Schedule of Tasks or Work Operations:

Activity/Process/ Work Area	Brief Description of Task or Work Operation	Do Hazards Exist?			Types of Hazard (See below, enter No of Hazard)	Reference Nº (of associated Risk Assessment)
		Yes	Unsure (refer to HSEQ	No		
Diving – Salvage Seamate- Portree Fish Farm	Salvage/diving/vessel operations in the vicinity of stored fish feed under going anaerobic digestion releasing Methane (CH_4), Hydrogen Sulphide (H_2S), fish feed oils.	Yes			1,3,5,6,9,10,11,12,13,29, 30,34,38.40,42	DV0240-3001

Table of Hazards:

1.	Slipping / Tripping	15	Cutting	29.	Hazardous substances / chemicals
2.	Mechanical lifting operations	16	Stabbing / Puncture	30.	Microbiological
3.	Vehicles / Plant movements	17.	Crushing	31.	Electricity
4.	Work at height	18.	Ejected materials	32.	Ionising / Radiation
5.	Working over / Adjacent to water	19.	Impact	33.	Non-Ionising / Radiation - Electromagnetic fields
6.	Confined spaces	20.	Friction / Abrasion	34.	Fire
7.	Poor Lighting	21.	Drawing in / Trapping	35.	Manual Handling / Strains & backs
8.	Excessive Heat / Cold (Ambient)	22.	Hot / Cold surfaces	36.	Fatigue / Stress
9.	Poor wea her conditions	23.	Noise	37.	Violence & Aggression
10.	Access / Egress	24.	High Pressure Fluid	38.	Inexperienced staff
11.	Hot works	25.	Compressed Air	39.	Lone Working
12.	Hand tools	26.	Vibration / (Hand Arm / Whole Body)	40.	Env spill to water/land
13.	Use of machines	27.	Hot Fluid / Gas / Steam	41.	Env waste
14.	Entanglement	28.	Fume / Dust / Asbestos	42.	Env emissions to air

RISK EVALUATION MATRIX

HAZARD EFFECT (HE) USE LOSS GIVING HIGHTEST HAZARD EFFECT (HE) RATING	PERSONAL INJURY	PROPERTY DAMAGE	ENV IMPACT	HE RATING	LIKELIHOOD OF SPECIFIED HAZARD EFFECT				
					Rare	Unlikely	Possible	Probable	Certain
					1	2	3	4	5
	Fatality	Major loss >£1m	(Major) Persistent or extensive	5	5	10	15	20	25
	Permanent disability	Significant loss £100k-£1m	Significant localised	4	4	8	12	16	20
	Lost Time/Major Injury	Moderate loss £25k-£100k	Moderate	3	3	6	9	12	15
	Medical treatment	Minor loss £5k-£25k	Minor	2	2	4	6	8	10
	First aid	Loss <£5k	Negligible	1	1	2	3	4	5

EVALUATION AND PRIORITISATION OF RISK/RESIDUAL RISK	
R	CONTROL ACTIONS
20-25	Immediate action, TASK MUST NOT PROCEED serious loss potential. Task should be re-defined or further control measures put in place to reduce risk to acceptable level. Controls must be subject to a full risk assessment and accepted before the task may commence.
10-16	Wherever possible the task should be re-defined to take account of the hazards involved or the risk should be reduced further prior to the tasks commencing. Task may only proceed following direct authorisation from management following consultation with any specialist personnel and full assessment team.
4-9	The team MUST revisit all areas of the risk assessment to see if risks may be reduced further before the task may proceed. The task may only proceed under an appropriate level of supervision & monitoring.
2-4	Acceptable measures. However, review to see if risk can be reduced still further.
1	Acceptable level of risk. No need to consider further control measures. Review to ensure that level of risk does not increase.

Ref Nº:	DV0240-3001	**Site:**	Portree – SSC fish farm	**Dept/Location:**	Diving Division	**Nº. Persons Involved:**	Up to 20 personnel.
Activity:	Salvage/diving/vessel operations in the vicinity of stored fish feed under going anaerobic digestion releasing Methane (CH_4), Hydrogen Sulphide (H_2S), fish feed oils.- **Category 2: Area is normally free of H2S, but breach of containment or leaks may create risk:**			**References:**	• BMC Diving Operations Manual • HSEMP Manual • DV0240-4001 Barge Salvage – Portree Dive Plan • DV0240-4003 Barge Salvage – Portree Diving operations method statement • DV0240-4005 Barge Salvage – Portree Escape Plan • DV0240-4006 Portree General FRC operations • DV0240-4007 Portree Oil, Gas and feed discharge and removal method statement • DV0240-4008 Barge Salvage Rescue Party method statement		
Competence Required:	- HSE Diving Certification - H2S awareness training - Escape set training						

Hazard Identified		Hazard Effect	Risk Evaluation			Control Measure Required	Action		Residual Risk			Alarp
No	Hazard	Injury / Damage Environmental Impact	HE	P	R	(include existing and proposed)	Person Responsible	Date Completed	HE	P	R	Y/N
1	• Slipping/Tripping	• In the event of emergency escape personnel will have escape sets on with hoods • Risk of injury from tripping on items on deck	4	3	12	• Good housekeeping on deck • Planned emergency route • Removal of tripping hazards • All personnel are to receive escape set training • Emergency escape plans to be documented and available for all personnel • Escape drills to be performed	All crew	Daily	4	2	8	Y

Hazard Identified		Hazard Effect	Risk Evaluation			Control Measure Required	Action		Residual Risk			Alarp
No	Hazard	Injury / Damage Environmental Impact	HE	P	R	(include existing and proposed)	Person Responsible	Date Completed	HE	P	R	Y/N
3	• Movement of vehicles/plant	• Risk of sparks being created from ignition or contact of metals	5	3	15	• Intrinsically safe plant to be used where possible • Plant and machinery to be used in well ventilated areas up wind of the risk area! • All personnel are to receive H2S training	All crew	Daily	5	2	10	Y
5	• Working on deck	• Personal injury from exposure to H2S • Death from exposure to H2S • Health complications from exposure to H2S • Environmental damage in the event of an escape of gases and oils	5	3	15	• Fixed hydrocarbon detectors and portable/ personal H2S detectors to be utilised in case of a containment breach • Records of readings at set intervals to be monitored and recorded • All personnel are to receive H2S awareness training • All personnel are to receive escape set training • Emergency escape plans to be documented and available for all personnel • Escape drills to be performed • No working alone	All crew	Daily	5	2	10	Y
6	• Confined spaces	• H2S pockets in confined spaces • Personal injury from exposure to H2S • Death from exposure to H2S • Health complications from exposure to H2S	5	3		• Fixed hydrocarbon detectors and portable/ personal H2S detectors to be utilised in case of a containment breach • Records of readings at set intervals to be monitored and recorded • Only personnel with confined space training are to enter any confined spaces. • All personnel are to receive H2S awareness training • All personnel are to receive Escape sets training • Emergency escape plans to be documented and available for all personnel • Escape drills to be performed • No working alone • Confined space areas to be ventilated before entering • Keep all doors shut into the lower compartments during operations • Only BA trained personnel to conduct snatch rescue	All crew	Daily	5	2	10	Y

Hazard Identified		Hazard Effect	Risk Evaluation			Control Measure Required	Action		Residual Risk			Alarp
No	Hazard	Injury / Damage Environmental Impact	HE	P	R	(include existing and proposed)	Person Responsible	Date Completed	HE	P	R	Y/N
9	• Poor weather conditions	• Sea state conditions could cause instability of the vessel resulting in a breach of the contained H2S • Personal injury from exposure to H2S • Death from exposure to H2S • Health complications from exposure to H2S • Environmental damage in the event of an escape of gases and oils	5	2	10	• Operations are to take place within parameters set out for diving operations- 1. **Maximum operational limits:** 2. **Water current: 0.8 knots** 3. **Surface visibility : ≤1km** 4. **Lightning Risk: Lightning forecast within 4hrs** 5. **Wind speed: 20 knots** 6. **Significant wave height: 1m** • Personnel will not be on site during bad weather • DSV vessel will depart site during bad weather periods • Weather forecasts to be monitored and operational plans made accordingly	All crew	Daily	5	1	5	Y
10	• Access/Egress via ladder	• Personnel tending and assisting diver from the ladders are in the risk zone for H2S • Personal injury from exposure to H2S • Death from exposure to H2S • Health complications from exposure to H2S	5	3	15	• Fixed hydrocarbon detectors and portable/ personal H2S detectors to be utilised in case of a containment breach • Records of readings at set intervals to be monitored and recorded • Only personnel with confined space training are to enter any confined spaces. • All personnel are to receive H2S awareness training • No working alone • Lifejackets to be worn with crotch straps in place at all times	All crew	Daily	5	2	10	Y
11	• Hot-work activities preparing materials for the diving project	• Explosive environment due to the Methane and H2S gases. • Burn injury's • Impact from explosion injury's	5	3	15	• Fixed hydrocarbon detectors and portable/ personal H2S detectors to be utilised in case of a containment breach • Records of readings at set intervals to be monitored and recorded • All personnel are to receive H2S awareness training • Hot works not permitted	All crew	Daily	2	1	2	Y

Hazard Identified		Hazard Effect	Risk Evaluation			Control Measure Required	Action		Residual Risk			Alarp
No	Hazard	Injury / Damage Environmental Impact	HE	P	R	(include existing and proposed)	Person Responsible	Date Completed	HE	P	R	Y/N
12	• Using Hand tools	• Sparks created by use of hand tools could cause explosions around gases • Burn injury's • Impact from explosion injury's • Explosive environment due to the Methane and H2S gases. • Burn injury's	5	3	15	• Fixed hydrocarbon detectors and portable/ personal H2S detectors to be utilised in case of a containment breach • Records of readings at set intervals to be monitored and recorded • All personnel are to receive H2S awareness training • All personnel are to receive escape set training • Emergency escape plans to be documented and available for all personnel • Escape drills to be performed • No working alone • Use of non-metallic tools where possible	All crew	Daily	5	1	5	Y
13	• Use of machinery	• Risk of sparks being created from ignition or contact of metals • Explosive environment due to the Methane and H2S gases. • Burn injury's • Impact from explosion injury's	5	3	15	• Intrinsically safe plant to be used where possible • Plant and machinery to be used in well ventilated areas up wind of the risk area! • All personnel are to receive H2S training • Fixed hydrocarbon detectors and portable/ personal H2S detectors to be utilised in case of a containment breach	All crew	Daily	5	1	5	Y

Commented [SW1]:

Hazard Identified		Hazard Effect	Risk Evaluation			Control Measure Required	Action		Residual Risk			Alarp
No	Hazard	Injury / Damage Environmental Impact	HE	P	R	(include existing and proposed)	Person Responsible	Date Completed	HE	P	R	Y/N
29	• Contaminated air supply	• Asphyxiation	5	3	15	• All sources of breathing gas must be purity tested regularly, according to HSE regulations/ IMCAD018 guidance. • Air intakes must be sited away from known sources of contamination. • Filtration units must be maintained and replaced according to IMCA D018 guidance/manufacturers guidelines. • Recover diver to surface immediately and resolve problem. • Reliable and effective voice communications must be in place between supervisor and diver to allow monitoring of the divers breathing. • Air supplies that appear to be contaminated must be isolated and tested. • Fixed hydrocarbon detectors and portable/ personal H2S detectors to be utilised in case of a containment breach • Records of readings at set intervals to be monitored and recorded • All personnel are to receive H2S training • Vessel is to depart site after shift daily • Charging of air banks to take place away from job site	All crew	Daily	3	1	3	Y

Commented [SW2]: vessel to only enter site to carry out work then move off during not working

Hazard Identified		Hazard Effect	Risk Evaluation			Control Measure Required	Action		Residual Risk			Alarp
No	Hazard	Injury / Damage Environmental Impact	HE	P	R	(include existing and proposed)	Person Responsible	Date Completed	HE	P	R	Y/N
29	• Exposure to chemicals	• Damage to respiratory/digestive tracts, eyes or skin. • Environmental contamination. • Contamination/ damage of equipment.	3	4	12	• Avoid unnecessary exposure to chemicals. • If exposure to unknown chemicals is suspected vacate the area, alert site management. • Once the chemicals have been identified manage according to COSHH information. • If possible, ventilate/decontaminate area prior to commencing/resuming work. • Wear PPE appropriate to identified chemicals. • Use equipment appropriate to identified chemicals. • Complete appropriate personnel and equipment decontamination prior to starting rest periods, eating, drinking or touching skin. • All personnel are to receive H2S training • Tenders will use PDI meter to ensure the PPM levels from the divers clothing are at a safe level prior to making contact with the diver to undress	All crew	Daily	3	1	3	Y
30	• Exposure to microbiological agents	• Infection of variable severity. • Environmental contamination. • Contamination of equipment.	4	2	8	• Avoid unnecessary exposure to microbiological agents. • If exposure to unknown agents is suspected vacate the area, alert site management. • Once the agents have been identified manage according to COSHH information. • If possible, ventilate/decontaminate area prior to commencing/resuming work. • Wear PPE appropriate to identified agents. • Use equipment appropriate to identified agents. • Complete appropriate personnel and equipment decontamination prior to starting rest periods, eating, drinking or touching skin. • All personnel are to receive H2S training • Exposure times are to be limited in accordance with HSE recommendations exposure of up to 5ppm will result in a maximum exposure time of 8 hrs	All crew	Daily	4	1	4	Y

Hazard Identified		Hazard Effect	Risk Evaluation			Control Measure Required	Action		Residual Risk			Alarp
No	Hazard	Injury / Damage Environmental Impact	HE	P	R	(include existing and proposed)	Person Responsible	Date Completed	HE	P	R	Y/N
34	• Fire	• Fires on deck caused by gases being ignited • Explosions • Burn injury's	5	3	15	• All personnel are to receive H2S training • Intrinsically safe plant to be used where possible • Plant and machinery to be used in well ventilated areas up wind of the risk area! • All personnel are to receive H2S awareness training • All personnel are to receive Escape sets training • Emergency escape plans to be documented and available for all personnel • Escape drills to be performed	All crew	Daily	5	2	10	Y
38	• Inexperienced team members incorrectly using equipment • Inexperienced team members being unaware of potential hazards	• Potential for a fatal accident due to incorrectly prepared/fitted equipment. • Potential for serious injury or damage due to lack of awareness	5	3	15	• Dive team members should be comprised of a majority of experienced divers, a ratio of 4:1 experienced: inexperienced should be utilised. • Inexperienced team members should be closely monitored by other team members in a "buddy system". • The daily diver equipment checklists should be followed and signed. • The dressed diver should be checked over by the supervisor/lead diver prior to the start of each dive. • Daily "Toolbox Talks" will be held that everyone involved in the diving operations must attend, as well as Take 5 task assessments when needed. • Logbooks and competency certificates must be available for inspection at any time. • Anyone unfamiliar with the operation of any tools or equipment should be familiarised with it prior to use. Specific training will be provided if necessary. • A culture of "if in doubt, ask" should be fostered on site. • All personnel are to receive H2S awareness training • All personnel are to receive escape set training • Emergency escape plans to be documented and available for all personnel • Escape drills to be performed	All crew	Daily	5	1	5	Y

Hazard Identified		Hazard Effect	Risk Evaluation			Control Measure Required	Action		Residual Risk			Alarp
No	Hazard	Injury / Damage Environmental Impact	HE	P	R	(include existing and proposed)	Person Responsible	Date Completed	HE	P	R	Y/N
40	• Env spill to water/land • Environmental waste	• Headache/Nausea • Eye, lung irritation • Dizziness • Lightheaded • Pollution to aquatic life				• COSHH assessment & MSDS on site • Permit to work for enclosed spaces • Do not leave rags or waste lying around on deck • Any receptacles to be sealed • Good hygiene • Appropriate RPE available to be used in the event of a spill. • Gas detectors on deck • Spill kits available on deck • Disposal at suitably licenced facilities • Double bag and segregate waste • Use of licenced waste contractors	All crew	Daily	5	1	5	Y

PPE and Emergency Provision:

PPE Requirements:		General Requirements:			
Head Protection	Deck – Hard Hat Diver – Hard Helmet	PPE to be used in conjunction with Personal gas monitors			
Clothing – General Work wear	Deck – Overalls and High Viz Diver – Drysuit chemical				
Clothing – Weather Proofing	Deck – High Viz waterproofs Diver – Drysuit				
Eye Protection	Deck – Safety Glasses. Diver – Hard Helmet				
Footwear	Deck – Steel toed boots Diver – Drysuit				
Gloves	Deck – moderate cut, puncture and abrasion resistance Diver – moderate cut, puncture and abrasion resistance, neoprene during cold water sessions.	**Emergency Arrangements:**			
Hearing Protection	Deck – Ear defenders when operating machinery Diver – None	As per project plans and diving operations manual.			
RPE – Dust and Vapour	Deck – N/A Diver – N/A				
RPE – Breathing Apparatus	Deck – N/A Diver – Hard Helmet All – Draeger Escape sets	**Name:**	[redacted]	**Position:**	Dive Supervisor
Other	Deck – 275kN auto-inflate life jacket Diver – Bailout harness (secured in 4 places)	**Signature:**	[redacted]	**Date:**	15/08/2022