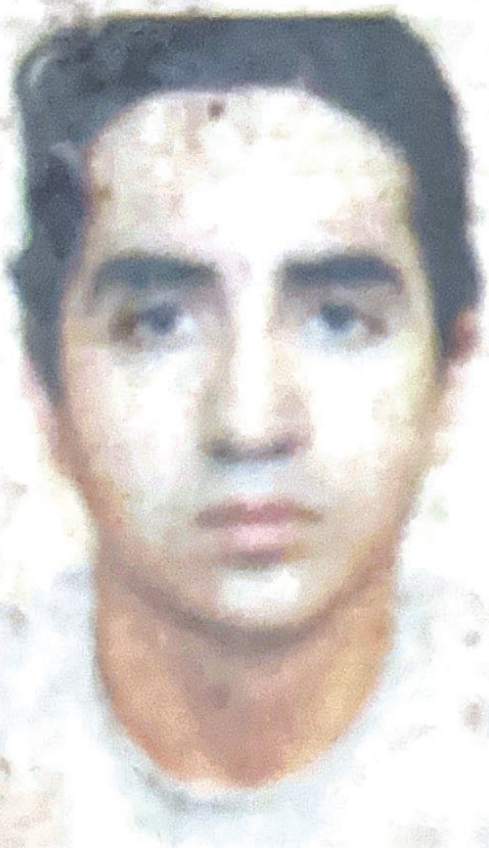
RAFAEL MENDEZ

This card certifies that the above individual has successfully completed the requirements and cognitive skills examination in accordance with the American Safety Training Institute curriculum in:

♥ **Adult CPR AED** ♥ **Child CPR AED** ♥ **Infant CPR AED**

10/3/2021	10/3/2023
Issue Date	Renewal Date

TRANSPORTATION WORKER IDENTIFICATION CREDENTIAL



TWIC

MENDEZ,
RAFAEL A.

EXPIRES
2024
MAY10

TWIC

GASCO0050083

Certificate of Completion

This certifies that

Rafael Mendez

has successfully completed

8 Hour HAZWOPER Refresher Training

Refresher certification does NOT necessarily indicate initial 24 or 40 Hour HAZWOPER certification

In Accordance w/Federal OSHA Regulation 29 CFR 1910.120(e) & (p)

And all State OSHA/EPA Regulations as well including 29 CFR 1926.65 for Construction.

This course (Version 1) is approved for 8 Contact Hours (0.8 CEUs) of continuing education per the California Department of Public Health for Registered Environmental Health Specialist (REHS) (Accreditation # 044).

Safety Unlimited, Inc., Provider #5660170-2, is accredited by the International Association for Continuing Education and Training (IACET) and is accredited to issue the IACET CEU. As an IACET Accredited Provider, Safety Unlimited, Inc. offers CEUs for its programs that qualify under the ANSI/IACET Standard. Safety Unlimited, Inc. is authorized by IACET to offer 0.8 CEUs for this program.

Julius P. Griggs

Julius P. Griggs
Instructor #892

2208075434596

Certificate Number

8/7/2022

Issue Date

ACCREDITED IACET PROVIDER

Scan this code or visit safetyunlimited.com/v to verify certificate.

SAFETY UNLIMITED, Inc.
OSHA Compliant Safety Training Since 1993

2139 Tapo St., Suite 228 Simi Valley,CA 93063
(855) 784-2677 or 805 306-8027
https://www.safetyunlimited.com

Proof of initial certification and subsequent refresher training is NOT required to take refresher training

GASCO0050084

National University
Polytechnic Institute

CERTIFICATE OF COMPLETION

This is to certify that

Rafael Mendez

has successfully completed the educational curriculum for

40 Hour OSHA HAZWOPER

This course satisfies the requirements for generalized employee training under OSHA 1910.120 and State of California Regulation 5192 Title 8.

Given this September 25, 2020

Certificate #1053

ID # 041409007

William Hyder
General Manager, National University
Polytechnic Institute

Brian Bair
Instructor

GASCO0050085

For The Healthcare Professional

RAFAEL MENDEZ

This card certifies that the above individual has successfully completed the requirements and cognitive skills examination in accordance with the American Safety Training Institute curriculum in:

♥ Adult CPR AED ♥ Child CPR AED ♥ Infant CPR AED

10/3/2021
Issue Date

10/3/2023
Renewal Date

EMERGENCY OXYGEN ADMINISTRATION
BLOODBORNE PATHOGENS & OPIM

For The Community And Workplace

RAFAEL MENDEZ

This card certifies that the above individual has successfully completed the requirements and cognitive skills examination in accordance with the American Safety Training Institute curriculum in:

♥ Administration ♥ Safety ♥ Storage ♥ Preventation ♥ Cleanup

10/3/2021
Issue Date

10/3/2023
Renewal Date

UNIVERSAL FIRST AID

For The Community And Workplace

RAFAEL MENDEZ

This card certifies that the above individual has successfully completed the requirements and cognitive skills examination in accordance with the American Safety Training Institute curriculum in:

♥ Basic First Aid ♥ Adult First Aid ♥ Pediatric First Aid

Association of Diving Contractors International

Cert. # 57427

Expires 03/14/2023

ADCI

SURFACE-SUPPLIED AIR DIVER

SIMON N. CLEASBY I.D. GBR 507934969

Commercial Diver Certification Card

Certificate of Completion

This certificate verifies that

SIMON CLEASBY of GLOBAL DIVING & SALVAGE

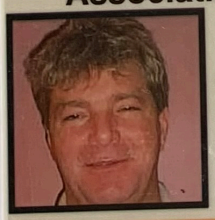
has successfully completed 4 hours of Pedestal Safety & Rigging Training

Training was conducted by ARXCIS, Inc. on 6/22/2021.

Expiration Date: 6/22/2024.

ARXCIS, Inc.

Association of Diving Contractors International



Cert. # 60373

Expires 10/11/2024

ADCI

MIXED GAS DIVER

SIMON CLEASBY I.D. 2014

Commercial Diver Certification Card

Association of Diving Contractors International

Cert. # 3157

Expires 01/11/2026

ADCI

SURFACE-SUPPLIED AIR DIVING SUPERVISOR

SIMON N. CLEASBY I.D. GBR 507934969

Commercial Diver Certification Card

Diver Certification BOARD OF CANADA

Occupational Diver Certificate of Competency

Last Name **Cleasby**

First Name **Simon N.**

Born 23 November 1964

Certificate # 20170551

Expires 20 August 2022

DCBC Since August 2012

Endorsements See over

Unrestricted Surface Supplied Diver

GASCO0050088

Print Cert

Divers Alert Network

Certificate of Training

Simon cleasby

has successfully completed

Basic Life Support: CPR and First Aid Provider (BLS: CPR & FA)

Elementary First Aid (Blended) (DANDAN-961)

Approved by the United States Coast Guard to meet the training requirements and competence requirements of 46 CFR 11.201(i)(1), 46 CFR 11.302(a)(3), 46 CFR 12.602(a)(3), and STCW Code Table A-VI/1-3

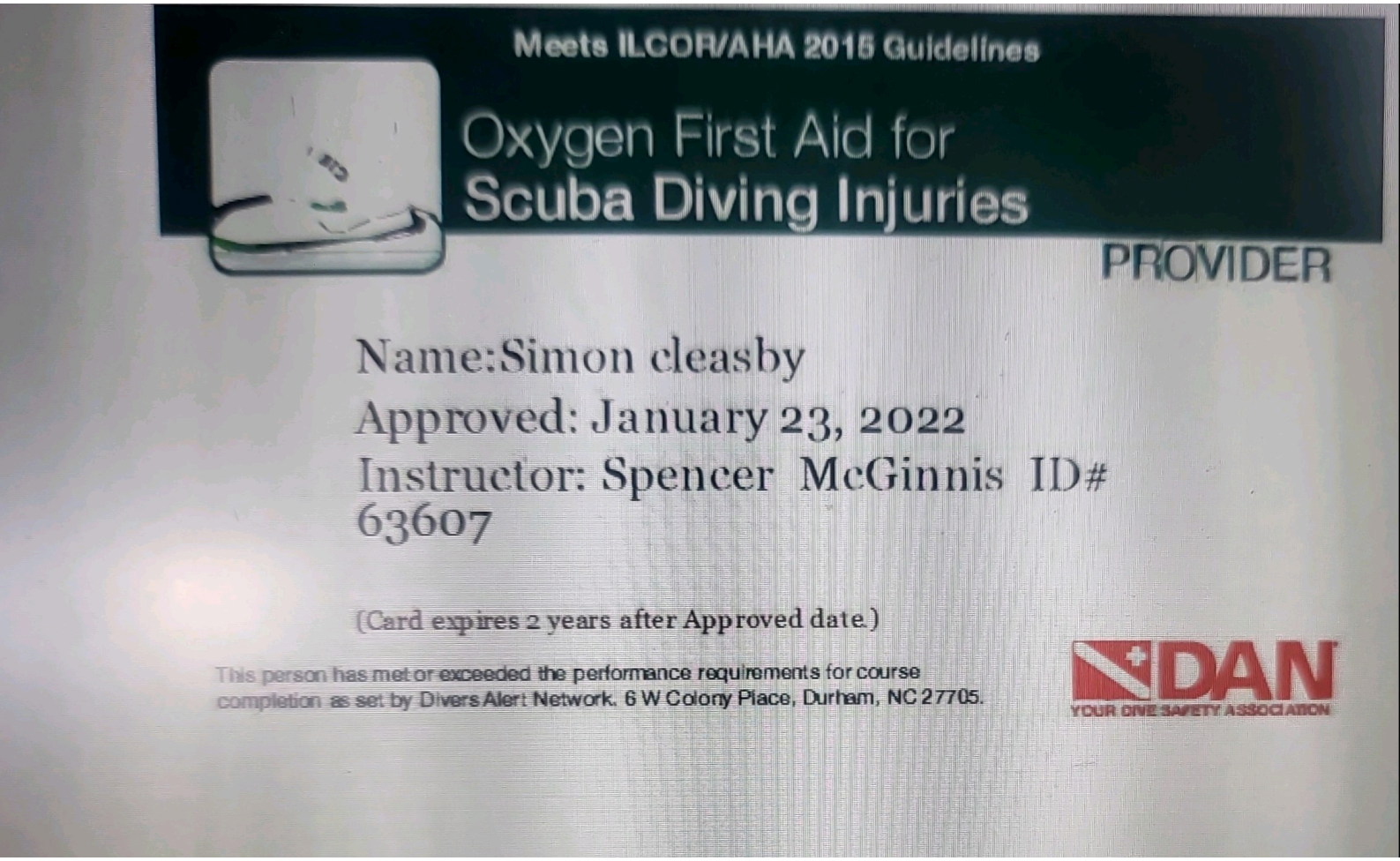
January 23, 2021
Date

Seattle
Location

Spencer McGinnis
Instructor

Patty L. Seary
Director of Training

GASCO0050089



Meets ILCOR/AHA 2015 Guidelines

Oxygen First Aid for Scuba Diving Injuries

PROVIDER

Name:Simon cleasby

Approved: January 23, 2022

Instructor: Spencer McGinnis ID# 63607

(Card expires 2 years after Approved date.)

This person has met or exceeded the performance requirements for course completion as set by Divers Alert Network, 6 W Colony Place, Durham, NC 27705.

DAN
YOUR DIVE SAFETY ASSOCIATION

College of Oceaneering

LOS ANGELES HARBOR, CALIFORNIA

Technical Certificate

This is to certify that

SIMON NICHOLAS CLEASBY

has successfully completed the academic curriculum, maintained exemplary attendance, and demonstrated a technical proficiency to be qualified for recognition as a

WELDER TECHNICIAN DIVER

This program consists of basic Commercial Air Diving Courses and advanced training in the technology of Underwater Wet Welding. The holder of this certificate is qualified for entry level work as an air diver on underwater contracts in harbors, rivers, lakes and offshore projects, specializing in wet welding on pipelines, bridges, storage facilities, offshore platforms and vessels.

Given this 31st day of July 19 90

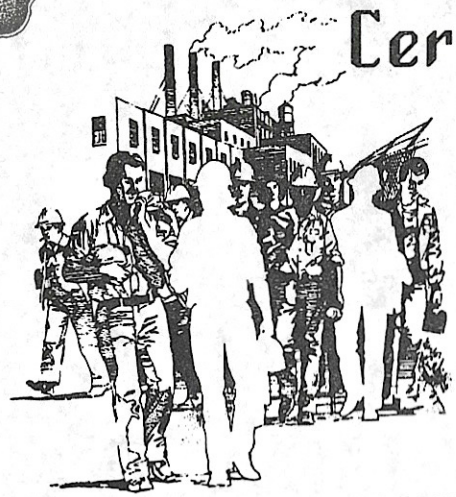
James T. Joiner
President

Robert Felch
Director of Education

Registered Number #4868

GASCO0050091

Certificate of Training



This is to certify that

SIMON N. CLEASBY

has successfully completed

E.G. Consultants, Inc.

40 Hour Safety & Hazardous Materials
training program in compliance with
OSHA Hazardous Waste
Operations Standard
29 CFR 1910.120

this 7th day of June 1991

1106

President E.G. Consultants. Inc.

GASCO0050092

Certificate of Completion

Presented to

Simon Cleasby

of

American Marine

for successful completion of

HAZWOPER Refresher Training Course v3 (PS4)

Dated: **12-15-2022**

GASCO0050093