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Doc Ref: 001

MERTHYR (SOUTH WALES) LIMITED

Company number **04261274**

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Registered office address

Lanyon House, Mission Court, Newport, Wales, NP20 2DW

Company status

Active

Company type

Private limited Company

Incorporated on

30 July 2001

Document Reference: 002

Consent to discharge Permit N#: AE2013403 (Final effluent)

Company name: Merthyr (South Wales) LTD

Address: Cwmbargoed Disposal Point

Fochriw Rd

Cwmbargoed

Merthyr Tydfil

CF48 4AE

Previous NRW Contact: Sarah Jones Sarah.Pa.Jones@cyfoethnaturiolcymru.gov.uk

During a site visit and tour of the Cwmbargoed Disposal Point water treatment Area, Sarah suggested the limits set for suspended solids within the Merthyr (South Wales) LTD consent to discharge permit were out-dated and also, there was no provision within the permit for the use of flocculants to assist in the process of fines settlement prior to discharge from the water treatment area.

The current limits are set as follows: Discharge Point C 200mg/l

During discussions with Chris Barber (Operations Manager), it was suggested that Merthyr (South Wales) LTD would seek to vary its consent to discharge permit and request a reduction of the current discharge limits and the use of appropriate flocculants be added to the permit.

The new suggested limits would reduce annually to: YR 1 – 100mg/l, YR 2 – 80mg/l, YR 3 50mg/l

This document forms part of the Merthyr (South Wales) LTD application to vary its permit accordingly.

Doc Ref: 003.

mining management system
Environmental Planning and Management

1 INTRODUCTION, SCOPE AND ENVIRONMENTAL OBJECTIVES

1.1 >This, and associated procedures are designed to implement the *Merthyr (South Wales) Ltd* Environmental Policy Statement, which is defined in the front of this manual. It applies to offices, surface mining and coal processing that *Merthyr (South Wales) Ltd* 'MSW' carry out. Environmental Management is an integral part of general management within this system.

1.2 The formal scope of the system is the MSW site area, and all land associated with it for mining purposes, including land required to meet planning consent conditions. Farmland not associated with the coal extraction or processing is excluded. See site plan.

1.3 Environmental Management is integrated into the overall management system. Other procedures, such as CP04 Document control, CP05 Vendor Assessment, CP06 Procurement, CP13 Records, and CP16 Audits apply equally to environmental issues.

1.4 Objectives to manage significant long term environmental aspects, impacts and compliance obligations are covered by the following Supplementary procedures:-

Procedure	Objective/s
CP62 Energy Management	• To minimise CO2 emissions relative to production output
CP63 Waste Management and Reduction	• To maximise re-use and recycling of materials • To minimise the quantity and impact of waste • To maintain water and groundwater quality • To prevent pollution of ground and watercourses
CP64 Noise, Dust and Vibration	• To manage and reduce off site noise, dust and vibration
CP65 Ecology, Archaeology and other Environmental Issues	• To enhance the ecology of the site and surrounding area • To enhance the knowledge of the archaeology of the site
CP66 Environmental Emergencies	• To prepare for and control any environmental emergencies that may occur

1.5 Contents

2 >RESPONSIBILITIES

Owners Representative	• Ensure that environmental aspects, impacts, regulatory requirements and objectives are defined
Operations Manager, Coal Processing Manager	• Ensure that controls, consents and associated procedures are used onsite
Operations Manager to delegate and procure consultancy where required.	• Ensure technical environmental controls and consents are planned and implemented • Monitor and advise to ensure that this procedure is implemented on site • >Ensure relevant instructions are given to those working on behalf of *Merthyr (South Wales) Ltd* • Maintain liaison with interested parties • Maintain the Legal Register along with the Quality Manager
Quality Manager	• Maintain and audit the Legal Register and Aspects and Impacts Table

3 REGISTER OF LEGISLATIVE AND OTHER REQUIREMENTS

3.1 >The Quality Manager in conjunction with the Operations Manager shall maintain a Register of Legislation and Links to Aspects (CP61-1), applicable to *Merthyr (South Wales) Ltd* as a whole, containing:

- Environmental legislation and regulations likely to be relevant
- Notes on what the legislation says
- Identification of the Aspects to which it is likely to apply
- Notes on specific compliance obligations and actions required by the legislation
- Any other requirements formally adopted by the company

3.2 The Quality Manager in conjunction with the Operations Manager shall use the following methodology to maintain the Register of Legislation and Links to Aspects CP61-1:-

- Hold CEDREC (a quarterly updated CD ROM based service, which provides copies, summaries and interpretation of European, UK and Welsh Environmental legislation and regulation) as a reference.
- Review the current Register of Legislation and Links to Aspects CP61-1
- Review the current Register of Legislation Checked and not Relevant CP61-2
- Review new and changed legislation from CEDREC CD ROM and Newsletter quarterly
- >Check to identify the changes likely to affect *Merthyr (South Wales) Ltd* current activities
- If necessary check further using NETREGS, NRW, LA, Government websites, manufacturers, trade associations or other more specialist sources
- If significant, update the Register of Legislation and Links to Aspects CP61-1
- Update the Register of Legislation Checked and not Relevant (CP61-2 – see below)

3.3 >The Quality Manager in conjunction with the Operations Manager shall maintain a register of Legislation Checked and not Relevant (CP61-2), for the avoidance of doubt and to avoid duplication of checking, applicable to *Merthyr (South Wales) Ltd* as a whole, listing environmental legislation and regulations that is not relevant, such as that previously identified that and since superseded, not applicable in Wales, or of improbable application to *Merthyr (South Wales) Ltd*, and notes on why it is not applicable

3.4 Managers shall use the register to assist in the identification of legislation, regulation and how to apply it to specific issues and compliance obligations which they are managing.

3.5 Managers shall notify any suspected changes or anomalies to the Quality Manager and Operations Manager, who shall check and update the registers CP61-1 or CP61-2 if appropriate.

3.6 >The Quality Manager shall schedule and carry out one audit per year specifically to evaluate compliance obligations with applicable legal and regulatory requirements across the *Merthyr (South Wales) Ltd*

business. The output from the audit shall also include an appropriate update to form CP61-1 and CP61-2 Register of Environmental Regulatory Requirements, using the audit findings and the process specified above.

4 >*MERTHYR (SOUTH WALES) LTD* ENVIRONMENTAL ASPECTS, SIGNIFICANCE AND IMPACTS

4.1 The Quality Manager in conjunction with the Operations Manager and in consultation with the management team shall maintain an Environmental Aspects, Significance and Impact assessment, using form CP61-3, taking account of both risks and opportunities. The method of rating of assessment is illustrated in the following diagram:-

	Likelihood					
Consequence	**1** Negli-gible 0-0.01%	**2** Very Rare 0.01-0.1%	**3** Rare 0.1-1%	**4** Occas-ional 1-10%	**5** Likely 10-100%	**6** Inevi-table 100%
6 National pollution Newsworthy prosecution	6	12	18	24	30	36
5 Regional pollution Prosecution inevitable	5	10	15	20	25	30
4 Large impact, local pollution prosecutable breach	4	8	12	16	20	24
3 Medium impact, some pollution, small legal breach	3	6	9	12	15	18
2 Small impact Minor pollution	2	4	6	8	10	12
1 Insignificant impact or Incident	1	2	3	4	5	6
-1 Insignificant but beneficial (hearts and minds) impact	-1	-2	-3	-4	-5	-6
-2 Small beneficial impact	-2	-4	-6	-8	-10	-12
-3 Medium beneficial impact, some local community	-3	-6	-9	-12	-15	-18
-4 Large beneficial impact, whole local community	-4	-8	-12	-16	-20	-24
-4 Large beneficial impact, whole local community	-5	-10	-15	-20	-25	-30
-4 Large beneficial impact, whole local community	-6	-12	-18	-24	-36	-36

4.2 Use the following assessment method:

- Use the current assessment on CP61-3 form as a basis
- Consider each item in turn, in respect of our work at that location

- Rate the consequence of the impact (1 to 6, or where MA can create a positive impact -1 to -6)
- Rate the likelihood of the impact occurring (1 to 6)
- Multiply together (1 to 36, or -1 to -36)

Categorise significance of the result (Positive=adverse impact, negative = beneficial impact):-

24 to 36 High adverse Significance
13 to 23 Medium adverse Significance
7 to12 Low adverse Significance
0 to 6 Negligible adverse Significance
-0 to -6 Negligible beneficial Significance
-7 to -12 Low beneficial Significance
-13 to -23 Medium beneficial Significance
-24 to -36 High beneficial Significance

Consider the site and operations planned and the legal and other requirements from CP61-1 that are applicable, and add in and rate any further aspects and impacts. Review the control arrangements in the noted procedure, and for significant items, consider the need for and practicality of further control measures, and note additionally in the control box. Control Arrangements should specify, as applicable, such things as licenses required and measurements to be taken.

Review and update the register, and objectives that stem from it with the whole team on a minimum of an annual basis, at Management Review or other suitable occasions. Update other parts of the system to take account of changes if necessary.

Managers shall notify the Quality Manager of any changes they suggest.

5 ENVIRONMENTAL PLANNING

5.1 **Site Environmental Plan** - The Operations Manager shall maintain a Site Environmental Plan of the site marked up to include key environmental points such as water discharge points, recycling points, emergency spill kit points, ecological areas, etc).

5.2 **Table of Environmental Consents CP61-4 -** The Quality Manager in conjunction with the Operations Manager shall maintain a Table of Environmental Consents required using form CP61-4.

5.3 **Environmental Objectives** - The Operations Manager shall maintain a summary annual Environmental Improvement Plan for MA using form CP61-5, to identify the objectives supplementary to those contained in procedures for specific compliance and improvements over the coming year, taking account of:-

- The Register of Legislation and other requirements (CP61-1)
- The table of Aspects and Impacts (CP61-3)
- The register of Environmental Consents (CP61-4)
- Client and Regulators specific environmental requirements and consent conditions

The Environmental Improvement Plan shall contain:-

- Environmental Objectives and Targets
- Units and methods of measurement, where practicable
- Timescales and responsibilities

5.4 **Environmental audit planning** - The Quality Manager shall ensure that environmental management is included within the audit plan, and implemented as part of the audit process (see CP16).

5.5 **Environmental Management Plan** – The Operations Manager shall maintain the Environmental Management Plan for each phase of the mine (Condition 42 of Planning Consent), and submit and obtain the Local Authority approval.

5.6 **Restoration Strategy** – The Operations Manager shall use the Restoration Strategy for the completion of the mine site (Condition 50 of Planning Consent) to develop Progressive Restoration Plans, submit and obtain the Local authority approval, and subsequently update as necessary.

5.7 **Aftercare Scheme** – The Operations Manager shall develop and submit Aftercare Schemes, at the same time as its corresponding Progressive Restoration Plan, to bring to the required standard for agriculture, amenity and conservation, for each Phase of the mine site (Condition 53 of Planning Consent), submit and obtain the Local Authority approval, 6 months prior to each Phase.

6 SITE ENVIRONMENTAL MANAGEMENT

6.1 >The Operations Manager and Coal Processing Manager in conjunction with the shall implement the set of environmental Procedures and Plans listed above.

6.2 >The Operations Manager and Coal Processing Manager and Health & Safety Advisor shall communicate the Environmental Objectives and Plans to all employees (CP40 training, eg induction and toolbox talks) and subcontractors (CP06 and 08) to the extent that they are relevant.

6.3 Each employee shall undertake environmental management actions appropriate to their role and activities, in accordance with relevant plans and procedures.

6.4 Managers shall ensure that the measures for Emergency Preparedness (including those in CP66) are maintained in readiness for such events, including consideration of, and where appropriate conducting, exercises or tests.

7 ENVIRONMENTAL MONITORING AND ANNUAL ENVIRONMENTAL AUDIT

7.1 The Operations Manager and Coal Processing Manager shall ensure that planned monitoring and measurement of environmental performance set out in plans and procedures are regularly carried out and recorded.

7.2 >The Operations Manager and Coal Processing Manager shall designate someone to carry out monthly site environmental inspections, using form CP61-7 Environmental Inspection Checklist to record the inspection. Items needing action shall be identified on the form, with responsibilities. Work that needs to be carried out shall be noted and the relevant managers signature obtained to indicate permission to go ahead. Actions shall be followed up and noted/cross referenced when complete.

7.3 The Operations Manager and Coal Processing Manager shall monitor to ensure records required by relevant environmental procedures are collated and filed, and copied where appropriate for analysis or regulators information.

7.4 >The Operations Manager and Coal Processing Manager and other managerial staff shall, in the event of complaints or breaches to environmental planning or consents, use the CAR process (refer to CP14) to resolve.

7.5 The Operations Manager shall collate, using technical consultants as appropriate, data for, and compile an Annual Environmental Audit, to formally report measured environmental performance against Planning Conditions and Schemes during the first quarter of the following year.

7.6 The completed report shall be submitted for information to the Owners Representative and held on the shared drive to be accessed by Managers and Quality Manager, and made available for Regulator's inspection. The report shall include:-

- Data on environmental performance for the past year
- Analysis of the data
- Comments on the results (Note – for all other audits refer to CP16)

8 ENVIRONMENTAL MANAGEMENT REVIEW

8.1 The Quality Manager shall initiate Environmental Management Reviews annually, and at other times if desired. The review team shall include all relevant Managers, and Quality Manager. All sections of the MA shall be represented.

8.2 The Quality Manager shall prepare data (where not already collated in the Annual Environmental Audit for the meeting, using the agenda as follows (next page):-

Purpose – To ensure the continuing suitability, adequacy, & effectiveness of the EM System

Item	**Input** (Include recommendations for improvement)	**Agenda** (Review & record decisions /actions, consistent with continuous improvement)
1	Follow up actions from previous review	Actions from previous review actions
2	Current Environmental Policy Statement	Review Environmental Policy Statement
	Context	Review • External and Internal Issues • Interested Parties and what their requirements are • Scope of the system • Any resulting changes needed in the system
3	Results of External Audits	Review applicable standards and certification
4	Results of Internal audits	Review audit results
5	Evaluation audit of Legal and other compliance obligations, and propose changes in legal and other requirements relating to environmental aspects	Review and Update Legal and Other Requirements Register CP61-1/CP61-2
6	Current Aspects and Impacts on Register CP61-3	Review and Update Aspects and Impacts Register CP61-3
7	Current Consents Register, CP61-4	Review Consents Register, CP61-4
8	Complaints, and communications from Externals	Review, set any actions
9	Environmental Incidents Corrective and Preventive Actions	Review, set any actions
10	Recent changes in Environmental System	Review relevant procedures and forms
11	MSW Environmental Performance	Review, set any actions
12	Progress against current Objectives and Targets	Review and set next years Objectives and Targets
13	External communication	Review decision to communicate externally
14	Suggestions & Comments (not already covered)	Review
15	AOB	Actions form AOB

8.3 The Quality Manager shall ensure that the review is recorded, to demonstrate the above, setting down actions arising, allocating responsibility and timescales for completion. Copies, with relevant supporting information, shall be distributed to all members of the review team and others affected, for action.

9 ENVIRONMENTAL INTERESTED PARTIES / EXTERNAL COMMUNICATION

9.1 The Environmental Policy shall be made available on the website and provided to any enquirer upon request, but shall disclose other information to the extent that the Owners Representative, in

conjunction with the Operations Manager, considers appropriate, or as is required for Regulatory purposes.

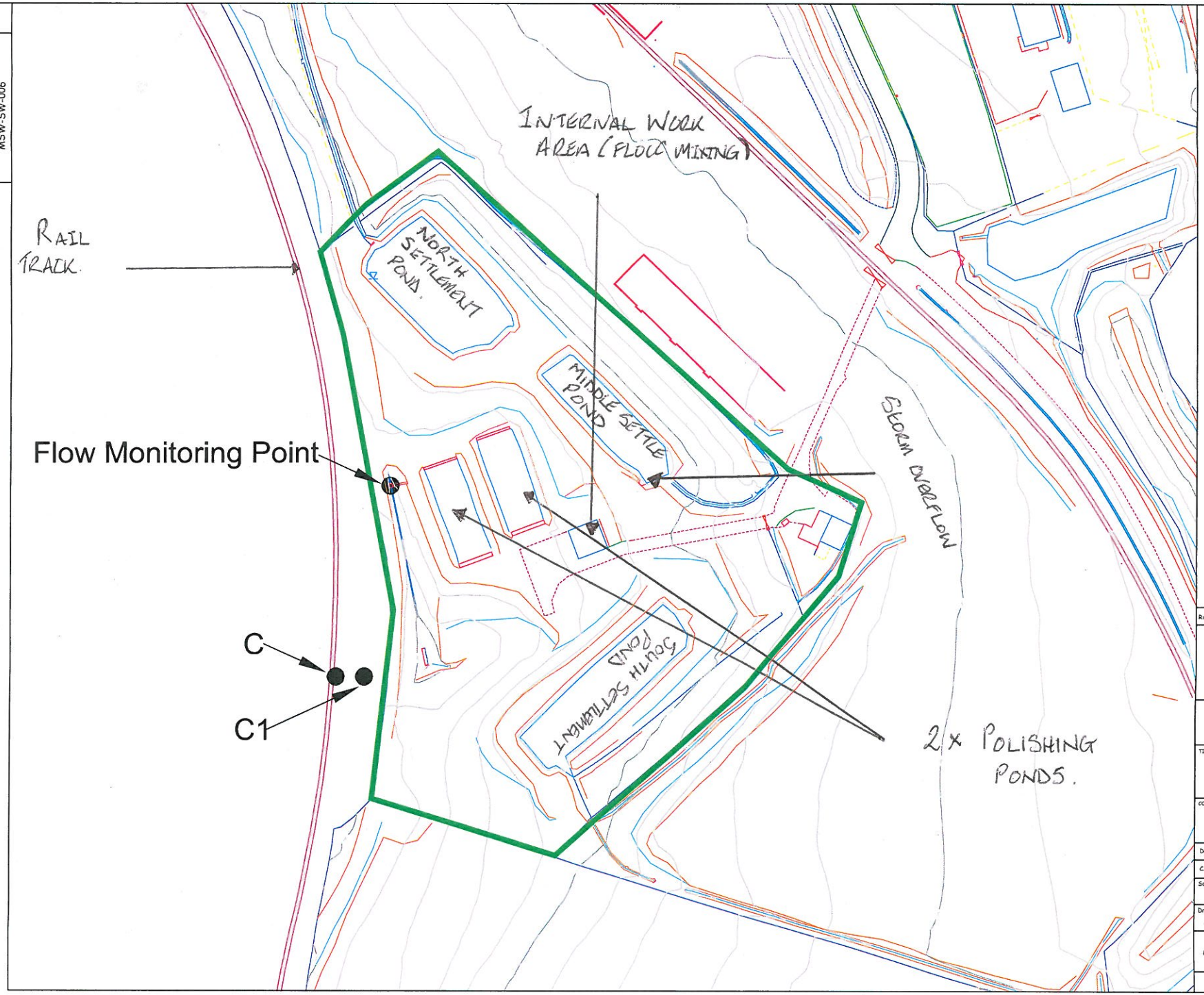
9.2 The Management team shall identify relevant 'Interested Parties' (note – this is a judgement since some parties are clearly interested but have made no direct approach to MSW) and in consultation with the Operations Manager and Owners Representative determine the intended manner and extent of communication with them. The current list is in QM04.

9.3 The Operations Manager shall attend meetings with environmental interested parties or arrange for a suitable alternative person/s to attend.

9.4 The Operations Manager shall ensure that any environmental complaints are recorded, investigated and corrective action taken in accordance with CP14.

10 DOCUMENTATION

Site Environmental Plan – posted in office, refer to ELO.
>CP61-1 RevB Register of Environmental Legislation and links to Aspects.
>CP61-2 RevB Register of Legislation Checked and Not Relevant
>CP61-3 RevB Assessment of Environmental Aspects, Significance and Impacts.
>CP61-4 RevB Register of Legal & Regulatory Permit & Consent Requirements.
>CP61-5 RevB Environmental Improvement Plan.
>CP61-7 RevH Monthly Environmental Inspection Checklist.



Revision

Drawing No. MSW-SW-006

LEGEND

Discharge Points
(from consent number AE2013403)
C - SO0920 0566
C1 - SO0921 0566

Flow Mointoring Point - SO0922 0573

DOCUMENT REF: 008.

Rev	Description of revision	Auth	Chkd	Ajp	Date

Merthyr (South Wales) Limited
Cwmbargoed Disposal Point
Fochriw Road
Merthyr Tydfil
South Wales
CF48 4AE
Tel: 0870 111 5600
Fax: 01685 845029

FFOS Y FRAN LAND RECLAMATION SCHEME

TITLE: DP Lagoons

CONSULTANT:

Designed	Drawn	Checked
SW	SW	LTJ

CAD/Dos filename:

Scale	Size	Date
1:1250	A3	27/04/2022

Drawing No.	Rev.	Contract Drawing No.
MSW-SW-006		N/A

Merthyr (South Wales) Ltd

Doc Ref: 009

Daily water discharge flow rates

Full capacity discharge = 137m3 per hour

Convert m3 to ltrs x 1000 =137,000ltphr

3600 Seconds per hour =

137,000ltrs/3600secs = 38lt per second

Maximum discharge.

4.2 Most important symptoms and effects, both acute and delayed:	No additional information available
4.3 Indication of any immediate medical attention and special treatment needed:	Treat symptomatically
5. Fire Fighting Measures	
5.1 Extinguishing media: **Suitable extinguishing media** **Unsuitable extinguishing media**	Dry powder, dry chemical powder, foam None known.
5.2 Special hazards arising from the substance or mixture:	**Explosion hazard** - dust may form explosive mixture in air. **Hazardous decomposition products in case of fire** - toxic fumes may be released.
5.3 Advice for fire-fighters:	Do not enter 'fire area', without wearing proper protective clothing and equipment, including respiratory protection.
Additional Provisions:	Spill area may be slippery.
6. Accidental Release Measures	
6.1 Personal precautions, protective equipment and emergency procedures:	Where product is spilled, this area may be slippery.
6.2 Environmental Precautions:	Release into the environment must be avoided. Prevent product from entering sewers and public water courses.
6.3 Methods and Material for Containment and Cleaning Up:	Contain and/or absorb spillage with inert material (sand), then place contents in suitable container. Do not discharge into drains or the environment. Wash down remains with plenty of water – this may cause spill area to become slippery. Dispose of material or solid residues at an authorised site.
6.4 Reference to other sections:	No additional information available.
7. Handling and Storage	
7.1 Precautions for safe handling:	Wear recommended personal protective equipment. Do not eat, drink or smoke when handling this product. Always wash hands after handling the product. Wash any contaminated clothing before reuse. Beware if product spilled, may cause floor to become slippery.
7.2 Conditions for safe storage, including any incompatibilities:	Store in a dry place and protect from moisture and sunlight. Also store in a well ventilated, cool area.
7.3 Specific end use(s):	No additional information available.

DOC REF: 006

DG CHEMICALS
SPECIALITY CHEMICALS FOR INDUSTRY

Revision date:11.01.2022 Version:02 Previous version:01

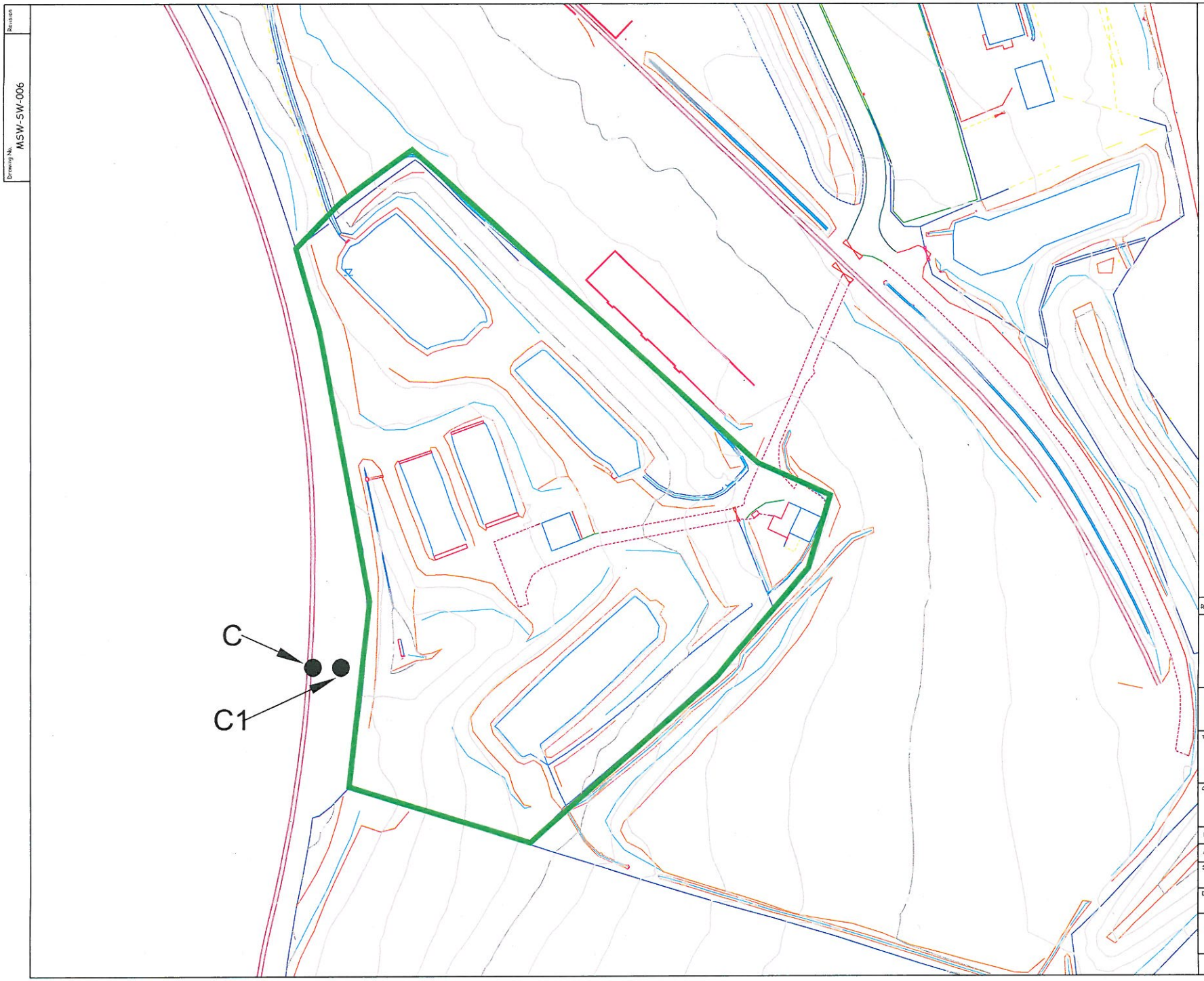
SAFETY DATA SHEET

1. Identification of the Substance/mixture and of the Supplier Company	
1.1 Product identifier:	**D-FLOC 5000 Series**
1.2 Relevant identified uses of the substance or mixture and uses advised against:	Anionic flocculant for Mineral Slurries No other uses are advised
Details of the supplier of the safety data sheet:	DG Chemicals Ltd. Pitcliffe Way Industrial Estate Upper Castle Street Bradford West Yorkshire BD5 7SG 01274 732883 Isabel.wade@dgchemical.co.uk
Emergency Telephone No:	01274 732883

2. Hazards Identification	
2.1 Classification of the substance or mixture:	**According to Regulation (EC) 1272/2008 (CLP):** Not classified
2.2 Label elements:	Labelling Regulation (EC) 1272/2008 (CLP):
Precautionary Statements:	P264: Wash hands, forearms and face thoroughly after handling. Wear goggles, gloves, clothing and respiratory protection. P270: Do not eat, drink or smoke when using this product. Dispose of in accordance with relevant local regulations. Spill area may be slippery.
2.3 Other hazards:	No available additional information

3. Composition/Information on Ingredients	
3.2 Mixtures:	Anionic polyacrylamide (This does not contain any substances mentioned according to criteria of section 3.2 of REACH Annex II)

4. First Aid Measures	
4.1 Description of first aid measures:	Show this Safety data sheet to the doctor in attendance.
Ingestion:	Seek medical advice. Do not induce vomiting.
Skin Contact:	Wash affected area with plenty of water. Wash contaminated clothing before reuse.
Eye Contact:	Rinse immediately with plenty of water. Seek medical attention if painful, blinking or redness persists.
Inhalation:	If breathing becomes difficult, remove person to fresh air and rest them in a comfortable position for breathing. Seek medical advice.



LEGEND

Discharge Points
(from consent number AE2013403)

C - SO0920 0566
C1 - SO0921 0566

Doc Ref: 004

Rev	Description of revision	Auth	Chkd	App	Date

Merthyr (South Wales) Limited
Cwmbargoed Disposal Point
Fochriw Road
Merthyr Tydfil
South Wales
CF48 4AE
Tel: 0870 111 5600
Fax: 01685 845029

FFOS Y FRAN LAND RECLAMATION SCHEME

TITLE
DP Lagoons

CONSULTANT

Designed	Drawn	Checked
SW	SW	LTJ

CAD/Dos filename:

Scale	Size	Date
1:1250	A3	25/04/2022

Drawing No.	Rev.	Contract Drawing No.
MSW-SW-006		N/A

Merthyr (South Wales) Ltd

Revision

Drawing No. MSW-SW-006

DOC REF: 005

DG CHEMICALS
SPECIALITY CHEMICALS FOR INDUSTRY

Confidential Technical Report 080316MA

Customer: **Miller Argent**
South Wales

Date: **08/03/16**

Testwork Carried Out By: **Beatrix Loehner, Laboratory Technician**

Technical Report Prepared By: **Beatrix Loehner, Laboratory Technician**

1.0 Summary

A series of settlement tests was carried out on a supplied sample of site run-off water, taken before it enters a settlement lagoon. A range of DG products was evaluated to determine which provided the most rapid settlement of solids and good clarity of the supernatant water.

It was found that D- Floc 5278 gave the fastest settlement of slurry solids and also showed the best clarity of supernatant water.

2.0 Introduction

Site run-off water is being stored in a lagoon where the coal fines are allowed to settle overnight. It is important that the supernatant water is clear, as this is discharged into a water course. The lagoon water had been treated with D-Floc 4004, but this no longer gave good clarity of the supernatant water. A competitor product was tried and this was effective.

However, subsequent information established that the water in the lagoon is now less acidic than before, due to the removal of sulphides from the coal. This would indicate a different DG flocculant is required.

3.0 Settlement Testwork

1. A homogeneous 500cm^3 sample of the supplied water sample was poured into a graduated 500cm^3 plastic measuring cylinder.
2. The measuring cylinder was inverted twice before adding a dose of the 0.05% flocculant solution under test, after which it was gently inverted a further ten times to ensure mixing.
3. The settlement time of the solids was measured by recording the time taken for the mud-line to fall between two fixed points, i.e. 450cm^3 and 350cm^3.
4. The clarity of the supernatant water was recorded after 2 minutes, 2 hours and the next day, using a clarity wedge (0 = very poor, 46 = excellent)

DG CHEMICALS
SPECIALITY CHEMICALS FOR INDUSTRY

The results are shown in Section 4.0

4.0 Results

Active flocculant dose (mg/l)	Settlement time (secs.)	Supernatant clarity		
		2 mins.	2 hours	Overnight
5 mg/l D-FLOC 4004	46	2	2	5
5 mg/l D-FLOC 5079	18	14	15	20
5 mg/l D-FLOC 5156	7	28	30	35
5 mg/l D-FLOC 5278	5	33	34	38
5 mg/ l D-FLOC 5389	8	23	23	27

It should be noted that the pH of the water is 7.9

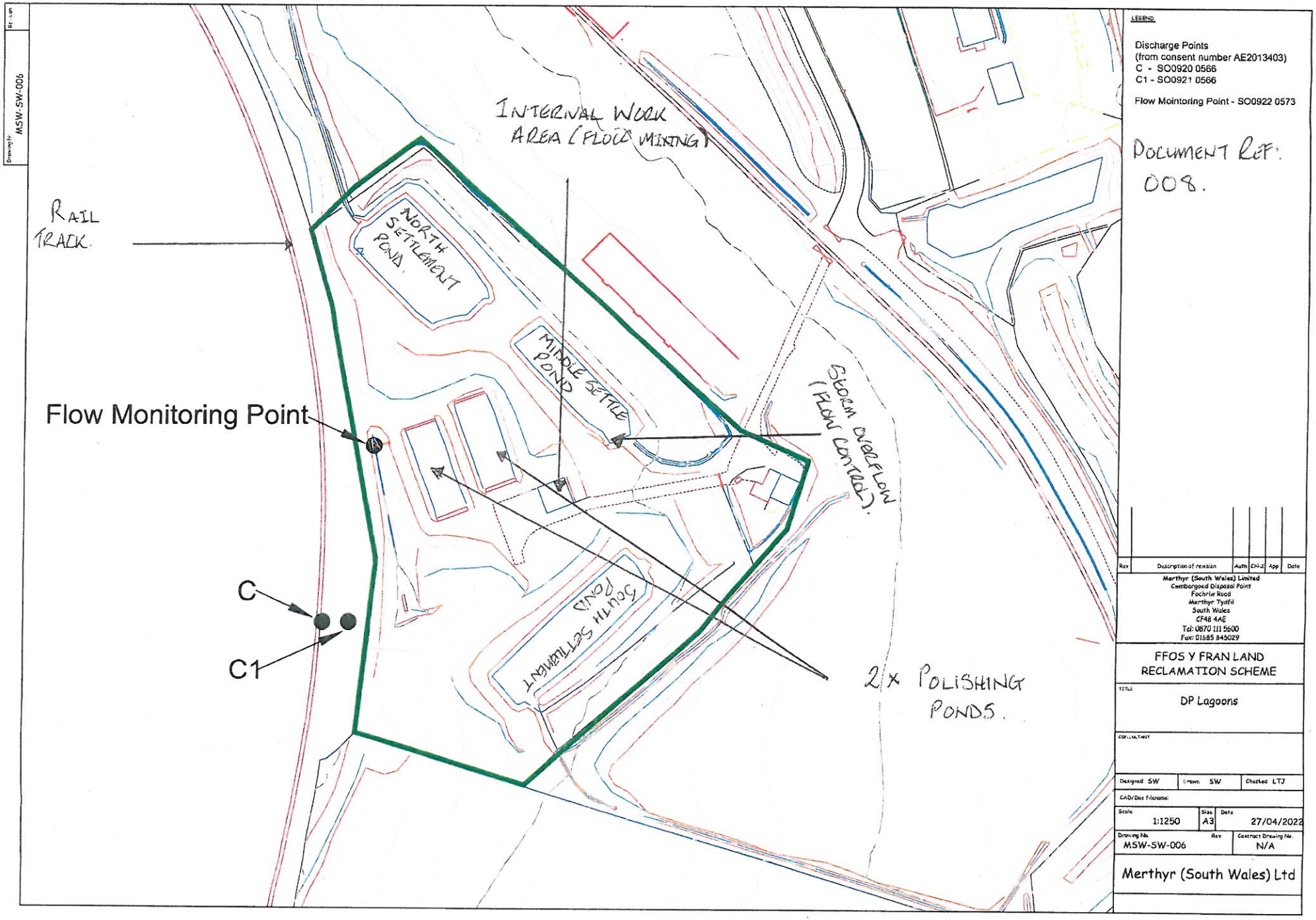
Where D-Floc 4004 was used not only was there slow settlement of the solids, but also poor clarity of the supernatant water. D-Floc 5278 proved to be the most effective of the flocculants providing rapid solids settlement and good clarity of supernatant water. Next day the supernatant water was sufficiently clear to be acceptable for discharge into a water course. Within the test work 5 ppm was used to highlight the differences between the products, it is envisaged that a reduced dosage of 1 to 2 ppm will be sufficient on site.

5.0 Recommendation

As a result of the laboratory tests undertaken at DG Chemicals, it is recommended D-Floc 5278 be trialled for treatment of the lagoon water.

If any further assistance or information is required, please do not hesitate to contact DG Chemicals.

Beatrix Loehner
Laboratory Technician


Drawing No. MSW-SW-006
Rev. -
INTERNAL WORK AREA (FLOCC MIXING)
RAIL TRACK.
NORTH SETTLEMENT POND.
MIDDLE SETTLE POND
STORM OVERFLOW (FLOW CONTROL).
Flow Monitoring Point
C
C1
SMALL SETTLEMENT POND
2 x POLISHING PONDS.
LEGEND
Discharge Points
(from consent number AE2013403)
C - SO0920 0566
C1 - SO0921 0566
Flow Mointoring Point - SO0922 0573
DOCUMENT REF:
008.
Rev
Description of revision
Auth
Chkd
App
Date
Merthyr (South Wales) Limited
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South Wales
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FFOS Y FRAN LAND RECLAMATION SCHEME
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CONSULTANT
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1:1250
Size
A3
Date
27/04/2022
Drawing No.
MSW-SW-006
Rev.
Contract Drawing No.
N/A
Merthyr (South Wales) Ltd

10. Stability and Reactivity

10.1 Reactivity:	Not reactive under normal conditions of use, storage and transport.
10.2 Chemical stability:	Stable under normal conditions.
10.3 Possibility of hazardous reactions:	None known under normal conditions of use.
10.4 Conditions to avoid:	Avoid contact with water.
10.5 Incompatible materials:	Strong bases, strong acids and strong oxidising agents.
10.6 Hazardous decomposition products:	Thermal decomposition can produce carbon, nitrogen and sulphur oxides.

11. Toxicological Information

11.1 Information on toxicological effects:

Acute toxicity:	Not classified
Skin corrosion/irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitisation:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT- single exposure:	Not classified
STOT- repeated exposure	Not classified
Aspiration hazard:	Not classified

12. Ecological Information

12.1 Toxicity:

Ecology – general:	Not considered harmful to aquatic organisms or to cause long term adverse effects in the environment
Hazardous to the aquatic environment, short term (acute):	Not classified
Hazardous to the aquatic environment, long term (chronic):	Not classified

Test	Genus	Result
LC50 (static)	Oncorhynchus mykiss	> 100 mg/l
LC50	Oncorhynchus mykiss	3,500 ppm
EC50	Daphnia magna	≤ 212 mg/l
EC50 72h algae	Chlorella vulgaris	≤ 1,000 mg/l

12.2 Persistence & degradability:	No test data available
12.3 Bioaccumulative potential:	Not applicable
12.4 Mobility in soil:	No information available
12.5 Results of PBT & vPvB assessment:	No information available
12.6 Other adverse effects:	No information available

DOC REF: 006

8. Exposure controls/Personal Protection	
8.1 Control Parameters:	No information available
8.2 Exposure controls:	
Appropriate engineering controls:	Provide adequate ventilation to minimise dust
Individual protection measures, such as personal protective equipment:	
Hand protection:	Wear chemically resistant protective gloves
Eye/face protection:	Wear safety glasses
Skin protection:	Wear suitable protective clothing
Body Protection:	Wear suitable protective clothing
Respiratory Protection:	Wear a dust mask or approved organic vapour respirator
Environmental exposure controls:	No data available

9. Physical and Chemical Properties	
9.1 Information on basic physical and chemical properties	
Appearance:	White to off-white, powder
Odour:	Odourless
Odour threshold:	Not determined
pH:	~ 7 (1% solution)
Melting point:	Product decomposes, therefore not determined
Freezing point:	Not applicable
Boiling point and boiling range:	Not applicable
Flash Point:	No data available
Evaporation Rate:	No data available
Flammability (solid, gas):	Not flammable
Upper/lower flammability or explosive limits:	No data available
Vapour Pressure:	No data available
Vapour Density:	No data available
Density:	Approximately 750 kg/m^3
Relative Density:	No data available
Bulk Density:	Approximately 0.75
Solubility(ies):	Forms a viscous solution in water
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition temperature:	No data available
Decomposition Temp:	No data available
Kinematic Viscosity:	No data available
Explosive properties:	No data available
Oxidising properties:	No data available
9.2 Other information:	No data available

13. Disposal Considerations	
13.1 Waste treatment methods:	
Waste treatment method:	Dispose of in accordance with relevant local regulations.
14. Transport Information	
14.1 UN number:	ADR, IMDG, IATA – all not regulated
14.2 UN proper shipping name:	ADR, IMDG, IATA – all not regulated
14.3 Transport hazard class(es):	ADR, IMDG, IATA – all not regulated
14.4 Packing group:	ADR, IMDG, IATA – all not regulated
14.5 Environmental hazards:	Not dangerous for the environment, nor a marine pollutant
14.6 Special precautions for user:	Overland transport, Transport by sea and Air transport - all not regulated
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:	Not applicable
15. Regulatory Information	
15.1 Safety, health & environmental regulations/legislation specific for the substance or mixture:	
EU Regulations: Contains no substance: - On the REACH candidate list - Subject to Regulation (EU) No. 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals - Subject to Regulation (EU) No. 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants	
15.2 Chemical safety assessment:	Substance classified as not hazardous according to regulation (EC) 1272/2008 [CLP]
16. Other Information	
Abbreviations:	ADR - The European Agreement concerning the International Carriage of Dangerous Goods by Road CAS – Chemical Abstract Service CLP - Classification, Labelling and Packaging EC – European Community EC50 – Effective concentration median for 50% of the population IATA - International Air Transport Association IMDG - International Maritime Dangerous Goods Code ISO - International Organization for Standardisation LC50 – Lethal concentration median for 50% of the population LD50 –. Lethal dose median for 50% of the population PBT – Bioaccumulative and toxic vPvB - very persistent and very bioaccumulative REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals STOT - Specific target organ toxicity
Reason for Issue	Updated version

DISCLAIMER: The information provided within this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The supplier makes no warranty or guarantee as to its accuracy, reliability or completeness, nor assumes any liability for its use; the information given is designed only as guidance.

Doc Ref: 007

DG CHEMICALS
SPECIALITY CHEMICALS FOR INDUSTRY

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY UNDERTAKING

Designation/Trade Name: **Caustic Soda 40%**

Use: pH Control

Company: DG Chemicals
Pitcliffe Way Industrial Estate
Upper Castle Street
Bradford
West Yorkshire
BD5 7SG

Emergency Contact: +44 (0)1274 306584

2. COMPOSITION/ INFORMATION ON INGREDIENTS

2.1 Classification of the substance or mixture

Classification under CLP: Skin Corr. 1A: H314

Classification under CHIP: C: R35

Most important adverse effects: Causes severe skin burns and eye damage.

2.2 Label elements

Label elements under CLP:

Hazard statements: H314: Causes severe skin burns and eye damage.

Signal words: Danger

Hazard pictograms: GHS05: Corrosion

Precautionary statements:
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P405: Store locked up. P501: Dispose of contents/container to an approved waste disposal site.

2.3 Other hazards -none

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3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Chemical identity: Caustic Soda 40%

4. FIRST AID MEASURES

4.1 Description of first aid measures
Skin Contact:
Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Cover burns with a sterile dressing. Transfer to hospital if there are burns or symptoms of poisoning. Eye contact:
Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.
Ensure that the eye is totally clear of contamination. Ingestion:
Do not induce vomiting. Wash out mouth with water. Give 1 cup of water to drink every 10 minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible. Inhalation:
Remove casualty from exposure ensuring one's own safety whilst doing so. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. If conscious, ensure the casualty sits or lies down. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. Transfer to hospital as soon as possible.

4.2 Most important symptoms and effects, both acute and delayed

Skin contact:	Irritation or pain may occur at the site of contact. Blistering may occur. Severe burns may occur.
Eye contact:	There may be irritation and redness. The eyes may water profusely. Corneal burns may occur.
Ingestion:	There may be soreness and redness of the mouth and throat. There may be difficulty swallowing. Corrosive burns may appear around the lips. Nausea and stomach pain may occur. There may be vomiting.
Inhalation:	There may be a feeling of tightness in the chest with shortness of breath. Exposure may cause coughing or wheezing. There may be congestion of the lungs causing severe shortness of breath. There may be loss of consciousness.

4.3 Indication of any immediate medical attention and special treatment needed
Immediate / special treatment: Eye bathing equipment should be available on the premises.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Water spray. Carbon dioxide. Alcohol or polymer foam. Dry chemical powder. Do not use wool blankets. Do not allow water to enter containers.

5.2 Special hazards arising from the substance or mixture
Exposure hazards:Corrosive. Certain metals (e.g. aluminium, zinc, tin and zirconium) and their alloys are attacked by sodium hydroxide liberating hydrogen. This gives a risk of explosion and fire. May ignite combustible materials.

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5.3 Advice for firefighters

Wear selfcontained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

5.4 Further information
no data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Use personal protective equipment. Mark out the contaminated area with signs and prevent access to u nauthorised personnel. Do not wear woolen clothes which reacts violently with sodiumhydroxide gener ating great heat.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Absorb into dry earth or sand. Sweep up and shovel into suitable containers for disposal.
Wash the spillage site with large amounts of water.
Clean-up should be dealt with only by qualified personnel familiar with the specific substance.

6.4 Reference to other sections
For disposal see section 8.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
The 47% solution freezes at 78C, therefore tank and pipework must be lagged if the installation is outside.

7.3 Specific end use(s)
A part from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
Workplace exposure limits: no data available

8.2 Exposure controls

Engineering measures:
Ensure there is sufficient ventilation of the area. Respiratory protection: Self-contained breathing apparatus must be available in case of emergency. Hand protection: Protective gloves. Eye protection: Safety goggles. Face-shield. Ensure eye bath is to hand. Skin protection:
Protective clothing with elasticated cuffs and closed neck. Boots made of PV. PVC apron covering the tops of the boots. Ensure safety shower is to hand.

9. PHYSICAL AND CHEMICAL PROPERTIES

State:	Liquid
Colour:	Colourless
Odour:	Odourless
Oxidising:	Nonoxidising (by EC criteria)
Solubility in water:	Miscible
Viscosity:	Viscous
Boiling point/range°C:	145
pH:	>13.

9.2 Other safety information
no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
Stable under recommended transport or storage conditions

10.2 Chemical stability
Stable at room temperature

10.3 Possibility of hazardous reactions
Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may o ccur on exposure to conditions or materials listed below

10.4 Conditions to avoid
Conditions to avoid: Acidic materials liquid or solid.

10.5 Incompatible materials
Materials to avoid: Water. Aluminium. Zinc. Tin. Zirconium. Acids. Chlorinated organics.

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10.6 Hazardous decomposition products
Contact with the above metals may liberate hazardous fumes of hydrogen gases.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Toxicity Value
LD50 Oral -RBT 500 mg/kg

Skin contact:

Irritation or pain may occur at the site of contact. Blistering may occur. Severe burns may occur.

Eye contact:

There may be irritation and redness. The eyes may water profusely. Corneal burns may occur.

Ingestion:

There may be soreness and redness of the mouth and throat. There may be difficulty swallowing. Corrosive burns may appear around the lips. Nausea an d stomach pain may occur.

There may be vomiting.

Inhalation:

There may be a feeling of tightness in the chest with shortness of breath. Exposure may cause coughing or wheezing. There may be congestion of the lungs causing severe shortness of breath. There may be loss of consciousness.

Delayed / immediate effects: Immediate effects can be expected after short term exposure.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity to fish LC50 -72 mg/l -96 h

12.2 Persistence and degradability
Only slightly biodegradable

12.3 Bioaccumulative potential
No bioaccumulative potentail

12.4 Mobility in soil
Fully miscible in water. Readily absorbed by soil

12.5 Results of PBT and vPvB assessment
This product is not identified as a PBT substance.

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12.6 Other adverse effects
Very toxic to aquatic organisms. Very Toxic to soil organisms

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Contaminated packaging
Dispose of in compliance with part 2 of the Environmental Protection Act 1990. NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

14. TRANSPORT INFORMATION

14.1 UN number
UN1824

14.2 UN proper shipping name
SODIUM HYDROXIDE SOLUTION

14.3 Transport hazard class(es)
Class 8

14.4 Packaging group
Group 11

14.5 Environmental hazards
Environmentally hazardous: No
Marine Pollutant: No

14.6 Special precautions for user
No special precautions
Code E
Transport Category: 2

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

16. OTHER INFORMATION

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

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DG CHEMICALS
SPECIALITY CHEMICALS FOR INDUSTRY

Phrases used in s.2 and 3: H314: Causes severe skin burns and eye damage.
R35: Causes severe burns.

Further Information
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.

Doc Ref : 0010

MERTHYR
(SOUTH WALES) LTD

Method Statement and Supporting Documentation

MS REFERENCE:	**CP63**	**DATE:**	**19 July 2022**
TITLE:	**Disposal Point Water Management**		
INTRODUCTION;	These are the long-established Methods of water catchment, recirculating or processing for discharge under permit number AE2013403 (Trade Effluent) at Cwmbargoed Disposal Point.		
SCOPE:	Cwmbargoed Disposal Point Water Treatment, Monitoring and Compliance		
RESPONSIBILITIES:	Manage Mine water – **Ops Manager** Manage DP water – **Coal Processing Manager** Carry out duties - **Pumps men and Water Treatment Area Operative**		
RISK ASSESSMENT: **(Cross Refer to Risk/COSHH / Manual Handling and any other Assessments**	Environmental Risk Assessment – **Caustic Soda** Environmental Risk Assessment – **Flocculants** COSHH Assessment for Flocc 5000 series – **HIS12-2A** COSHH Assessment for Caustic Soda 40% - **HSI12-2A**		

RESOURCES:

Water Treatment & Monitoring

Training provided to All pumps-men and WTA Operative

Caustic - 32%

Flocculant 5000 Series

Desilting of Lagoons

RB22 Crane with Long Reach Drag Bucket & Operator

Articulated Dump Truck & Operator

Management System Doc's

CP63 – 2D – DP Lagoon Inspection Sheet (Copy Included)

CP64 – 1A – DP Dust log (Copy Included)

CP63 – 4B – 6 monthly Storm overflow event record (Copy Included)

CP63 – 5A – Desilting Lagoons Job Completion Sheet (Copy Included)

Training Document Example

Phil De'arth - DG Chemicals Training Certificate - The safe use of flocculants and drop testing.

PROCEDURE:

Method Statement

Disposal Point WTA – Compliance criteria

Disposal Point Water Collection – Please see Doc ref: 008 WTA Design plan

- Where possible, all water gathered at the Disposal Point Water Treatment Area is recirculated for use at the wash plants and wheel wash, which are located within the Disposal Point.
- After use within the wash plants, the water is returned to the Disposal Point Water Treatment Area via a suitable pipe network, where it is treated accordingly by means of flocculation (Solids) and Caustic soda (PH balancing).
- All rainwater run-off from the Disposal Point is also directed to the Disposal Point Water Treatment Area via a series of concrete lined channels which network the site and direct the rainwater from the various processing and stocking areas of the Disposal Point down to the Water Treatment Area.
- There are two initial settlement ponds labelled as North and South.
- The North Pond collects rainwater from the Northern side of the Disposal Point
- The South Pond collects rainwater from the Southern side of the Disposal Point
- The North and South Ponds feed into the flow control pond which, in-turn, feeds two polishing ponds.

Disposal Point Water Treatment

- Both the North and South ponds are treated with flocculent to allow for settlement of solids prior to the treated water entering the flow control pond.
- Storm overflow is discharged from the flow control pond under storm conditions.
- Final Discharge during times of water abundance is from the final polishing pond via discharge point C1. (Please see Doc ref 008 – WTA Site design)
- Caustic is added as required between the flow control pond and the first finishing pond
- The final finishing pond is where any discharge of water is made at discharge point C1.
- The final polishing pond is also used to recirculate clean water back to the 400tph wash plant.

Disposal Point Water Monitoring

- Daily inspections and daily samples of water from the discharge points, are tested for pH, checked for clarity and recorded on form CP63 – 2D (DP lagoon Inspection Sheet).
- Additional inspections are undertaken in the event of adverse weather or if discharging.
- Inspections include all areas of the water treatment site including environmental issues (e.g. evidence of oils/greases), fencing & gates, security, pond liners, integrity of banks, provision of life buoys and other health, safety and environmental issues including any wildlife or pond life.
- Inspection of flocking stations and caustic soda dosing facilities is undertaken to ensure enough chemicals are always available for use and to dealing with any potential spillages.

Method Statement

Disposal Point WTA – Compliance criteria

- In the event of pH exceeding compliance at the discharge point, a spot sample will be taken immediately and re-tested for pH using hand-held pH meters. If this sample does not fall within the set criteria of >5pH <9pH it will be sent with the 'Chain of Custody' sheet for testing by a UKAS Accredited Laboratory. On receipt of the results, the designated personnel shall use these results for assessing compliance

- If any visual inspection or pH test indicates discharge of a quality which is thought to be approaching, over or outside the consented limits, the WTA Operator shall take a spot sample of the discharge immediately and report the matter to the CPM. The WTA Operator shall take all reasonable measures to stop or reduce the volume of water being discharged via the outlet to minimise any adverse impact to off-site watercourses.

  This may include;

1. increasing or decreasing the volume or concentration of flocculants or caustic soda (D.P. only) with respect to the volume of water treated, and the nature of any potential breach in limits.
2. diverting water into a containment area.

Laboratory Testing

The designated personnel shall, at the beginning of each month:

- Take spot samples from all Consented Discharge Points in the Site and the D.P. where water is flowing. Use only clean sample bottles. Wash out the bottle with water and then fill the sample bottle. In the event of a "dipper" being used to fill the bottle it must also be completely clean.
  - Record on a Sampling 'Chain of Custody' sheet provided by a test house
  - Record on Water Spot Check Sampling form CP63-3, and state 'no-flow' where not running at the time of sampling
  - Submit the samples with the 'Chain of Custody' sheet to a UKAS Accredited test house, for analysis of the criteria specified on the consents (pH and suspended solids)
  - Receive the test results and log onto Water Spot Check Sampling form CP63-3
  - If noncompliant, use CAR form CP14-1 and immediately send Water Spot Check Sampling form CP63-3 to the NRW Compliance Officer.
  - If compliant, send the Water Spot Check Sampling form CP63-3 to the NRW (formerly Environment Agency) Compliance Officer for information before the end of the following month
  - NRW review and send back a Compliance Assessment Record
  - Review and file the Compliance Assessment Record and use CAR form CP14-1 if apparent breach detected.

6 Monthly Storm Flow Recording

The designated personnel shall ensure that storm overflow events are monitored and recorded on CP63-4 6-Monthly Storm Overflow Event Record, showing

- The dates and times of the storm over-flow events are recorded
- Where no storm overflow events occurred, this is also recorded on CP63-4 6-Monthly Storm Overflow Event Record and submitted to the NRW on a six-monthly basis

Method Statement

Disposal Point WTA – Compliance criteria

Water Discharge Incidents

The designated personnel shall ensure that in the event of an incident, in which the appearance or circumstances suggest that any lagoon or discharge point is outside Consent Conditions, the following are carried out:

- Additional samples shall be taken for chemical analysis
- Use only clean sample bottles. Wash out the bottle with water and then fill the sample bottle. In the event of a "dipper" being used to fill the bottle it must also be completely clean.
  If reagent overdosing is suspected at a lagoon treatment system then the pH of the water shall be analysed, using hand-held pH meters.
- Samples shall be labelled with location, date and time.
- Samples shall be despatched for testing by a UKAS Accredited Laboratory
  If noncompliant, use CAR form CP14-1 and immediately send Water Spot Check Sampling form CP63-3 to the NRW Compliance Officer.

DOCUMENTATION:	CP63 – 2D – DP Lagoon Inspection Sheet (Copy Included) CP64 – 1A – DP Dust log (Copy Included) CP63 – 4B – 6 monthly Storm overflow event record (Copy Included) CP63 – 5A – Desilting Lagoons Job Completion Sheet (Copy Included) Please see Doc ref 008 – WTA Site design included with application Environmental Risk Assessment – **Caustic Soda** Environmental Risk Assessment – **Flocculants** COSHH Assessment for Flocc 5000 series – **HIS12-2A** COSHH Assessment for Caustic Soda 40% - **HSI12-2A**
APPROVED BY: Operations Manager	**REVIEWED /UPDATED:**

MERTHYR (SOUTH WALES) LTD	Form CP63-4 revB **6 MONTHLY STORM OVERFLOW EVENT RECORD**

Site Name:	**Ffos-y-fran Land Reclamation Scheme**
Permit No:	**EPR/DB3131AF**
6 months from/to:	

Consent Number	**Suspended Solids Consent Limits**	**pH Consent limits**	**Start of storm overflow**	**Stop of storm overflow**
AN0264602 (WC1 Storm)	N/A	N/A		
NPSWQD002105 (WI Storm)	N/A	N/A		
AN0264502 (WB Storm)	N/A	N/A		
AN0274601 (WC Storm)	N/A	N/A		
AN0265002 (WG Storm)	N/A	N/A		
AN0264802 (WF Storm)	N/A	N/A		
AN0264402 (WA Storm)	N/A	N/A		

Notes:

Name		Position:		Date:	

Form ref: CP64-1 rev D

MERTHYR (SOUTH WALES) LTD

DUST LOG – DP

Pollution Prevention and Control (England and Wales) Regulations 2000

Date 10/7/2022	Time	Weather Conditions	Visible Dust Emissions				Action taken	Signed
			Blending Yard	Loading Pads	Access Roads	Coal Stocks		
Monday	9.10	DRY	OK	OK	OK	OK	TRACTOR BOWS - OUT AND SPRAY - ON	
Tuesday	9.30	DRY	OK	OK	OK	OK		
Wednesday	10.10	DRY	OK	OK	OK	OK		
Thursday	11.10	DRY	OK	OK	OK	OK		
Friday	10.10	DRY	OK	OK	OK	OK		
Saturday								

Visible dust emission to be classified:

N	**N**one	None observed
S	**S**light	Means when particulate emissions may be observed as being emitted at or near the source but not at great distance
I	**I**ntermediate	When particulate emissions are capable of being observed at a distance of up to 100 metres
H	**H**eavy	Means when particulate emissions are capable of being observed off site

Action to be implemented for any abnormal emissions, dust suppression measures to be introduced and recorded in the notes
Any dust egress from site to be noted above, recorded and resolved in accordance with procedure CP14.

MERTHYR (SOUTH WALES) LTD

Form ref: CP64-1 rev D

DUST LOG – DP

Pollution Prevention and Control (England and Wales) Regulations 2000

Date 1/7/2022	Time	Weather Conditions	Visible Dust Emissions				Action taken	Signed
			Blending Yard	Loading Pads	Access Roads	Coal Stocks		
Monday	910	DRY	OK	OK	OK	OK	TRACTOR BOWSER OUT ALL SPRAY ON	
Tuesday	9400	RAIN	OK	OK	OK	OK		
Wednesday	1010	RAIN	OK	OK	OK	OK		
Thursday	1030	DRY	OK	OK	OK	OK		
Friday	1040	DAMP	OK	OK	OK	OK		
Saturday								

Visible dust emission to be classified:

N	**N**one	None observed
S	**S**light	Means when particulate emissions may be observed as being emitted at or near the source but not at great distance
I	**I**ntermediate	When particulate emissions are capable of being observed at a distance of up to 100 metres
H	**H**eavy	Means when particulate emissions are capable of being observed off site

Action to be implemented for any abnormal emissions, dust suppression measures to be introduced and recorded in the notes
Any dust egress from site to be noted above, recorded and resolved in accordance with procedure CP14.

Form ref HSI12-2 revA

COSHH ASSESSMENT

For (Nature of Work/Operation)

Location :	Cwmbargoed DP* / Ffos-y-fran Mine*/Other*	COSHH ASSESSMENT No:	
Person making assessment:	Stuart Thomas	**Signed:**	**Date:** May 2022
Person/s responsible to implement and monitor:	Coal Processing Manager		

DETAILS OF TASK:

The caustic soda solution will be stored in plastic IBC containers and discharged by means of valve,
allowing the solution to run into the water flow. Pearl crystals will be placed in the water channel.
To avoid risk of contact all operators must wear the following P.P.E which will be provided.
Chemical resistant gauntlet gloves and full body suit, safety helmet with visor.

LIST ALL SUBSTANCES (INCLUDING PRODUCT) AND QUANTITIES USED:

Product	Substance	Hazards Identified
Caustic Soda	**Caustic Soda 40%**	**Causes Severe Burns, Blistering and Irritation**

PARTICULAR CONTROL/SAFETY MEASURES ADOPTED
(include where and how substances are stored)

Product	Measures	Storage
Caustic soda 40%	**Avoid spillage. Avoid skin/eye contact. Do not touch spilled material. Wear Protective Gloves /Protective Clothing/ Eye Protection and Face Protection.**	**Store in tightly closed original container in dry, cool and well ventilated area**

EMERGENCY PROCEDURES

Spillage:	**Use PPE.** **Do not let product enter drains** **Absorb with dry earth/sand sweep and shovel into suitable containers for disposal.** **Clean up should be carried out by trained and competent person who is familiar with substance.**
Fire:	**Boiling point 145°c** **Wear self contained breathing apparatus. Wear protective clothing and avoid contact with skin and eyes.**

COSHH ASSESSMENT

For (Nature of Work/Operation)

Extinguishing media
Suitable extinguishing media
Water spray. Carbon dioxide. Alcohol or polymer foam. Dry chemical powder. Do not use wool blankets. Do not
allow water to enter containers

INFORMATION SOURCES (Cross refer to any relevant Work Risk Assessment)

DG chemicals Safety Data Sheet.

COULD A LESS HAZARDOUS SUBSTANCE BE USED (If so, why not use it?)

NO

FIRST AID TREATMENT

Skin Contact:
Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with
running water for 10 minutes or longer if substance is still on skin. Cover burns with a sterile dressing. Transfer to
hospital if there are burns or symptoms of poisoning. Eye contact:
Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination. Ensure that the eye is totally clear of contamination. Ingestion:
Do not induce vomiting. Wash out mouth with water. Give 1 cup of water to drink every 10 minutes. If unconscious,
check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the
recovery position. Transfer to hospital as soon as possible. Inhalation:
Remove casualty from exposure ensuring one's own safety whilst doing so. If unconscious, check for breathing
and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. If
conscious, ensure the casualty sits or lies down. If breathing becomes bubbly, have the casualty sit and provide
oxygen if available. Transfer to hospital as soon as possible.

Eye contact: There may be irritation and redness. The eyes may water profusely. Corneal burns may occur.

Ingestion: There may be soreness and redness of the mouth and throat. There may be difficulty swallowing. Corrosive burns may appear around the lips. Nausea and stomach pain may occur. There may be vomiting

Inhalation: There may be a feeling of tightness in the chest with shortness of breath. Exposure may
cause coughing or wheezing. There may be congestion of the lungs causing severe shortness of breath. There may be loss of consciousness.

WASTE DISPOSAL PROCEDURES

Waste treatment methods
Contaminated packaging
Dispose of in compliance with part 2 of the Environmental Protection Act 1990.

Form ref HSI12-2 revA

COSHH ASSESSMENT
For D – FLOC 5000 Series

Location :	Cwmbargoed DP* / Ffos-y-fran Mine*/Other*	COSHH ASSESSMENT No: 039	
Person making assessment:	Stuart Thomas	**Signed**:	**Date** April 22
Person/s responsible to implement and monitor:	General Foreman /Site Supervisors/ Pumpsmen		

DETAILS OF TASK:

Anionic Flocculant for site water treatment

LIST ALL SUBSTANCES (INCLUDING PRODUCT) AND QUANTITIES USED:

Product	Substance	Hazards Identified
D- Floc 5000 series	Anionic Flocculant	Substance can form a slippery film when mixed with water.

PARTICULAR CONTROL/SAFETY MEASURES ADOPTED
(include where and how substances are stored)

Product	Measures	Storage
D – Floc 5000	The use of PPE (safety glasses, protective gloves and dust mask) when handling product	Store in dry place and protect from moisture and sunlight. Also store in well ventilated, cool area.

EMERGENCY PROCEDURES

Spillage:

Fire: **Do not enter 'fire area' without wearing proper protective equipment and clothing including respiratory protection.**
Toxic fumes may be released during fire and Dust may form an explosive mixture in air.
Recommended extinguishers would be Dry Powder, Dry Chemical Powder, Foam

INFORMATION SOURCES (Cross refer to any relevant Work Risk Assessment)

DG Chemicals Safety Data Sheet.

COULD A LESS HAZARDOUS SUBSTANCE BE USED (If so, why not use it?)

No Alternatives Available

FIRST AID TREATMENT

Treat symptomatically. Show the Safety Data sheet to the Doctor in attendance
Ingestion - Seek medical advice, do not induce vomiting.

COSHH ASSESSMENT
For D – FLOC 5000 Series

Skin Contact – Wash affected area with plenty of water was contaminated garments before reuse.
Eye Contact – Rinse immediately with plenty of water. Seek medical attention if painful blinking persists.
Inhalation – If breathing becomes difficult, remove person to fresh air and rest. Seek medical attention.

WASTE DISPOSAL PROCEDURES

Release into the environment must be avoided. Prevent product from entering sewers and public water courses

MERTHYR
(SOUTH WALES) LTD

ENVIRONMENTAL RISK ASSESSMENT

PERSON MAKING ASSESSMENT Stuart Thomas

DATE 13/05/2022

OVERVIEW **The following assessment identifies the risk, management, exposure and consequence of floccing operations on Merthyr South Wales property.**

HAZARD	RECEPTOR	PATHWAY	RISK MANAGEMENT	PROBABILITY OF EXPOSURE	CONSEQUENCE	WHAT IS THE OVERALL RISK
Management of onsite water treatment areas using anionic flocculant	• River beds • Surface water • Animal habitats • Groundwaters • Recreations waters	Internal Watercourse via water treatment area.	• Operational training (incluing mixing, dosing levels and testing). • Identification of correct flocculant required consulting with suppliers. • COSHH assessments and safety data sheets. • Monitoring of water discharge & of-site watercourses. • Design of water treatment (allowing flocculant sufficient time to settle before water enters polishing ponds) •Designated Flocculation points. •NRW consent to discharge permit.	LOW	Anionic Flocculant is not considered harmful to the environment when used correctly in the designated way	Risk of the escape of flocculant into external watercourse is considered low.
Transport of Flocculant in IBC resulting in spillage.	• River beds • Surface water • Animal habitats • Groundwaters • Recreations waters	External watercourse close to site boundary. Internal Watercourses routed to Water treatment area and attenuation ponds.	• Transport of flocculant to be done in suitable IBC. • Regular inspection of IBC connectors/valves. • Only trained and competent operators allowed to transport and use flocculant. • Transport of flocculant only to designated areas. Flocculant must not be transported past last designated point or left near external water course. Minimise storage of IBC's near flocculant points. • Provision of spill kits in designated areas. • Emergency plan and spill clean training. • Internal cut off ditches. •Volume of water in attenuation ponds to dilute spillages. Penstock valves between attenuation and polishing ponds.	LOW	Anionic Flocculant is not considered harmful to the environment when used correctly in the designated way	Risk of the escape of flocculant into external watercourse is considered low.
Overfloccing MSW watercourses	• River beds •Public sewers • Animal habitats • Groundwaters • Recreations waters	Internal Watercourse leading to water treatment area.	• Consistent mixing methods - mechanical mixing with worm feed at recommended concentration. • Training for mixing, dosing levels and drop testing. • Correspondence with recommended suppliers ensuring the right flocculant is used. • Design of MSW watercourse offering sufficient distance from discharge point & external watercourse to deal with overfloccing incidents. Penstock valves used between attenuation pond and final polishing ponds. • Discharge sampling and monitoring and off-site water sampling. • Volume of water in attenuation ponds to dilute any issues. Regular attendence and monitoring by pumpsmen.	LOW	Anionic Flocculant is not considered harmful to the environment when used correctly in the designated way	Risk of the escape of flocculant into external watercourse is considered low.
Use of Cationic Flocculant	• River beds •Public sewers • Animal habitats • Groundwaters • Recreations waters	Internal Watercourse via water treatment area.	• Consistent mixing methods - mechanical mixing with worm feed at recommended concentration or purchase ready mixed. • Training for dosing levels and drop testing. • Correspondence with recommended suppliers ensuring the right flocculant is used at the recommended level. Use in conjunction with Anionic flocculant if recommended by suppliers • Design of MSW watercourse offering sufficient distance from external watercourse to contain potential incidents. • regular discharge sampling and monitoring. • Volume of water in attenuation ponds to dilute any issues and penstock valves located on attenuation ponds. •Cationic Flocculant must only be used if absolutely necessary, in accordance with the manufacturers guidelines (e.g. for colloidal run-off). Emergency plan & spill training.	LOW	Cationic Flocculant is considered hazardous to aquatic life if used incorrectly	Risk of the escape of cationic flocculant into external watercourse is considered low.

MERTHYR
(SOUTH WALES) LTD

ENVIRONMENTAL RISK ASSESSMENT

PERSON MAKING ASSESSMENT Stuart Thomas

DATE 16/05/2022

OVERVIEW **The following assessment identifies the risk, management, exposure and consequence of using Caustic Soda 40 % in water treatment operations on Merthyr South Wales property.**

HAZARD	RECEPTOR	PATHWAY	RISK MANAGEMENT	PROBABILITY OF EXPOSURE	CONSEQUENCE	WHAT IS THE OVERALL RISK
Management of onsite water treatment areas using Caustic soda 40 %	• River beds •Public sewers • Animal habitats • Groundwaters • Recreations waters • Aquatic life • Flora and Fauna	Internal Watercourse via watertreatment area	• Operational training (incluing mixing, dosing levels and testing). • Manufacturers instructions. • COSHH assessments and safety data sheets. • Monitoring of water discharge (PH testing). • Design of water treatment areas (allowing caustic sufficient time to react and neutralise before water enters polishing ponds). •Designated Caustic soda discharge points points. • NRW consent to discharge permits.	LOW	A high concerntration of Caustic Soda in the watercourse will result in toxic efects for aquatic orginisms. However, a low concerntration in the water will NOT result in effects on aquatic orginisms because the Caustic will be neutralised by other substances present in water.	A high concertration of Caustic Soda released into external watercourse is considered low.
Transport of Caustic soda in IBC resulting in spillage.	• River beds •Public sewers • Animal habitats • Groundwaters • Recreations waters • Aquatic life • Flora and Fauna	External watercourse cl	• Transport of Caustic to be done in approved IBC. • Regular inspection of IBC and connectors. • Only trained and competent operators allowed to transport Caustic. • Transport of Caustic only to designated areas. Caustic must not be transported past last designated point or left neat external water course. • Provision of spill kits in designated areas. • Emergency spill clean training. •	LOW	A high concerntration of Caustic Soda in the watercourse will result in toxic efects for aquatic orginisms. However, a low concerntration in the water will NOT result in effects on aquatic orginisms because the Caustic will be neutralised by other substances present in water.	A high concertration of Caustic Soda released into external watercourse is considered low.
Over use of caustic soda MSW watercourses	• River beds •Public sewers • Animal habitats • Groundwaters • Recreations waters • Aquatic life • Flora and Fauna	Internal Watercourse.	• Consistant mixing methods - mechanical mixing. • Training for dosing levels and PH testing. • Correspondance with reccomended suppliers ensuring the right flocculant is used. • Design of MSW watercourse offering sufficient distance from external watercourse to deal with overfloccing incidents. • Discharge sampling (for PH reading).	LOW	A high concerntration of Caustic Soda in the watercourse will result in toxic efects for aquatic orginisms. However, a low concerntration in the water will NOT result in effects on aquatic orginisms because the Caustic will be neutralised by other substances present in water.	A high concertration of Caustic Soda released into external watercourse is considered low.

Document reference

National security

You can tell the Welsh Ministers that you believe including information on a public register would not be in the interests of national security.

You must enclose a letter with your application telling us that you have told the Welsh Ministers and you must still include the information in your application. We will not include the information in the public register unless the Welsh Ministers decides that it should be included.

You can find guidance on national security in 'Core Environmental Permitting Guidance' published by Defra and available via the Environment Agency website http://www.environment-agency.gov.uk.

You cannot apply for national security via this application.

6 Application checklist (you must fill in this section)

Tell us about the supporting evidence and information you have sent with this application.

Application fee

You must submit the correct application fee in line with our current charging scheme. Tick the box to say you have included the correct fee. ☒

List all the documents you have included in Table 2. Please see the guidance notes for examples on how to complete the checklist.

If the relevant information for a question forms part of a larger document, please specify the relevant section(s) of the document. This will speed up the process of checking your application and making decisions.

If necessary, continue on a separate sheet and tell us the reference you have given the document below.

Document reference

Table 2 – application checklist

Question reference	Document title/ reference	Document section
Part C2 – Q3d3	CP63 (Waste & water Management)	All
Part C2 – 1b	Permit No. EPR-DB3131AF	Existing NRW Permit
Part C6 – 6b (Table 2)	Safety Data Sheet D-FLOC 5000 Series ✓	All
Part C6 – 6b (Table 2)	COSHH Assessment D-FLOC 5000 Series	All
Part C6 – 6b (Table 2)	Allied Colloids FLOCCULATION: THEORY & APPn	All
Part C6 – 6b (Table 2)	DG Chemicals – Safe use of Flocculants (18/05/22) ✓	Example of Training Records ✓
Misc Supporting Info	Environmental Risk Assessment – use of flocculants	All
Part F2 – Q7a	Permission to sign on behalf of a Relevant Person	All

7 Declaration

You must read this section before making the declaration and sending your form to us.

For transfer applications - Both you and the person receiving the permit must make the declaration.

Section 7d must be completed by the current holder *and* Section 7e must be completed by the proposed new holder.

A relevant person should make the declaration. You must be a relevant person or have the authority of a relevant person to sign this application on their behalf. An agent acting on behalf of an applicant is NOT a relevant person.

Each individual (or individual trustee) who is applying for their name to appear on the permit must complete this declaration. You can send a separate document with the relevant information if there are not enough spaces to sign, below.