

Nearshore Pipelay and Pull-In

Environmental Monitoring Group

Reporting Period – July & August 2009

Meeting No. 43

16th September 2009

Mayo County Council
Arus an Chontae
Castlebar

1. Works undertaken

The following construction operations were carried out at Glengad Landfall Site during the months of July and August:

- Excavation of the water winning pit.
- Pumps installed on causeway to fill water winning pit with seawater.
- Complete pipeline flooding, gauging and hydrotesting.
- Continue backfilling nearshore pipeline trench with material from Temporary Storage Area.
- Removal of imported causeway material.
- Demobilisation of test equipment from Glengad.
- Demobilisation of dredging fleet from Ballyglass pier to Killybegs

2. Hours worked during July and August

Hours worked by the dredging vessels are shown in Tables 1 - 6 below.

Date	Day	Start	Finish	Hours
01/07/09	Wednesday		Sheltering	
02/07/09	Thursday		Sheltering	
03/07/09	Friday	22.10	00.00	1 hr 50 mins
04/07/09	Saturday	00.00	00.00	24hrs
05/07/09	Sunday	00.00	14.25	14 hrs 25 mins
06/07/09	Monday		Sheltering	
07/07/09	Tuesday		Sheltering	
08/07/09	Wednesday		Sheltering	
09/07/09	Thursday	16.45	00.00	7 hrs 15 mins
10/07/09	Friday	00.00	00.00	24 hrs
11/07/09	Saturday	00.00	18.30	18 hrs 30 mins
12/07/09	Sunday		Sheltering	
13/07/09	Monday		Sheltering	
14/07/09	Tuesday	08.00	18.00	10hrs
15/07/09	Wednesday	00.00	00.00	24 hrs
16/07/09	Thursday	00.00	00.00	24 hrs
17/07/09	Friday	00.00	05.40	5 hrs 40 mins
18/07/09	Saturday	17.00	00.00	5 hrs
19/07/09	Sunday	00.00	08.25	8 hrs 25mins
20/07/09	Monday		Sheltering	
21/07/09	Tuesday	16.25	19.40	3 hrs 15 mins
22/07/09	Wednesday	06.20	00.00	17 hrs 40 mins
23/07/09	Thursday	00.00	22.30	22 hrs 30 mins
24/07/09	Friday	00.00	23.00	23 hrs
25/07/09	Saturday	00.00	15.45	15 hr 45 mins
26/07/09	Sunday		Sheltering	
27/07/09	Monday		Sheltering	
28/07/09	Tuesday		Sheltering	
29/07/09	Wednesday		Sheltering	
30/07/09	Thursday		Sheltering	

**Table 1–
worked**

31/07/09	Friday	Sheltering
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**Hours
by**

Razende Bol (Back Hoe Dredger) in July

Date	Day	Start	Finish	Hours
01/08/09	Saturday	Pressure Test		
02/08/09	Sunday	19.30	00.00	4 hrs 30min
03/08/09	Monday	00.00	19.20	19 hrs 20 min
04/08/09	Tuesday	10.25	14.25	2hrs
05/08/09	Wednesday	Sheltering		
06/08/09	Thursday	Sheltering		
07/08/09	Friday	Sheltering		
08/08/09	Saturday	21.00	00.00	21 hrs

**Table 2–
worked
Razende
(Back
Dredger)
August**

09/08/09	Sunday	00.00	00.00	24 hrs
10/08/09	Monday	00.00	00.00	24 hrs
11/08/09	Tuesday	00.00	00.00	24 hrs
12/08/09	Wednesday	Sheltering		
13/08/09	Thursday	Sheltering		
14/08/09	Friday	Sheltering		
15/08/09	Saturday	Sheltering		
16/08/09	Sunday	Sheltering		
17/08/09	Monday	Sheltering		
18/08/09	Tuesday	11.50	19.30	19 hrs 40mins
19/08/09	Wednesday	Sheltering		
20/08/09	Thursday	Sheltering		
21/08/09	Friday	Sheltering		
22/08/09	Saturday	Sheltering		
23/08/09	Sunday	10.50	16.30	5 hrs 40 mins
24/08/09	Monday	Sheltering		
25/08/09	Tuesday	Sheltering		
26/08/09	Wednesday	10.15	12.10	2 hrs 55 mins
27/08/09	Thursday	Sheltering		
28/08/09	Friday	Sheltering		
29/08/09	Saturday	Sheltering		
30/08/09	Sunday	Sheltering		
31/08/09	Monday	Demobilised from Broadhaven Bay to Killybegs		

**Hours
by
Bol
Hoe
in**

Table 3 Hours worked by Abeko Server 2(Back Hoe Dredger) in July

Date	Day	Start	Finish	Hours
01/07/09	Wednesday	Sheltering		
02/07/09	Thursday	21.15	00.00	3 hrs 45 mins
03/07/09	Friday	00.00	00.00	24 hrs
04/07/09	Saturday	00.00	00.00	24hrs
05/07/09	Sunday	00.00	14.20	14 hrs 20 mins
06/07/09	Monday	Sheltering		
07/07/09	Tuesday	Sheltering		
08/07/09	Wednesday	Sheltering		
09/07/09	Thursday	18.00	00.00	6 hrs
10/07/09	Friday	22.30	00.00	
11/07/09	Saturday	00.00	18.30	18 hrs 30 mins
12/07/09	Sunday	Sheltering		
13/07/09	Monday	Sheltering		
14/07/09	Tuesday	Sheltering		
15/07/09	Wednesday	Sheltering		
16/07/09	Thursday	Sheltering		
17/07/09	Friday	Sheltering		
18/07/09	Saturday	19.15	00.00	4 hrs 45 mins
19/07/09	Sunday	00.00	06.00	6 hrs
20/07/09	Monday	Sheltering		
21/07/09	Tuesday	15.50	18.50	3 hrs
22/07/09	Wednesday	09.00	16.45	7 hrs 45 mins
23/07/09	Thursday	08.00	21.30	13 hrs 30 mins
24/07/09	Friday	00.00	00.00	24 hrs
25/07/09	Saturday	00.00	14.00	14 hr 45
26/07/09	Sunday	Sheltering		
27/07/09	Monday	Sheltering		
28/07/09	Tuesday	Sheltering		
29/07/09	Wednesday	Sheltering		
30/07/09	Thursday	Pressure test		
31/07/09	Friday	Pressure test		

Table 4 Hours worked by Abeko Server 2(Back Hoe Dredger) in August

Date	Day	Start	Finish	Hours
01/08/09	Saturday	Pressure Test		
02/08/09	Sunday	23.45	00.00	15 mins
03/08/09	Monday	00.00	14.30	14 hrs 30 min
04/08/09	Tuesday	10.25	14.25	2hrs
05/08/09	Wednesday	Sheltering		
06/08/09	Thursday	Sheltering		
07/08/09	Friday	Sheltering		
08/08/09	Saturday	22.45	00.00	1 hrs 15 min
09/08/09	Sunday	00.00	00.00	24 hrs
10/08/09	Monday	00.00	00.00	24 hrs
11/08/09	Tuesday	00.00	15.45	15hrs 45 min
12/08/09	Wednesday	Sheltering		
13/08/09	Thursday	Sheltering		
14/08/09	Friday	Sheltering		
15/08/09	Saturday	Sheltering		
16/08/09	Sunday	Sheltering		
17/08/09	Monday	Sheltering		
18/08/09	Tuesday	16.10	21.00	4 hrs 50mins
19/08/09	Wednesday	Sheltering		
20/08/09	Thursday	Sheltering		
21/08/09	Friday	Sheltering		
22/08/09	Saturday	Sheltering		
23/08/09	Sunday	9.00	16.55	7 hrs 55 mins
24/08/09	Monday	Sheltering		
25/08/09	Tuesday	Sheltering		
26/08/09	Wednesday	10.20	12.35	2 hrs 15 mins
27/08/09	Thursday	Sheltering		
28/08/09	Friday	Sheltering		
29/08/09	Saturday	Sheltering		
30/08/09	Sunday	Sheltering		
31/08/09	Monday	Demobilised from Broadhaven Bay to Killybegs		

Table 5– Hours worked in July at Glengad Landfall Site by Roadbridge

Date	Start	Finish	Hours *
01/07/2009	08:00	18:00	10
02/07/2009	08:00	18:00	10
03/07/2009	08:00	18:00	10
04/07/2009			0
05/07/2009			0
06/07/2009	08:00	18:00	10
07/07/2009	08:00	18:00	10
08/07/2009	08:00	18:00	10
09/07/2009	08:00	18:00	10
10/07/2009	08:00	18:00	10
11/07/2009			0
12/07/2009			0
13/07/2009	08:00	18:00	10
14/07/2009	08:00	18:00	10
15/07/2009	08:00	18:00	10
16/07/2009	08:00	18:00	10
17/07/2009	08:00	00:00	16
18/07/2009	00:00	00:00	24
19/07/2009	00:00	00:00	24
20/07/2009	00:00	00:00	24
21/07/2009	00:00	00:00	24
22/07/2009	00:00	00:00	24
23/07/2009	00:00	00:00	24
24/07/2009	00:00	00:00	24
25/07/2009	00:00	00:00	24
26/07/2009	00:00	00:00	24
27/07/2009	00:00	00:00	24
28/07/2009	00:00	00:00	24
29/07/2009	00:00	00:00	24
30/07/2009	00:00	00:00	24
31/07/2009	00:00	00:00	24

* 24 hr working was associated with the pipeline hydrotesting operation

Table 6– Hours worked in August at Glengad Landfall Site by Roadbridge

Date	Start	Finish	Hours*
01/08/2009	00:00	00:00	24
02/08/2009	00:00	03:00	3
03/08/2009	08:00	14:00	6
04/08/2009	08:00	18:00	10
05/08/2009	08:00	18:00	10
06/08/2009	08:00	18:00	10
07/08/2009	08:00	18:00	10
08/08/2009			
09/08/2009			
10/08/2009	08:00	17:00	9
11/08/2009	08:00	17:00	9
12/08/2009	08:00	17:00	9
13/08/2009	08:00	17:00	9
14/08/2009	08:00	17:00	9
15/08/2009			
16/08/2009			
17/08/2009	08:00	17:00	9
18/08/2009	08:00	17:00	9
19/08/2009	08:00	17:00	9
20/08/2009	08:00	17:00	9
21/08/2009	08:00	17:00	9
22/08/2009			
23/08/2009			
24/08/2009	08:00	17:00	9
25/08/2009	08:00	17:00	9
26/08/2009	08:00	17:00	9
27/08/2009	08:00	17:00	9
28/08/2009	08:00	17:00	9
29/08/2009			
30/08/2009			
31/08/2009	08:00	17:00	9

* 24 hr working was associated with the pipeline hydrotesting operation

3. ENVIRONMENTAL REPORT

a) Dust

Dust monitoring was carried out at two locations (D1 and D2) on the landfall site at Glengad. Rainfall levels for July (109 mm) and August (193mm), recorded at Belmullet meteorological station, were 163 % and 203 % respectively of the mean monthly rainfall.

Settleable dust results for July were 130 and 269 mg/m²/day for D1 and D2 respectively which is below dust deposition limits (350 mg/m²/day) set by the EPA for Licensed Waste Facilities.

Corresponding results for August were 130 and 335 mg/m²/day. Results at D2, located to the north of the vehicle access route to the foreshore were slightly elevated due increased vehicle movements associated with removing the causeway material.

b) Noise

Noise monitoring has been taking place since 15th May.

There were 2 No. Primary monitoring points on site last year:

N1 in the Airlock at the front gate
N6 In Sweeneys field

Monitoring location N1 was relocated to the western side of the access road due to space restriction within the airlock.

Monitoring location N6 now on the southern corner by the fence where the fence widens (next to stockpiles) is 50m to the east of the original monitoring point.

N7 and N8 were set up during July and are located in Sweeney's field North of the L-1202 and at the B&B on the South of the L-1202 to the west of the site.

N1

Daytime and nighttime noise levels are lower than those expected at an operating plant (55 & 45 dB (A)) respectively for day and night). Daytime noise levels ranged from 30.3 to 45.2 dB (A) and nighttime levels were between 31.4 and 43.3 dB (A).

Daytime and nighttime noise levels recorded in August ranged from 32.2 to 39 dB (A) and 31.8 to 42.7 dB (A) respectively.

N6

Daytime and nighttime noise levels are lower than expected for a construction site (65 & 55 dB (A)) respectively for day and night). Daytime noise levels ranged from 46.8 to 53.5 dB (A) and nighttime levels were between 45.2 and 52.4 dB (A) (16th July).

Daytime noise levels were below expected operational plant and construction site levels. Peak nighttime noise levels of 54.5 dB (A) were recorded on Friday 28th of August.

This monitoring point is adjacent to the active work area, therefore results not indicative of levels at the nearest sensitive noise receptors (N8).

N7

Peak nighttime noise levels of 47 dB (A) were recorded at N7 on Tuesday 28 July but average noise levels for July were < 45 dB (A). Daytime noise levels ranged from 39.7 to 47.8 dB.

Peak nighttime noise levels of 45.3 dB (A) were recorded on Wednesday 12th August while peak daytime levels of 52.7 dB (A) were recorded on Monday August 24th.

N8

The maximum nighttime noise levels (38.9 dB (A)) were recorded at N8 on Tuesday 28th July, indicating that pipeline flooding gauging and testing operations had no deleterious impact at the nearest sensitive receptor. Peak daytime noise levels of 42.7 dB (A) were recorded at N8 on Wednesday 29 July.

Peak nighttime noise levels (50.5 dB (A)) in August were recorded on Friday 28th while daytime levels ranged between 32.4 and 45.1 dB (A).

Mitigation measures as detailed below are in operation at the site to reduce or eliminate nuisance due to noise;

- Screening of stationary machinery (generator).
- Silenced machinery used as much as possible.
- All plant maintained to ensure optimal running
- Plant is not left running when not in use

c) Traffic

A total of 71,520 km and 58,522 km were completed during the month of July and August respectively, which included passenger transport, deliveries and heavy goods vehicle movements.

d) Fuel

Approximately 32,787 litres of fuel have been delivered to the landfall site in July. The dredging contractor, Van Oord Ireland Ltd., bunkered 34 m³ of fuel oil at Ballyglass Pier.

Approximately 11,668 litres of fuel have been delivered to the landfall site in August and the dredging contractor safely bunkered 81 m³ of fuel oil at Ballyglass.

e) Waste

There was an increase in the volume of waste requiring disposal and recycling compared to the figures for June. Four skips of recyclable materials comprising of timber, metal, plastic and paper/cardboard) were removed for appropriate disposal by the waste contractor. Four skips of non hazardous waste were also removed for landfilling during July. 20 No. 1000 litre capacity IBCs containing the recovered hydrotest chemical/seawater, were sent to SITA Environmental (An EPA Licenced Waste Facility) in Rathcoole Co. Dublin for appropriate disposal.

During August 1 skip of recyclable waste and 2 skips of non-recyclable waste were generated. 1,200 litres of recovered hydrotest liquid was removed for treatment during August and 38 m³ of wastewater was transported to Bangor Erris Wastewater Treatment plant during August.

f) Marine Mammal Observations July

Coastal & Marine Resources Centre (CMRC) UCC have been monitoring marine mammal activity in Broadhaven Bay for approximately 6 months using visual and acoustic methods (Passive acoustic monitoring systems or C-POD).

Marine Mammal Observers (MMOs) are present on the dredging spread to ensure compliance with the agreed code of conduct for vessels during the works. They carry out start up procedures prior to dredging operations commencing and provide details of weekly sightings of marine mammals.

In total, 30 marine mammal sightings were made in July consisting of approximately 45 individuals. The largest number of individuals in any one sighting was 15 common dolphins, recorded by the MMO onboard the Highland Rover on the 5th of July during the pipelay operation. A Minke Whale was sighted on July 5th, 300m distant from the Highland Rover.

Approximately 50 % of the total sightings for July were of Grey Seals, the majority of these recorded in relatively close proximity to the back-hoe dredger.

One Harbour Porpoise was sighted on July 10th for a brief period at 50m distant from a crew change vessel.

During August, there were a total of 24 sightings, compared with 30 in July, 102 in June and 9 in May. Dredging activities and associated MMO monitoring were hampered by unfavourable sea states. Sightings comprised mainly grey seals, one common seal, one unidentified seal, bottlenose dolphins (3 animals) and common dolphins (5 animals). The latter two cetacean sightings were made from the Maersk Advancer.

g) Faunal sightings at Landfall site

None to date. Badger gates installed at 50 m intervals along temporary fence are now open continuously.

h) Avian sightings at Landfall site

Weekly sandmartin surveys were carried out in July/August in order to describe the progress of individual nesting efforts in greater detail. Table 7 ,8 and 9 show the sandmartin colony counts for June , July and August respectively.

Table 7 – Sand martin counts June 2009

Date	Confirmed Active Nests	
	Glengad Colony A (original to north of the landfall)	Glengad Colony B (c. 200m to the SW of the landfall)
09/06/2009	14	1

15/06/2009	14	3
23-24/06/2009	15	3

**Table 8–
counts July**

Date	Confirmed Active Nests	
	Glengad Colony A (original to north of the landfall)	Glengad Colony B (c. 200m to the SW of the landfall)
1-2 July	19	2
15 July	19	3
23 July	22	3
29 July	18	2

**Sand martin
2009****Table 9–
counts**

Date	Confirmed Active Nests	
	Glengad Colony A (original to north of the landfall)	Glengad Colony B (c. 200m to the SW of the landfall)
06 August	12	1
12 August	6	1
18 August	3	1
26 August	0	0

**Sand martin
August 2009**

Sand Martins were recorded on 18th August but none were observed at either Glengad or Rinroe on the afternoon of 26th August. On the basis of wind direction and strength for the previous few days it is likely that the last few remaining birds had departed on migration to Africa by 23rd August. This is approximately one week later than in 2008.

i) Archaeological Remains

No Archaeological remains have been recorded during offshore activities to date. Archaeologists were stationed on board the dredging spread during backfilling of the pipeline trench.

j) Fisheries Liaison

The Shell Fisheries Liaison Officer has ongoing liaison with the fishing community and other users of the area in relation to the marine side of the works.

k) Community Liaison

Regular visits to residents of the Glengad area continue to update them on the progress of works.

One complaint was received in July from a resident in Glengad in relation to lighting from a boat. Realignment of lighting on the vessel in question was carried out immediately on the night the complaint was made. A survey of the lighting levels associated with the landfall works (discussed below) was carried out following the complaint.

No complaints were received in August.

l) NPWS

Weekly work updates provided to NPWS to ensure that they are kept informed of the progress of the work.

m) Statutory Bodies site visits

The Department appointed ecologist, Eireco, made weekly visits during July and August to the Landfall site in Glengad to determine if the works are in compliance with the Environmental Management Plan.

n) Complaints

There was one formal environmental complaint logged by a local resident with SEPIL on July 3rd, related to lighting levels from a particular vessel in Broadhaven Bay. Contact was made with the complainant and all vessels were inspected to ensure that only essential lighting was used and that it pointing inward and downwards.

A night time light survey was carried out on July 26/27th following the complaint, to determine light spill levels at 10m intervals along the L-1202 adjacent to the landfall site. It was found that light spill levels measured in Lux units, were within the acceptable limits (2 Lux) along the entire length of roadway surveyed, with the exception of the site entrance, where levels of 3 Lux were recorded.

o) Incidents

On July 3rd a hydraulic oil spill (< 5 litres) occurred on board the Abeko Server 2 (back-hoe dredger) in the Temporary Storage Area with approximately 0.5 litres entering the marine environment. The oil spill response teams were immediately notified and deployed a boom around the vessel to contain the spill. Absorbent material was used to remove the oil from the water surface and all absorbent mats were placed in appropriate drums.

On July 13th a quantity of 1-2 litres of diesel was released from a fuel bowser at the landfall site while a lightstand was being refueled. The spill was immediately reported and cleaned up.

On July 29th an incident involving the spillage of 15 litres of corrosion inhibitor /dye cocktail occurred at the landfall site during the pipeline testing operation. The spillage was completely contained on site in a sealed excavation with no environmental impact on the Broadhaven Bay and no ecological/environmental impact on the SAC, as all contaminated materials were removed from site;

- a. Liquid waste was transferred from the excavation to IBCs (1,000 litre containers) for transport.
- b. Solid waste was transferred into 205 litre barrels for transport.
- c. All waste generated was collected and treated by appropriately licensed and permitted contractors (31/07/09).

The use of these chemicals for the hydrotest operation was authorised by DCENR and as required in Condition 7 of the letter authorising their use, the accidental spillage was reported to DCENR. ~~Need to include clean-up and 'close out'~~

There were no environmental incidents reported on the landfall site in August.

One minor hydraulic oil leak occurred aboard the Abeko Server 2 on August 11th when a total of 2 litres was spilled on deck. The spill was contained on deck using absorbent matting.

On August 16 2009, at 04.57 hours, a standby vessel working on the Corrib gas project, Flamingo, came into contact with the shoreline one kilometre southeast of Erris Head.

The vessel was towed to a temporary anchor location in Ballyglass harbour and the oil spill boom was deployed by the Local Oil Spill Response Team around both vessels, in order to contain any potential hydrocarbon leaks.

All reliable accounts from inspections of the scene of the grounding after the vessel was anchored refer only to streaking and no visible slick at the scene. This would indicate a low volume spill as the material would most likely break up and disperse. The total volume of hydrocarbons released as a result of the incident was estimated at 10 litres.

On August 23rd 2009 at 19.00 hrs, 13 litres of high performance vegetable based hydraulic fluid was lost from the RT1 Trenching device which was operating in 74 m of water along the Corrib Gas pipeline route at 54° 19.450' N and 09° 58.817' W. The vegetable based hydraulic fluid (Cosmolubric TR2000) released, is a clear straw coloured liquid which emulsifies and biogrades in water. Due to the depth of water at the incident location there was no evidence of contamination at the surface and it is thought that the released fluid would have rapidly emulsified and dispersed.

All incidents occurring in the marine environment are immediately reported to the local oil spill response team which is on stand by to offer assistance if required.

p) Water Quality

No water samples were collected for analysis during July or August.