

Condition 13 - 2013/00334/FUL

Coastal Oil and Gas Limited

Unit 9
Bridgend Business Centre
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Llandow 2 Exploration Borehole Information supplied for Condition 13 of Planning 2013/00334/FUL Disposal and control of Foul and Surface Drainage December 2014

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Appendices

Description	Reference
Cut Off Ditch Layout Plan	APPENDIX II

1. Introduction

Coastal Oil and Gas Limited have an approved planning application 2013/00334/FUL:-

- **To drill a single vertical exploration borehole at Unit 20, Sutton Spring Road, Llandow Trading Estate**

The purpose of this document is to provide a scheme for the disposal of foul water and control of surface drainage for the site.

1.1 Site Location

The site is located near Llandow Industrial Estate, South West of Cowbridge in the Llandow community council area of Vale of Glamorgan Borough Council. The national grid co-ordinates for the site are:-

Eastings 295230 Northings 171746



Figure 1: Location of site

2. Disposal of Foul Water

The site toilet will be a hired 'portaloo' type and will be emptied weekly by a licensed operator.

3. Disposal of Surface Water

In order to prevent the discharge of surface water from the site a cut off ditch / Bund and a submerged sealed interceptor tank will be constructed on the boundary across the lowest point.

Appendix 1 shows the map of the proposed cut off ditch / bund around the site.

A 10,000 gallon bowser will be kept onsite to allow the interceptor to be regularly emptied in the event of rain / surface run off. The bowser that the tank is pumped into will be sent off site to a licensed facility when it has been filled.

A flood map supplied by the Landmark Information Group shows that the site is not classed as being on a flood plain; the scheme is in an area that is unlikely to flood.

4. The Disposal of Drilling Fluids

The drilling fluids will comprise of a viscosifier to increase the viscosity of the fluid and the ability to lift the cuttings to the surface. Appendix IV shows the specification of Purebore which is a typical additive to the drilling fluids.

The water / fluids used for drilling are contained in a closed loop system; the volume of fluid required will depend on the depth of the well. The drilling fluid will be held in tanks on the surface so that they can be checked for levels and leaks.

- Shaker screen – The drilling fluid is passed over a fine vibrating sieve of various sizes to allow the drill cuttings to pass into a covered skip for disposal and the drilling fluid to drop through and return to the closed loop system. This separates the solid drill cuttings from the fluid so that it can be re-circulated back down the well bore.
- Cyclone – The drilling fluid is spun in a hydro cyclone “closed system” to remove the finer grained material from the system. The fine drilling cuttings drop out into a covered skip for disposal at a licensed facility.

As all drilling fluids are maintained in a closed loop system this can easily be monitored for leaks. In the event of a loss of fluid to the system the source of that loss will be investigated. If there is a leak to a tank / pipe then this will be repaired as soon as is practical. The tanks will be placed so that they can be observed by the drilling crew and site staff. In the event

that there is an increase in drilling fluid that may allow a spillage from the tanks, drilling will cease until additional tanks can allow for the increase in fluid or the additional fluid is tankered off site to an appropriate facility.

The volume of drilling fluids varies with the depth and diameter of the borehole.

Depth	Radius	Maximum Volume
M	M	M ³
60	0.15	4.40
500	0.10	16.30
1200	0.07	22.00

The drilling fluids will be constantly monitored by the drilling crew.

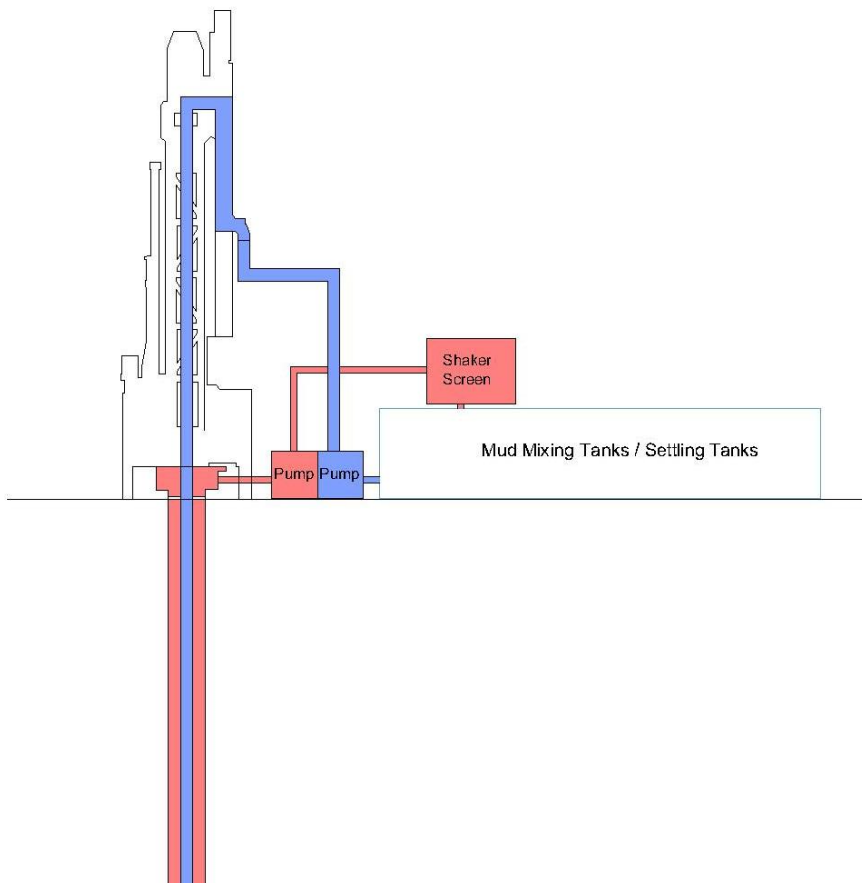


Figure 2: Close Loop System for the drilling fluids

5. Disposal of Drilling Cuttings

Drill cuttings which are the broken bits of solid rock removed from the borehole are transported back to surface with the drilling fluids and are separated using a two stage separation process. In the first separation stage (shale shakers) the returned drilling fluid are

passed over vibrating screens separating out the larger cuttings. The larger cuttings flow from the shakers to metallic rectangular open bins with a capacity of up to 40m³.

If required, a second stage is adopted whereby the drilling mud passes through centrifuges to separate out fine particles. The fine material from the centrifuges is also directed to the open bins. The drill cuttings will be taken off site for disposal via an authorised waste contractor to an authorised waste facility. Once the separation is completed, the drilling fluids are returned into the mud system for reuse in the closed loop system.

Under the terms of the European directive 75/442/EEC on waste and Article 1(4) of Directive 91/689/EEC on hazardous waste the drilling cuttings are classed as non-hazardous.

6. Disposal of Excess Site Fluids

All excess drilling fluids will be disposed of in a licensed facility. A licensed carrier will dispose of the drilling fluids. Licenced Carriers of waste in South Wales will be:-

- Egan Waste, Tel: 01443 841833
- GD Environmental, Tel: 01633 277755
- Derwen Group, Tel: 01792 815855

The disposal site will depend on the total volume of fluid and the time of year.