PNG LNG Quarterly Environmental and Social Report

Third Quarter

2012

PNG LNG

Energy for the World. Opportunity for Papua New Guinea.
Eneji Bilong Wol. Luksave Bilong Papua Niugini.

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Prepared by IDP Consulting Pty Ltd.

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PNG LNG

About This Report

The Papua New Guinea Liquefied Natural Gas Quarterly Environmental and Social Report – Third Quarter 2012, reports on the Project's recent safety, construction, health, environment and social management activities.

This Report demonstrates the progress made each quarter and is a commitment by the Project to ensure the citizens of Papua New Guinea, interested non-government organizations and other stakeholders are kept well informed.

This Report is published on the Project website, www.pnglng.com. Printed copies are also available.

Contents

Creating long-term benefits for Papua New Guinean communities

"The PNG LNG Project recognizes that making the most out of energy resources means not just developing oil and gas, but also people and capacity, so that sustainable benefits are delivered to local communities. That's what our National Content Plan is all about."

Peter Graham, Managing Director, Esso Highlands Limited

The Papua New Guinea Liquefied Natural Gas (PNG LNG) Project (Project) National Content Plan is a commitment, tailored to Papua New Guinea, to help develop human, social and economic capacity in a way that benefits people, communities and businesses over the long-term.

This eleventh PNG LNG Quarterly Environmental and Social Report describes how Esso Highlands Limited is delivering on the Project's social, environmental, health and safety plans, and on the commitments made to the people of Papua New Guinea in the National Content Plan. As a subsidiary of Exxon Mobil Corporation, Esso Highlands Limited is responsible for the Project's construction and operation and is developing the Project with co-venturers: Oil Search Limited, National Petroleum Company of PNG (Kroton) Limited, Santos Limited, JX Nippon Oil and Gas Exploration Corporation, Mineral Resources Development Company Limited and Petromin PNG Holdings Limited, and their affiliates.

Workforce development

By the end of the third quarter, almost 19,600 people were employed on Project activities – an increase of around 2,000 workers compared to the second quarter 2012. Papua New Guineans make up 46 percent of the total Project workforce, with approximately 70 percent of these workers sourced through Landowner Companies (Lancos).

~19,600 people make up the total Project workforce

To date, more than 10,000 Papua New Guineans have received training for construction and operation roles delivered through 6,000 courses in over 1.4 million hours of training. This includes training provided through dedicated facilities such as the Juni Construction Training Facility, where the third intake of trainees has just graduated with their Australian Quality Training Framework standard Certificate Level II in General Construction and Civil Construction.

This brings the total number of graduates for the Juni Construction Training Facility to 54, including 12 women.

The Project's graduate program is also progressing well, with the original six engineering graduates from the 2011 program returning to Port Moresby in September to work as part of the Operations Technical team. Another ten graduate engineers recruited by Esso Highlands Limited earlier this year continue their progress in the program, with three based in Port Moresby, one based in Singapore and six based in Melbourne, Australia. Two graduate drilling engineers have also returned from training in Australia to work as part of the Project's Drilling team.

The training provided to Papua New Guinean citizens not only prepares them for roles within the Project but also provides the skills and qualifications for other domestic and international opportunities.

Six of the Papua New Guinean graduate engineers from the second group at Long Island Point

Growing Papua New Guinean businesses

With construction activity at Komo Airfield, the Hides Gas Conditioning Plant (HGCP) and the LNG plant site increasing, the Project is relying on Lancos to supply services such as camp maintenance, catering, security, equipment hire and recruitment.

By the end of this quarter, over 5.7 billion Kina (US$2.7 billion) was spent on Project activities with businesses in Papua New Guinea. Of this, more than 1.29 billion Kina (US$620 million) was spent with Lancos.

Other milestones included the first asphalt laid on the Komo Airfield runway, the handover of the triethylene glycol unit at the Kutubu Central Processing Facility to the operations group, and completion of earthworks for the HGCP.

5.7+ billion Kina spent in Papua New Guinea to date

First well spud on July 26 at Wellpad B

The Enterprise Centre continues to support the development of Lancos and other Papua New Guinea-based businesses. It completed 30 business assessments during this quarter, which brings the total to date to 228. The Centre also re-assessed eight of the original 12 representative Lancos to determine how they have progressed since their 2011 assessments. A highlight for the Enterprise Centre was the launch of their second annual assessment magazine, which profiles companies assessed throughout 2011.

Another important training development was the introduction of International Standards Organization (ISO) training. In a first for Papua New Guinea, the Enterprise Centre coordinated this three-day training course in partnership with International Standard Certifications Proprietary Limited of Australia. Two sessions covering modules such as Quality Management Systems and Occupational Health and Safety Management Systems were conducted.

All 120 pipe rack modules now installed on the LNG jetty

Construction

Numerous construction milestones were achieved during this quarter, including the start of drilling on the first of eight production wells on the Hides Ridge.

Key construction highlights are outlined in Table 1.

Table 1 – Contracts and construction highlights

Contract	Contractor	Major activities during the third quarter 2012
Upstream Infrastructure (C1)	Clough and Curtain Brothers Joint Venture	Completion of all earthworks for the HGCP and handover of all work areas to the Hides Gas Conditioning Plant and Hides Wellpads contractor. Completion of Wellpad D earthworks and Wellpad C cellar.
Offshore Pipeline (EPC2)	Saipem	Installation of equipment for pipeline inspections. Hydrotesting and drying completed for the entire pipeline.
LNG Plant and Marine Facilities (EPC3)	Chiyoda and JGC Joint Venture	Installation of all 120 pipe rack modules on the LNG jetty. Completion of the twelfth and final inner shell tank ring on the north LNG tank. Completion of all heavy lifts.
Hides Gas Conditioning Plant and Hides Wellpads (EPC4)	CBI and Clough Joint Venture	Completion of piling in the process area. Installation of concrete foundations for main power generators and compressors.
Onshore Pipeline (EPC5A)	SpieCapag	Over 60 percent of the main pipeline welded. Hydrotesting conducted on approximately 145 kilometres of pipeline. Kutubu Central Processing Facility gas metering station earthworks completed.
Komo Airfield (EPC5B)	McConnell Dowell and Consolidated Contractor Group Joint Venture	First asphalt laid on the runway. Installation of all fuel storage tanks and energizing of lighting towers. The new Tamalia River Bridge opened to traffic.
Associated Gas Development	Various	Completion of start-up, testing and handover of the triethylene glycol unit and associated gas cooler to the Kutubu Central Processing Facility's operations group.
Drilling	Nabors Drilling International Limited	Start of drilling for the first production well at Hides Wellpad B. Commenced assembly of the second rig at Wellpad C.

Safety, health and security

The Project is greatly saddened to report two separate fatal incidents during this quarter and expresses deepest sympathies to the families and friends of the workers involved.

The Project immediately notified relevant authorities and conducted investigations into both incidents. As a result of these investigations, mitigation measures were implemented and key learnings were shared across all worksites.

The Project remains committed to promoting a culture of *Nobody Gets Hurt* at all its worksites. An example of this is the LNG Plant's successful Incident and Injury-Free® (IIF®) program, which aims to build the leadership capacity of supervisors and engage workers in ensuring the personal safety of themselves and others is paramount to how they approach their work every day. Over 10,500 workers have been inducted into the IIF program to date.

Another example is the Safety Champions initiative which recorded its 500th graduate this quarter. Although the initiative was originally designed for Papua New Guinean workers, its success and strong interest from contractors has led to the inclusion of workers from other nationalities. To cater for these workers, training materials are being translated into other languages including Tagalog, Tamil, Korean and Thai.

The Project's Ground Transport and Aviation teams have demonstrated their commitment to safety since inception. They have logged over 12,000 aviation hours, traveled over 10 million kilometres on roads and transported over 100,000 passengers and 2,000 tonnes of freight without a recordable incident.

Community safety is also a priority for the Project. With pipeline construction activities reaching the Moro and Kutubu areas, the Project's Security and Socioeconomic teams are proactively engaging with local communities to maintain a safe and secure environment for workers and residents. One example of the many community safety activities is an ongoing series of education seminars being conducted with local high school students at the LNG plant site. Focusing on a typical day at the site, these seminars highlight both Project and community-based mitigation measures for traffic, personal and worker safety.

During this quarter, the Project continued its support of medical research projects that have the potential to deliver long-term benefits to Papua New Guinean communities. For example, the Project is funding tuberculosis research at Kikori Hospital in the Gulf Province conducted through the Papua New Guinea Institute of Medical Research (IMR). Findings from this research are anticipated to significantly benefit public health in the Gulf Province and the overall tuberculosis control program in Papua New Guinea.

Redscar High School students receive an important lesson in safety at the LNG plant site

The Project is also funding an IMR-led bio-behavioral survey to investigate the epidemiology of Sexually Transmitted Infections (STIs). This study will provide the first ever data on human papilloma virus infection in Papua New Guinean women. Information gathered will be used to help prevent and treat cervical cancer, which is a leading cause of cancer-related deaths among Papua New Guinean women.

The Project was made aware of some localized disturbances in the Upstream North area and along the Highlands Highway this quarter as a result of the Papua New Guinea 2012 National Election. However, these were unrelated to Project operations and had minimal impact on Project personnel or work.

Social development

The Project's commitment to train and support Papua New Guinean women continued this quarter with a second $US300,000 grant provided to the World Bank's Women's Self Reliance Program.

The Project also sponsored another five women to attend a Global Women in Management program in Jakarta, Indonesia. To date, the Project has sponsored 17 Papua New Guinean women to attend this program.

Meanwhile, in July, a women's group from Lea Lea officially opened a permanent community market with the support of the Project.

In addition, two women are among three biomedical technicians from Port Moresby General Hospital and two officials from the National Department of Health who are being sponsored for training in Dallas, Texas through the Biomedical Equipment Repair Training program.

Official opening of the Lea Lea community market

The Toea series of books continues to play a vital role with delivering important cultural, health and safety messages to school-aged children. This quarter, the sixth Toea book titled: *Toea's Milne Bay Adventure* was released in conjunction with the launch of the *Toea Money Management Game Board*.

The game is similar to the famous MONOPOLY board game but uses Kina as the currency and teaches children money management skills through scenarios related to everyday Papua New Guinean household expenses.

The sixth book in the Toea series

To date, the Project has distributed more than 19,500 books and activity packs from the Toea series to over 80 schools in the Project area.

A highlight for LNG plant site communities this quarter was the opening of a small rural Bank South Pacific branch at the LNG plant site and the start of construction on a post office and commissary. These services will alleviate the need for local villagers and LNG plant site workers to travel to Port Moresby for banking and postal services.

Environmental performance

A key achievement this quarter was the submission of the Project's Biodiversity Offset Delivery Plan to the Lender Group's Independent Environmental and Social Consultant (IESC) and the Lender Group for review.

The Project also recorded its lowest spill rate since substantial works began in early 2010. As part of a continual focus on spill prevention, spill kit audits were conducted at the Upstream Infrastructure, LNG Plant and Drilling worksites, and external spill response experts provided training for the Drilling and HGCP workers.

Wastewater management continues improving, with the HGCP main camp wastewater treatment plant commissioned to provide increased capacity and more effective wastewater treatment.

Meanwhile, shredding, crushing and bailing activities at the Onshore Pipeline contractor's waste management facilities at Kopi Shore Base, Gobe Camp 3, Tamadigi Camp 4 and at Moro Camp 5 have already reduced waste volumes by approximately 70 percent.

Reinstatement works continue to progress across Project work sites. This includes planting of locally sourced stock and spreading of Japanese Millet and Carpet Grass seeds at the HGCP site, as well as reinstatement activities in the LNG plant site area and along the onshore pipeline Right of Way.

Hundreds of indigenous plants being grown at the Komo nursery for reinstatement works

The Komo Airfield contractor also reinstated 4.6 hectares, while preparing extensive planting stock at the Komo Main Camp and Timalia nurseries for rehabilitation activities.

Stakeholder and community engagement

Following the Papua New Guinea 2012 National Election, stakeholder engagement activities returned to previous levels and included the Project's participation in numerous advocacy workshops with key incoming Government ministers, departments and agencies.

As drilling activities commenced this quarter, the Project conducted extensive stakeholder engagement with community leaders, schools, women's groups, churches, health facilities and Government. These engagements were designed to provide information about what to expect during drilling operations, such as noise and light from the rigs; as well as foam drilling operations. Engagements were conducted prior to the start of drilling operations and provided an opportunity for community members to ask questions and provide feedback about the planned drilling activities.

During this quarter, Papua New Guinea's National Road Safety Council completed the first phase of a Project-sponsored Road Safety Awareness campaign in communities between Goroka and Mount Hagen. In addition to the National Road Safety Council's campaign, the Project is delivering its own comprehensive pedestrian and road safety awareness program. This includes visiting schools to highlight the need for safety on the road, visiting communities to explain the importance of pedestrian road safety and conducting informal engagements along roadsides.

More than 29,400 participants in engagement activities to date

Grievances increased slightly this quarter, with 108 recorded compared to 100 last quarter. Ongoing training is being provided to Project teams to reinforce the importance of recording and resolving grievances in a timely manner. Because of this increased attention, only 15 cases remained open at the end of the quarter.

Meanwhile, the Project continues providing water tanks and tarpaulins to communities as part of goodwill assistance. During this quarter, five new water structures were provided. This brings the total number of water structures built for communities in the Hides and Komo areas to 66.

In addition, the Project's Livelihood Restoration Program distributed nearly 3,500 sweet potato cuttings to 22 households; 58 kilograms of corn seed to 199 households; 180 kilograms of peanut seed to 102 households; and 1 kilogram of temperate climate vegetable seeds to 47 households. Crossbred chickens and breeder ducks were also supplied to more than 80 households. Villagers are being trained in propagating high yielding crops and raising chickens, ducks and pigs.

As the Project progresses, it will continue working together with Government and local communities to ensure opportunities to achieve common goals are maximized and sustainable so they become part of the Project's legacy.

1 Introduction

As the PNG LNG Project progresses, it continues working with partner organizations, contractors and stakeholders to build the capacity of individuals and communities to deliver sustainable outcomes for Papua New Guinea.

The Project's progress is reported in the PNG LNG Quarterly Environmental and Social Report series. This eleventh quarterly report provides updates on the Project's safety, construction, health, environmental and social management activities for the third quarter 2012.

The Project involves the construction of gas production and processing facilities in the Southern Highlands, Hela and Western Provinces of Papua New Guinea. It encompasses liquefaction and storage facilities (located north-west of Port Moresby on the Gulf of Papua) with a capacity of 6.6 million tonnes per year and more than 700 kilometres of pipelines connecting the facilities. The Project is progressing in development phases, with the first LNG deliveries scheduled to begin in 2014.

It is anticipated that over 250 billion cubic metres of gas will be produced and sold during the life of the Project. This will provide a long-term supply of LNG to customers such as: the China Petroleum and Chemical Corporation (Sinopec); The Tokyo Electric Power Company Inc.; Osaka Gas Company Limited; and the Chinese Petroleum Corporation, Taiwan. The location and elements of the Project are illustrated in Figure 1.1. *Appendix 1* outlines how the contracts for Phase I of the Project are divided.

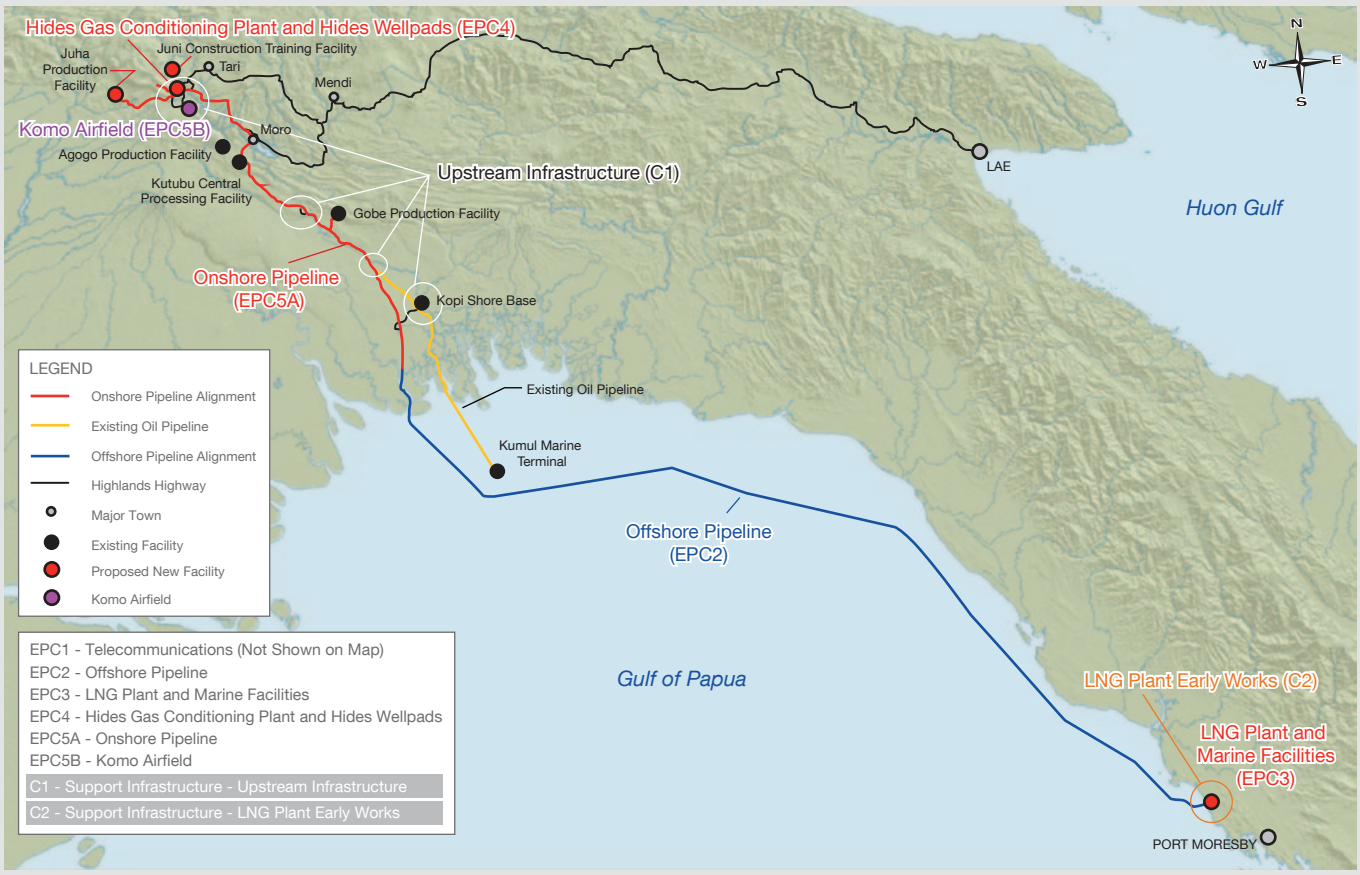
The complete PNG LNG Quarterly Environmental and Social Report series may be downloaded from the Project's website.

Read the PNG LNG Quarterly Environmental and Social Report series at
www.pnglng.com

Printed copies of each quarterly report and translated summaries are also provided to make information available to Papua New Guinean citizens who may have limited access to the internet.

Plate 1.1 – The LNG plant site as seen from the jetty

Figure 1.1 – Project elements



Kopi Shore Base | LNG Plant | Juha Production Facility | Gobe Production Facility

Juni Construction Training Facility | Offshore Pipeline Install | HGCP Site | Agogo Production Facility

Komo Airfield | Moro Airfield | Kumul Marine Terminal | Kutubu Central Processing Facility

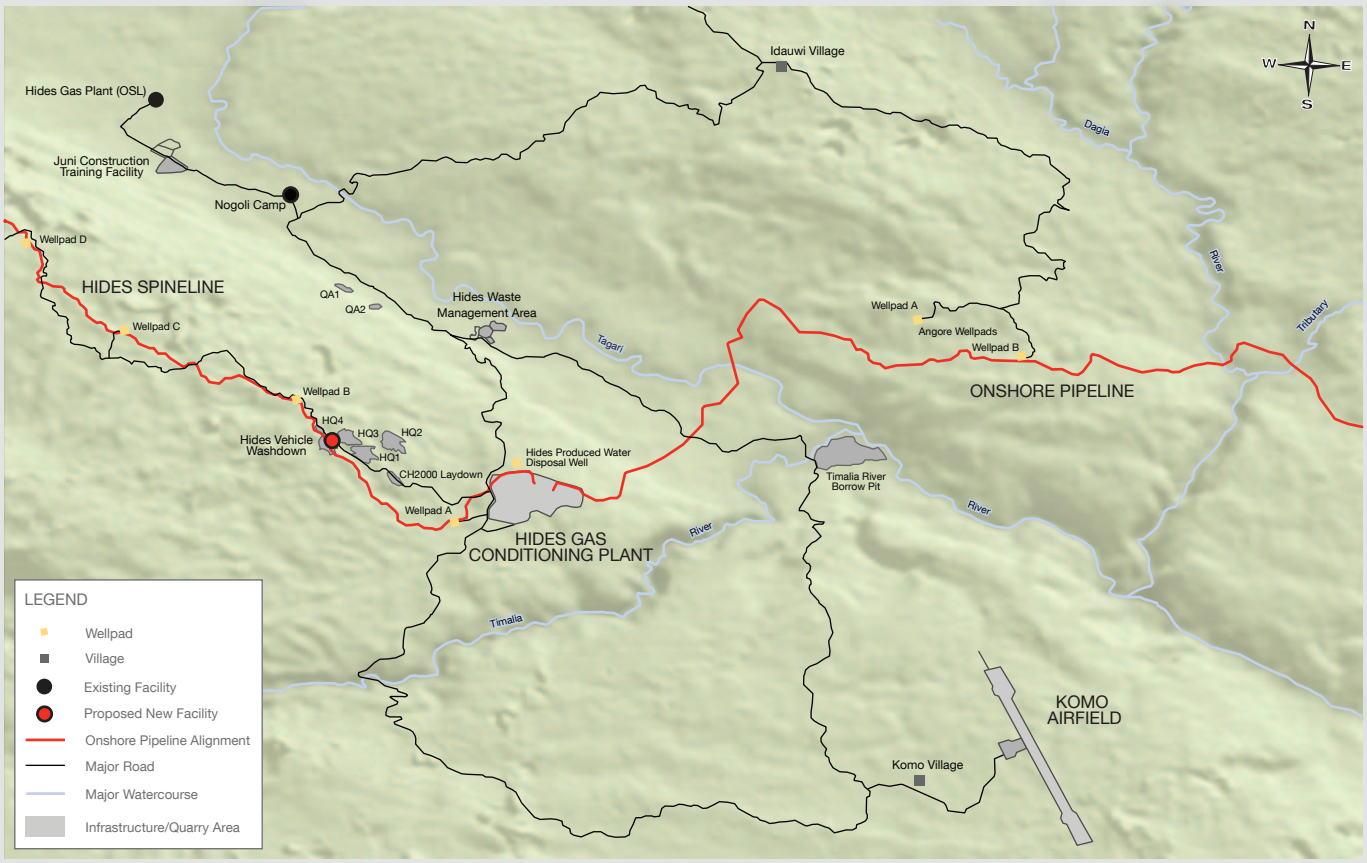
2 Construction Overview

A major construction milestone was achieved this quarter when drilling operations started on the first of eight production wells on the Hides Ridge.

In addition, the first asphalt was laid on the Komo Airfield runway and handover of the triethylene glycol unit at the Kutubu Central Processing Facility was completed.

2.1 Highlands area

Figure 2.1 – Highlands area Project activities



2.1.1 Upstream Infrastructure

The Upstream Infrastructure contractor completed all earthworks for the HGCP and handed all work areas over to the Hides Gas Conditioning Plant and Hides Wellpads contractor. Progress on the Wellpad Access Road continued this quarter with 19 of 22 kilometres completed. Meanwhile, Wellpad D earthworks and the Wellpad C cellar were completed, while Wellpad D cellar construction and Wellpad E earthworks commenced. Construction of the second landfill cell began at the Hides Waste Management Facility to increase storage capacity at the landfill for construction and operation wastes.

2.1.2 Hides Gas Conditioning Plant and Hides Wellpads

At the HGCP construction site, piling in the process area and concrete foundations for the main power generators and compressors were completed. Foundations were also poured elsewhere in the process, utility and pipe rack areas. The first compressor arrived in Port Moresby in September and will be transported to the HGCP site during the fourth quarter 2012.

In addition, construction of the HGCP firewater and potable water storage tanks began, along with the installation of the steel works for the main pipe racks.

2.1.3 Komo Airfield

The first asphalt being laid on a section of the runway was a significant milestone this quarter.

Plate 2.1 – Laying of first asphalt at Komo Airfield

Meanwhile, all fuel storage tanks were installed on-site, lighting towers were installed and energized, and additional rock crushers were commissioned at the Tamalia Quarry to increase production of base material for the runway.

In addition, the Komo Airfield contractor opened the new Tamalia River Bridge along the Construction Logistics Route and upgrades on other sections of the road are continuing.

2.1.4 Drilling

Another significant achievement this quarter was the start of drilling operations on the first production well at Hides Wellpad B. The well was spud on July 26 and will eventually reach a depth of approximately 3,300-metres. The rig-up of the second drilling rig (Drilling Rig 703) also started at Wellpad C.

Plate 2.2 – Drilling Rig 702 at Wellpad B

2.2 Onshore Pipeline

Despite heavy rainfall and flooding during this quarter, the Onshore Pipeline contractor continued construction in areas that were not impacted by flooding. Over 60 percent of the main pipeline has now been welded and approximately 145 kilometres of pipeline hydrotested. Work at the Kutubu Central Processing Facility gas metering station included the completion of earthworks and commencement of foundation piling.

In addition, construction of the sixth temporary camp began north of Kutubu near the Hegigio Village, and the first diesel generator was placed on its foundation at Kopi Scraper Station.

2.3 Offshore Pipeline

Having completed the installation of the 407-kilometre offshore pipeline, the Offshore Pipeline contractor is winding down their works. During this quarter, the equipment for pipeline inspections was installed at the Omati River landfall and the entire pipeline was hydrotested and dried. Restoration works also began at the Omati River landfall site.

2.4 LNG Plant and Marine Facilities

Construction at the LNG plant site is progressing with key activities including:

- Installation of all 120 pipe rack modules on the LNG jetty.
- Completion of the twelfth and final cryogenic inner shell tank ring on the north LNG tank.
- Installation and testing of all underground firewater lines within the utilities area.
- Erection of the flare stack and progression of flare pipe rack construction.
- Completion of Train 1 primary steel erection and Train 2 main pipe rack steel works.
- Initiation of aboveground Train 1 cable pulling.
- Installation of all ten dolphin monopiles and commencement of construction works on shipping channel navigation aids.
- Completion of all heavy lifts.

Also during this quarter, the LNG Plant and Marine Facilities contractor installed the tallest piece of equipment on the Project; refer to *Case Study One – Big things afoot at the LNG Plant* for further information.

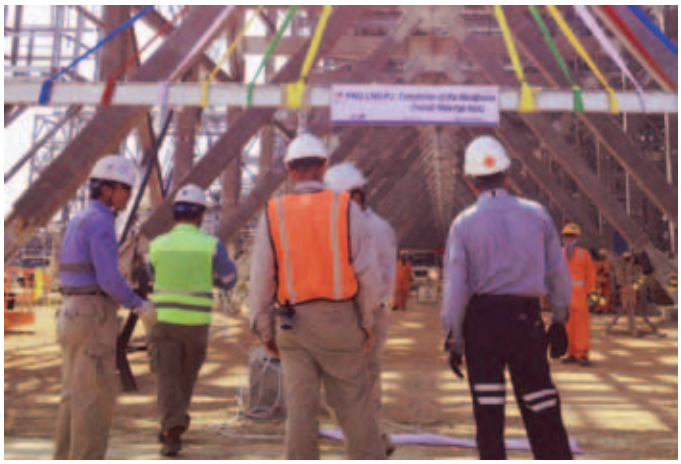


Plate 2.3 – Completion of Train 2 main pipe rack steel works

Plate 2.4 – Cable pulling at the LNG plant site

2.5 Associated Gas Development

Pre-assembly of the new triethylene glycol unit at the Gobe Production Facility is underway following the completion of civil works by the Associated Gas Development contractor. Concrete footings for the thermal oxidizer and gas metering facility are also now in place.

At the Kutubu Central Processing Facility, the start-up, testing and handover of the triethylene glycol unit and associated gas cooler to the operations group marked an important milestone. The contractor also removed a second existing triethylene glycol unit at the Facility and prepared footings for a new unit.

2.6 Development support execution, logistics and aviation

A new Project record was set in September with 577 deliveries in the month, of which 458 were transported by truck from Lae to Hides along the Highlands Highway and 119 were delivered by air from Lae to Tari. This marks the sixth consecutive month where deliveries exceeded 500.

Meanwhile, Highlands Highway repairs and bridge and culvert surveys continued.

2.7 Pre-construction surveys

During this quarter, pre-construction surveys were completed for additional supporting infrastructure and facilities for the onshore pipeline. This included quarries, laydown areas, and a pipeline Right of Way (ROW) re-alignment between Kilometre Point 92 and 94. Pre-construction surveys in progress this quarter are illustrated in Figure 2.2.

The only pipeline pre-construction survey remaining is on the Hides Spineline, which will be undertaken once engineering surveys have been completed.

10 million kilometres driven injury-free

The Project's Ground Transport team has achieved an outstanding record this quarter of 10 million kilometres driven injury-free.

With almost 300 drivers and dispatchers, the team transports employees and contractors throughout the Project area including Port Moresby, where they can have in excess of 350 customers a day.

Project Logistics Manager Mike McAdie said he was proud of the team's excellent safety record.

"The flawless safety performance of our Ground Transport team is a credit to every one of our drivers and their commitment to our culture: *Nobody Gets Hurt*," he said.

"I congratulate our team for taking care of themselves, their colleagues and our neighbors. I also sincerely thank other road users for their patience and courtesy as we transport Project personnel between various sites."

"Our goal now is to finish the Project and handover transport to the operations group without a single injury."

Members of the Ground Transport team

Figure 2.2 – Pre-construction survey progress

1 Protected Areas	Report in Preparation
2 Protected Species	➔ Issued to DEC
3 High-Conservation Value Habitat	× No longer going to be used
4 Sites or Habitats of Ecological Significance	☑ Approved by Project
5 Cultural Heritage Sensitivity	➲ DEC Permission to Construct (as required)
6 Social Sensitivity	

Survey Site	Sensitivities Surveyed						Status
	1	2	3	4	5	6	
ONSHORE PIPELINE FACILITIES							
Moro Campsite and Kamari Quarry	✓			✓	✓		➔
Moro Camp 5 Additional Platforms				✓	✓		☑
Onshore Pipeline ROW: Kilometre Point 0 - 9.5				✓	✓		
Onshore Pipeline ROW: Re-alignment Kilometre Point 65 - 67		✓		✓	✓		
Kilometre Point 172 Access Road and Kilometre Point 158.5 Borrow Pit		✓			✓		➔
Kilometre Point 192 Access Road, Valve Station and Vent Stack		✓		✓	✓		➔
Homa/Paua Laydown and Quarry		✓		✓	✓		☑
Homa Quarry 2				✓	✓		☑
Auwitangi Quarry 1 and Quarry 2 and Associated Access Road		✓		✓	✓		
Homa Alternative Campsite/Laydown area		✓			✓		×
Kilometre Point 4.5 Campsite		✓		✓			➔
Kilometre Point 24 Campsite		✓		✓	✓		➔
Cathodic Protecton 1 and Associated Infrastructure		✓		✓	✓		
Cathodic Protecton 2 and Associated Infrastructure		✓		✓	✓		➔
Kutubu Mainline Valve Station and Associated Facilities		✓					☑
Benaria Mainline Valve Station 1 and Quarry		✓			✓		
Mainline Valve Station 2 (Kilometre Point 57) and 3 (Kilometre Point 66) and Additional Workspace		✓		✓	✓		
Mubi River Horizontal Directional Drilling Platform		✓		✓	✓		➔
Shoo-fly Access Road at Kilometre Point 137				✓			☑
Kilometre Point 80 Access Road		✓		✓			×
Neango to Dauli Access Road at Kilometre Point 18		✓		✓	✓		
Angore Roads and Angore Wellpads		✓		✓	✓		
Homa Ridge Access Road		✓		✓			☑
Access Road to Positive Side of Tagari River Crossing				✓	✓		
Hegero Campsite		✓					☑
Tubage Bush Camp Extension	✓			✓			
Onshore Pipeline ROW: Re-alignment Kilometre Point 92 - 94	✓			✓	✓		
Kaimari Pipe Laydown Area	✓			✓	✓		
Kilometre Point 72.5 Laydown Area		✓		✓			
Kilometre Point 68 Quarry		✓		✓			
Arakubi Quarry				✓			
Kekero and Hegero Laydown Areas				✓			
Homa Campsite and Laydown Area				✓	✓		
KOMO AIRFIELD							
Truck Turning Facility (Komo-Hides Junction)					✓		➔

Environment Permit sensitivity definitions:

1 - Protected Areas
Recognised or pending protected areas which include but are not limited to wildlife management areas, conservation areas, Ramsar sites, provincial reserves, national reserves, sanctuaries and protected areas, and national parks.

2 - Protected Species
Any species protected under Papua New Guinea legislation or listed in Convention on the International Trade in Endangered Species appendices, or in the International Conservation Union (IUCN) Red Data Book as Critically Endangered, Endangered Vulnerable or Data Deficient.

3 - High-Conservation Value Habitat
Any habitat identified within the high-conservation value Forest Toolkit as being within categories high-conservation value 1-5.

4 - Sites or Habitats of Ecological Significance
Sites or habitats of ecological significance such as:
a) Caves with a large entrance which may be used by bat colonies.
b) Pinnacles containing bat colonies.
c) Birds-of-paradise or bower bird display trees or display grounds.
d) *Pandanus* swamp forest.
e) Antarctic Beech *Nothofagus* spp. forest.
f) Areas of Antarctic Beech *Nothofagus* spp. dieback.
g) *Pharotis imogene* (New Guinea big-eared bat) colonies.
h) Sandalwood *Santalum macgregorii* trees.
i) High-value conservation swamps containing juvenile fish nursery habitat.
j) Swamps in sink holes < 50 m deep on Hides Ridge.
k) Areas of infestations of priority weeds or pests.
m) Mangrove stands and forest.
n) Seagrass beds.
o) Coral reefs.

5 - Cultural Heritage Sensitivity
Any site in which any cultural property as described in s. 20(1) of the National Cultural Property (Preservation) Act has been located.

6 - Social Sensitivity
Issues include, but are not limited to:
a) Impact on previously undisturbed sites of cultural heritage.
b) Significant and unpredicted loss of resources that affects livelihoods.

CASE STUDY ONE

Big things afoot at the LNG Plant

On the morning of July 5, LNG plant site workers received a big surprise as they entered through the main security gate and passed by a massive piece of equipment near the turnstiles.

What they were seeing was the Main Cryogenic Heat Exchanger (MCHE), which was parked at the gate until 8:00 am that morning while preparing for its final journey to Train 2.

The MCHE parked outside the main security gate to the LNG plant site

Although other structures at the LNG Plant, like the flare tower, will reach great heights, at 53 metres the MCHE is the tallest single piece of equipment on the Project. The MCHE is at the heart of the LNG Plant and is responsible for liquefying and cooling the natural gas.

Prior to being transported to the LNG plant site, the MCHE traveled by ship from Pennsylvania in the United States, arriving at Motukea Island near Port Moresby. It was then offloaded on to two sets of six-axle self-propelled modular transports – each consisting of two units side-by-side in readiness for transportation by road to the LNG plant site. At 8:20 am on July 4, the MCHE commenced its 12-kilometre journey. The self-propelled modular transports occupied the full 7-metre wide roadway, so traffic was allowed to pass in a controlled manner at various pre-determined locations. The MCHE was escorted along the road by a number of support vehicles.

At a speed of less than 5 kilometres per hour, it took just over six hours for the MCHE to arrive at the main security gate of the LNG plant site.

After an overnight stay at the main security gate, the MCHE completed its journey on July 5, arriving at the construction site for Train 2 at 10:00 am. Having reached its final destination, site teams lifted it into place flawlessly.

This is the second and final MCHE to be installed at the LNG plant site, with the first installed on Train 1 earlier in the year.

Although the MCHEs weigh 300 tonnes each they are not the heaviest pieces of equipment on the Project, with the amine absorber weighing more than 542 tonnes. Installed earlier this year, the amine absorber is a vital component in the LNG process. It removes impurities, including carbon dioxide, from the incoming gas prior to supercooling and liquefying it.

Installing massive pieces of equipment is challenging. However, through their expertise and commitment to safety procedures, the teams involved have successfully installed both pieces of equipment without incident or injury. With all 260 heavy lifts now completed, the LNG plant site has demobilized its two largest cranes by dismantling them into many smaller parts before transporting them to Motukea Island enroute to their next project in another part of the world.

The MCHE on self-propelled modular transports enroute to the LNG plant site

The MCHE being lifted into place on Train 2

3 Safety, Security, Health, Environment and Social Management

A core Project value is protecting the health and safety of Project workers and local communities, as well as the environment, within the Project impact area.

3.1 Approach

The Environmental and Social Management Plan (ESMP) outlines the Project's commitment and approach to environmental and social management activities. It is supported by discipline-specific plans as shown in Figure 3.1. These plans have been developed from the Project's Environmental Impact Statement and are publicly available on the Project website.

Explore the plans at
www.pnglng.com/commitment

The Project also has management plans that cover Security, Health and Safety, as well as a Regulatory Compliance Plan.

All of these documents are used to maintain a best practice culture across all Project activities and form part of Esso Highlands Limited's commitment to sustainable economic growth for Papua New Guinea.

3.2 Security

With pipeline construction activities reaching the Moro and Kutubu areas, the Project's Security and Socioeconomic teams are proactively engaging with local communities to maintain a safe and secure environment for workers and residents in these areas.

Some localized disturbances occurred in the Upstream North area and along the Highlands Highway this quarter as a result of the Papua New Guinea 2012 National Election, but they had minimal impact on Project personnel and operations. The presence of the Royal Papua New Guinea Constabulary, assisted by the Papua New Guinean Defence Force, has improved law and order throughout the country, including Project work areas.

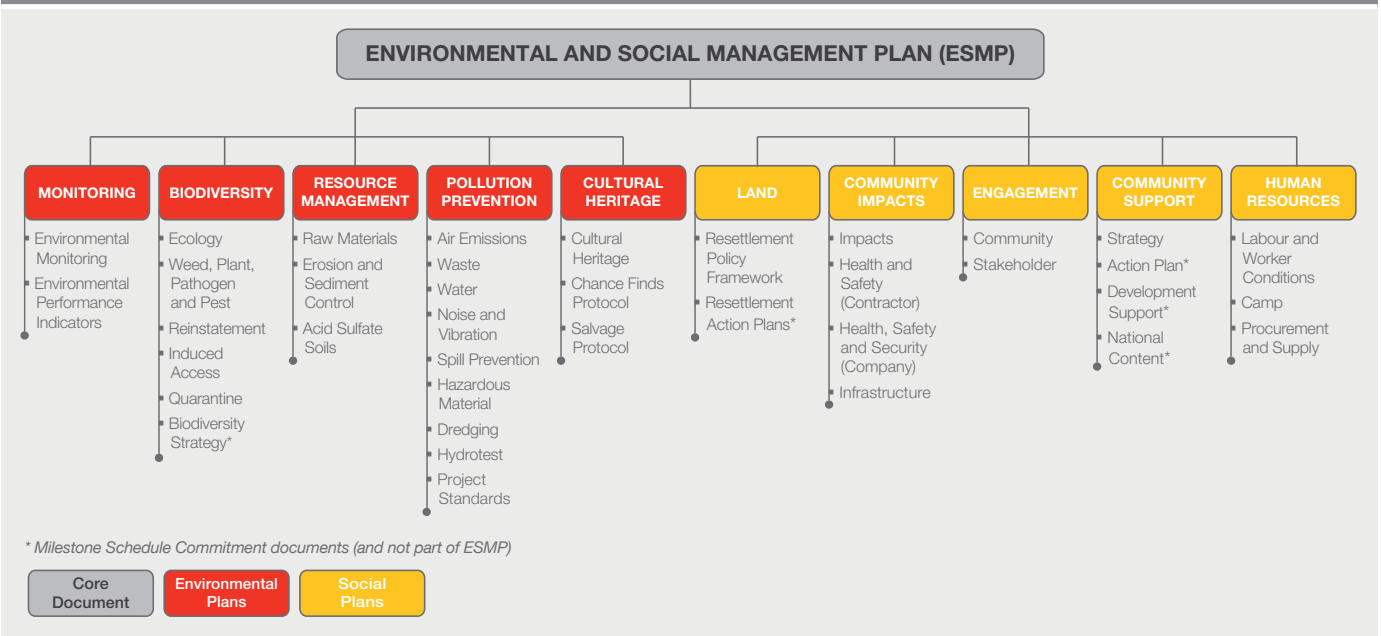
The Project continues to encourage human rights awareness training for Royal Papua New Guinea Constabulary officers who are deployed to support community policing initiatives in Project areas.

3.3 Revenue management

Papua New Guinea's Minister for Foreign Affairs, Rimbink Pato, highlighted the establishment of the Sovereign Wealth Fund as 'one of the country's key accomplishments of 2012' during his address to the United Nations General Assembly in September. The Minister said the Sovereign Wealth Fund would be used to 'professionally manage the revenue from the PNG LNG Project and other extractive industries'.

Incoming US Ambassador, Walter North, also recognized the important role of the fund in managing revenue from the Project and other resource developments. During his September confirmation hearings in Washington DC, Ambassador North said the Papua New Guinean Government had taken 'critical steps to ensure that these resources are better utilized, including through the creation of offshore sovereign wealth funds that broadly comply with recommendations of the international financial institutions'.

Figure 3.1 – Environmental and Social Management Plans



Meanwhile, the Papua New Guinean Government continues its discussions with government representatives, civil society and industry on adopting the Extractive Industries Transparency Initiative – a global initiative that promotes transparency by monitoring resource companies' payments and government revenues at a country level. During this quarter, the Project progressed discussions with other resource companies through the Papua New Guinean Chamber of Mines and Petroleum to provide industry recommendations for the Initiative.

3.4 Management of Change

The Project implements a Management of Change procedure in situations where changes to the Project Development Plan are needed. Before any proposed change, Project requirements are considered with regard to: health, safety, security, environmental and social management, operability and maintenance, regulatory and cost, and scheduling requirements. Changes are classified according to how they must be managed. For example, Class I changes require Lender Group review prior to implementation, while Class II changes only require Lender Group notification in the PNG LNG Quarterly Environmental and Social Report.

No Class I or II Management of Change requests were raised during this quarter.

3.5 Environmental and Social Milestone Schedule

The Project's Biodiversity Offset Delivery Plan was submitted to the IESC/Lender Group for review during this quarter.

With regard to the Project's Resettlement Action Plan commitments, site-specific Resettlement Action Plans are being developed as they are needed.

4 Procurement and Supply

The Project continues supporting Papua New Guinean businesses, with a particular focus on building the capacity and developing the skills of Lancos. This is primarily achieved through the initiatives of the Business Development team and resources such as the Enterprise Centre.

4.1 Supplier development

Papua New Guinean businesses and Lancos are playing an essential role in providing goods and services related to the Project's construction. In particular, as activity progresses at the Komo Airfield, the HGCP and the LNG plant site, Lancos are continually relied upon for services such as camp maintenance, catering, security, equipment hire and recruitment.

To date, the Project has spent over 5.7 billion Kina (US$2.7 billion) with Papua New Guinea businesses. Of this, more than 1.29 billion Kina (US$620 million) was spent with Lancos. During this quarter alone, Lanco spend was more than 230 million Kina (US$111 million), representing a 23 percent growth on total Project Lanco spend-to-date. Maximizing opportunities for local suppliers is a key Project objective, so these positive figures are indicative of several initiatives in place to support this.

For example, the Business Development team works closely with Lancos and communities in the Project area to identify opportunities, assist in developing business proposals, and identify any capacity building requirements that may be of benefit.

The Enterprise Centre provides services to other Papua New Guinea businesses and associations through its range of corporate, capacity building, communication and information services.

4.2 Enterprise Centre

Demand for Enterprise Centre services is growing as landowners and local companies take advantage of the capacity building, advisory, training, business assessment services the Centre provides, as well as their links to Project opportunities. For one example, refer to *Case Study Two – Project opens opportunities for Emmy's Bakery and Catering Services*.

4.2.1 Business assessments and training

The Enterprise Centre's Business Assessment team completed 30 assessments during this quarter, eight more than the previous quarter. To date, business assessments have been conducted for 228 local businesses. The Enterprise Centre also released 18 assessment reports and made 24 report presentations. In addition to assessing new companies, the Centre conducted reassessments of the original 12 representative Lancos to gauge how their recommended business improvement plans have progressed since 2011. Eight reassessments completed by the end of the quarter are included in the total number of Lanco assessments, as shown in Figure 4.1.

Training is another important focus of the Enterprise Centre's work. This quarter, more than 456 training days were provided to 95 participants from Laba Holdings Limited, Rea Rea Community Women's Group and several non-Lancos, as shown in Figure 4.2. Directors from Laba Holdings Limited benefitted from Financial Management training aimed at bolstering their money management skills. The Centre also introduced accounting software training, with six participants completing the five-day training course including workers from Laba Holdings Limited and Hides Gas Development Company Limited. The decrease in training days compared with the previous quarter primarily reflects a concentrated effort in the second quarter 2012 to boost training for women's organizations, as well as a reduction in training demand this quarter as businesses were busy with end of financial year preparations.

Figure 4.1 – Number of Enterprise Centre assessments for Lancos and non-Lancos

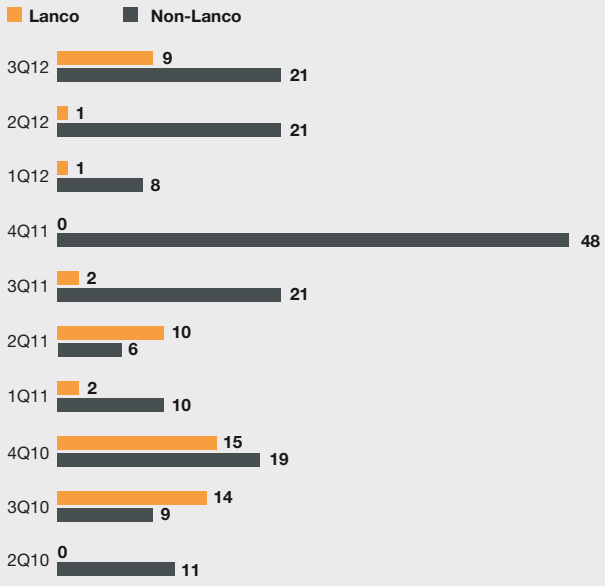
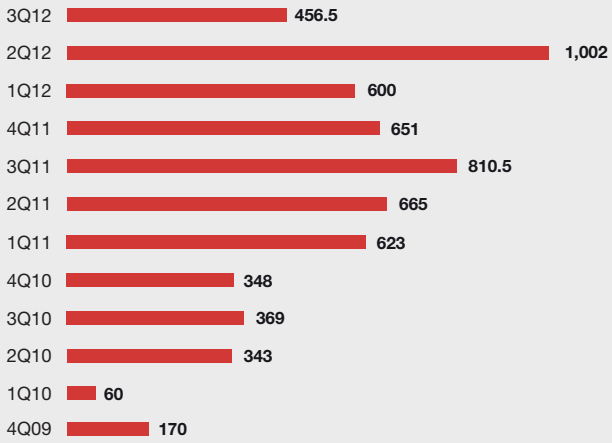


Figure 4.2 – Number of capacity building training days



NOTE: The Papua New Guinea Institute of Banking and Business Management provided training prior to the Enterprise Centre's opening in April 2010.

Plate 4.1 – The Rea Rea Community Women's Group undergoing training at the Enterprise Centre

International Standard Organization training course

As a first for Papua New Guinea, during this quarter the Enterprise Centre introduced ISO training – a three-day course – in partnership with International Standard Certifications Proprietary Limited of Australia.

Two sessions were completed during this quarter, with the first session of ten participants completing modules in Quality Management Systems and Occupational Health and Safety Management Systems. The second session attracted 25 participants who completed the Management Systems Documentation and Management Systems Auditing Techniques modules.

Project Management training

Demand for Project Management training also led to a two-day practical workshop for managers from a number of Papua New Guinean companies and the Papua New Guinean Department of Labour and Industrial Relations. Project management skills are becoming highly valued, and demonstrated skills are an essential component in winning tenders for many business projects.

4.2.2 Advisory services

Lancos from the LNG plant site villages and Upstream areas received 16 days of advisory services this quarter. This included two visits by the Enterprise Centre team to Lea Lea Village to assist the Rea Rea Community Women's Group establish a fish market. During the visits, the Enterprise Centre team provided a specialized one-day Business Basics training course designed specifically for the Women's Group to teach them basic business record keeping and money management skills.

4.2.3 Enterprise Centre communication and events

More than 710 individuals benefitted from using the Enterprise Centre's facilities, such as internet workstations and the PNG Supplier Database during this quarter. The Centre also participated in numerous meetings and community events including discussions with the four LNG plant site villages about how they may become involved in Project opportunities.

Another highlight of the quarter was the launch of the second annual assessment magazine from the Centre profiling companies that were involved in business assessments during 2011.

Also this quarter, the Enterprise Centre management were among 300 delegates who attended the Papua New Guinea Advantage Conference held in Port Moresby to promote business and investment in the region. Among the 35 speakers at the two-day conference were Peter Graham, Managing Director of Esso Highlands Limited and Papua New Guinea's Minister for State Owned Enterprises the Hon. Ben Micah.

4.2.4 PNG Supplier Database management

More than 1,400 businesses and Lancos across a wide range of activity areas are now registered on the PNG Supplier Database. During the quarter, 39 companies were added as suppliers on the database and 349 people visited the online dashboard.

Plate 4.2 – The Enterprise Centre's *2011 Assessment Magazine*

CASE STUDY TWO

Project opens opportunities for Emmy's Bakery and Catering Services

A local Papua New Guinean catering service is on a path to growth thanks to the Project and the Enterprise Centre.

Edward Mimino and his wife Bo have been working with the Enterprise Centre and the Project to grow their business, Emmy's Bakery and Catering Services.

Bo, who is from Thailand, met Edward at school in Australia. Their shared love for food and cooking led to the catering business, which now involves the whole family.

"Bo's mother owns a restaurant in Thailand so this was much of the source inspiration for us to start in the food and beverage industry," Edward said. "We liked the concept of the whole family being able to contribute to the business, including our four children. This is unlike other businesses and professions."

Edward and Bo opened Emmy's Bakery in August 2001, named after their eldest son's nickname. In 2004, the business changed its name to Emmy's Bakery and Catering Services (EBCS) following their success in catering and other food and beverage services.

Since 2004, EBCS's main clients have been government entities, including the Office of the Prime Minister, Department of Foreign Affairs and the Office of the Governor-General. Between October 2006 and March 2011 the company's main client was the Australian High Commission.

Despite this impressive client list, EBCS was experiencing cash flow and business development difficulties, primarily caused by accounts receivable issues. Edward and Bo also wanted to develop the business from finger food style catering to buffet service and large dining hall operations.

As a result of this ambition, EBCS visited the Enterprise Centre on a fact-finding mission at the end of 2010 to see whether they could participate in the Project. By the end of March 2011 they began staff training through the Enterprise Centre in areas such as food safety. The Centre not only helped the business with its training needs but also introduced EBCS to the Project, opening growth and development opportunities for them. This signaled a turning point for the business, including increased turnover and a doubling in staff to 16.

"The Enterprise Centre's business assessment helped us to identify gaps and fix them," said Edward.

"One of the most valuable lessons we learned was about compliance with food and government regulations."

"The Enterprise Centre has done wonders for EBCS. We never thought that training could be so important and valuable. We thought we knew what we needed to know. I have chefs with up to 20 years of experience who returned from training at the Centre and thanked me. They all knew how to cook but we realized there is so much more to know, like the food safety and hygiene courses."

"All of this was done at no cost to our business, thanks to the PNG LNG Project," Edward said.

Following training and assessments through the Enterprise Centre, EBCS is now working toward full ISO certification.

Edward said that, based on this solid foundation, their future plans for the business include entering the fresh produce wholesale supply sector to help develop this industry for the benefit of village produce growers and local consumers.

"We have the training, knowledge and experience now to expand in this industry," Edward said.

"In addition to expanding our catering business we want to branch into training and skills development. We plan to teach Papua New Guinean people that even with a meager budget they can feed the whole family with a nutritiously balanced healthy meal. We want to show them how to shop wisely at the market and how to use the correct ingredients and techniques to feed large numbers on a small budget."

EBCS kitchen hands are gaining experience and training through the Enterprise Centre

5 Communities

Over the past two years, the Project has built relationships with communities that support the development of community health, safety and local business initiatives within the Project impact area and understand their perspectives on the potential impact of construction activities.

5.1 Structure and relations

A set of community impacts and engagement management plans are used to address the Project's community interactions and potential impacts from construction activities. These plans are outlined in Figure 3.1.

5.1.1 Community grievance management

The Project uses a best practices approach, consistent with the International Finance Corporation Performance Standards, to identify and manage community grievances. This approach involves a five-step process.

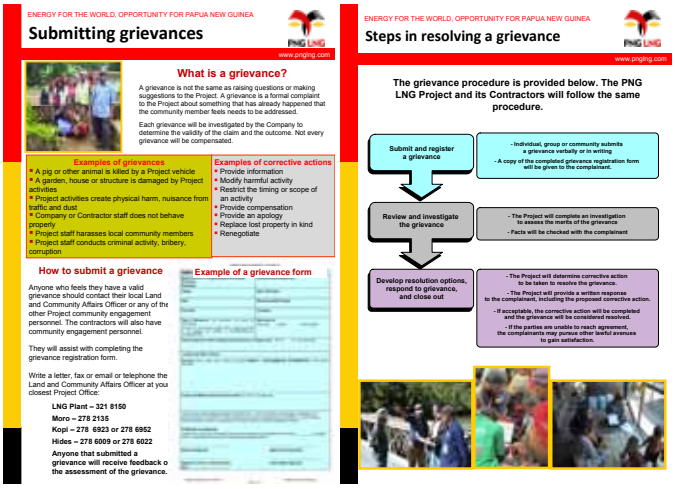


Plate 5.1 – Posters outlining the grievance management process

Using this process, the Project registered and categorized 108 grievances during this quarter, which was a slight increase from the 100 grievances registered in the previous quarter but is propotional to Project activities.

Ongoing training on the grievance management process is being provided to Project teams to reinforce the importance of recording and resolving grievances in a timely manner. This training includes an emphasis on ensuring supporting documentation is properly submitted, along with the need for constant communication with communities to support them in raising a grievance.

Over the past 12 months, 472 grievances were registered with the Project, and 520 grievances (raised either in the past 12 months or earlier) were closed by the end of this quarter as shown in Figure 5.1.

Of the 108 grievances registered during this quarter, 33 percent were related to the environment, with most being community claims for alternative water sources.

The five-step grievance management process

The Project takes a structured approach to investigating and managing grievances.

Step 1: Publicize – The Project communicates with communities about the Community Grievance Procedure. This includes ongoing stakeholder and community-wide engagement supported by promotional brochures and posters distributed during engagements.

Step 2: Receive and register grievances – The Project provides numerous mechanisms for receiving grievances from members of the community, for example, the use of grievance cards by the Socioeconomic team when they are interacting with communities. Members of the public can also submit grievances in writing, when speaking with a Project team member, or over the telephone. All grievances received are registered in the Project's Information Management System, which is a centralized database that coordinates and manages grievances through to their closure.

Step 3: Investigate grievances – The Project reviews and assesses all registered grievances. For Project-related grievances, a full investigation is conducted so a solution can be developed. For non-Project-related grievances, the grievant is referred to the relevant authority.

Step 4: Develop resolutions – From information gathered during the investigation step, the Socioeconomic team determines the most suitable resolution and, if necessary, a schedule of corrective actions to enable the closure of the grievance. In some cases, the resolution may be to provide the grievant with more information, while at other times it may involve corrective actions or an apology. Once a resolution is provided, the grievance is closed. Throughout this process, the grievant is kept informed of the progress to closure.

Step 5: Monitor, evaluate and improve the grievance process as necessary – Once a grievance is closed, the Socioeconomic team evaluates the effectiveness of the resolution. The team also conducts weekly reviews of the grievance process looking for trends, lessons learned and opportunities for improvement.

While extensive investigations do not support many of these claims, the Project continues to provide water tanks and tarpaulins to communities as part of goodwill assistance. During this quarter five new water structures were provided, bringing the total number of water structures built for communities in the Hides and Komo areas to 66 (52 in Hides and 14 in Komo).

Another 32 percent of grievances received during this quarter regarded land concerns. Some grievances related to concerns that gardens or land were not properly assessed or, in some instances, that compensation payments had not been made.

A further 13 percent of grievances related to social impacts covering topics such as community health and safety, as well as resettlement activities and requests for social welfare improvement and assistance.

Economic grievances accounted for 9 percent of all grievances received during this quarter, with most grievants concerned about employment opportunities, or the selection of local business development opportunities. There were also some grievances concerning construction activities during this quarter.

As a result of the Project actively attending to grievances, only 15 cases remained open at the end of this quarter.

Figure 5.1 – Number of grievances by category during the last 12 months

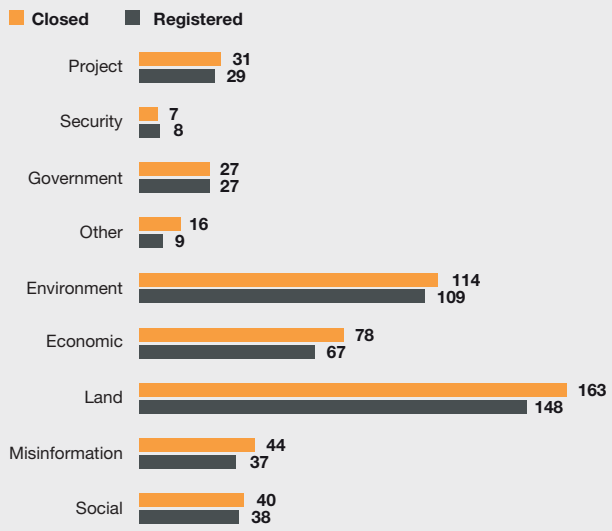


Plate 5.2 – Newly built water structure with two 5,000-litre tanks at Angulae Village in Hides

5.1.2 Project Induced In-Migration

During this quarter, 12 research sessions were conducted in the Upstream area with local communities, Lancos, district administrators and other stakeholders, while another nine awareness and education sessions were conducted with communities.

During these sessions, key messages about the environmental, health, social and economic impacts of Project Induced In-Migration were distributed. An additional 16 awareness and advocacy workshops were also conducted for government agencies and other stakeholders in this area.

At the same time, the Project conducted influx monitoring in the Hides to Komo area and in the Upstream South area (covering Kopi to Kikori and Gobe to Moro). Identified influx areas included Komo station, Tamalia, Hides 4, Tari, Kikori station, Gobe, Tamadigi and Moro areas. As construction camps have moved north along the pipeline route from the Omati River landfall to the Upstream North area, the Project has observed an influx of traders in particular who are following along with the aim of selling cigarettes, betelnut, clothing, cooked food and other items outside the camps. The Project is observing the movement patterns as construction moves forward to see how far they will travel, and keeping host communities appraised of the situation so that they are aware of the potential impacts and risks and the short-term implications. The Project is also working with Local Level Government Ward Councillors to minimize any longer term negative implications, and considering additional opportunities to support local schools and health facilities as part of its social resilience program.

5.1.3 Fisheries surveys

The Project signed an agreement with the University of Papua New Guinea Marine Biology Department during the second quarter 2012 and began a mangrove rehabilitation program this quarter. The program recognizes the importance of mangroves in providing fish habitats and spawning grounds, as well as preventing soil erosion in the coastal and rural villages of Papua New Guinea. During the quarter, 20 local assistants from Papa Village completed two days of training and demonstrations facilitated by two mangrove specialists from the University. This was followed by the planting of more than 2,600 mangrove seedlings, provided by the University, over a ten-day period.

With planting complete, three Papa Village residents have been assigned to monitor their growth on a weekly basis until the end of November 2012 and thereby ensure a greater chance of success.

Plate 5.3 – Mangrove seedlings provided by the University

Plate 5.4 – Planting mangrove seedlings as part of the mangrove rehabilitation program

The Project is also progressing the development of a deep sea fishing training course, which the National Fisheries College will deliver to 20 fishers from the four LNG plant site villages. The course is intended to support sustainable fishing practices for small-scale village fishing.

Furthermore, agreements were finalized with the National Fisheries Authority of Papua New Guinea and their partner organizations to begin a fisheries feasibility study in the Omati area in the fourth quarter 2012. The results of this study will help identify fisheries projects with the potential to improve economic opportunities for fishing communities in the Omati and Kikori areas. This is particularly important considering that fishers from these areas face significant challenges with marketing their catches.

Surveys conducted in Caution Bay showed a total of 606 fishers hauled in a combined catch of 10,352 kilograms of fish during this quarter. The increase in volume of fish catch this quarter may be attributed to factors such as: an increase in fishers due to individuals previously working on the Project returning home; reduced inconveniences to fishing areas due to near completion of the LNG jetty; favorable weather conditions at the time of the survey; and the start of the Longthom fish season.

Plate 5.5 – Longthom fish caught in Caution Bay

Meanwhile, in the Omati area, 70 participants (representing 281 fishers) were also surveyed during this quarter with 1,515 kilograms of crustacean and fish catch recorded. Although changes were detected, the number of fishers and the volume catch for the area remains fairly consistent with the previous quarter, which interviewed 76 participants (representing 324 fishers) and recorded a catch volume of 1,731 kilograms of crustaceans and fish. Fish catch in Omati is mostly for home consumption while in Caution Bay about 70 to 80 percent of the catches are sold to generate household income.

5.1.4 Social considerations for logistics activities

Work progressed this quarter on various community projects associated with the Barging Route Waterways Memorandum of Understanding signed with representatives from the eight tribal groups surrounding the waterways of the barging route. For example, water supply projects were completed in the Urama and Omati areas, while a community center is under development in Ogomabu.

Plate 5.6 – A completed water supply project in Kivaumai Village

Meetings were also held with the Barging Route Waterways Memorandum of Understanding Committee about developing a natural resource use and management plan for their region. The Project's Community Development Support and Field Environmental teams are working together with tribal representatives to develop a process for the sustainable use of their natural timber resources.

5.2 Infrastructure, services and resources

At the LNG plant site, work commenced this quarter on the construction of a post office and commissary. This will supplement the small rural Bank South Pacific branch, which opened on September 28 in the Laba Holdings Limited office outside the LNG plant site. The branch includes four automatic teller machines and three tellers to provide deposit and withdrawal services for people in the local community. This service means local villagers near the LNG plant site, along with LNG workers, no longer have to travel into Port Moresby for their banking and postal needs.

Plate 5.7 – A cultural dance performance at the grand opening ceremony for the new Bank South Pacific branch

Plate 5.8 – Edward Tani, Bank South Pacific Rural Laba Branch Supervisor at one of the new automatic teller machines

Meanwhile, work continued on replacing the Lea Lea Bridge with completion of the new bridge anticipated by the end of October 2012.

In Boera Village, renovation of the existing health clinic continued and construction of a staff house was completed. This community project, sponsored and managed by the Project, has involved volunteers from Boera Village, along with donations from two LNG Plant and Marine Facilities subcontractors.

Plate 5.9 – Completed Boera staff house

The clinic provides medical services to Boera's local population of over 4,000 people.

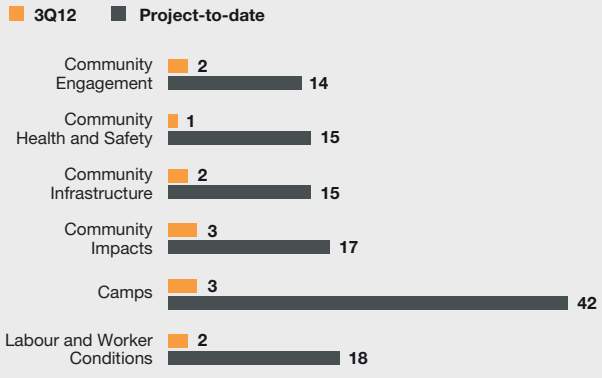
Also this quarter, the Komo Airfield contractor completed five police houses for Komo station. This project was driven by the Community Issues Committee at Komo, which wanted regular police personnel based in the area.

Plate 5.10 – The completed police housing project at Komo station

5.3 Verification, monitoring, assessment and audit

As part of its commitments under the six social management plans – Camp, Labour and Worker Conditions, Community Engagement, Community Health and Safety, Community Impacts, and Community Infrastructure – the Project conducted 13 monitoring events this quarter as shown in Figure 5.2.

Figure 5.2 – Number of monitoring events against relevant social management plans



The Project tracks conformance with the various social management plans through three reporting tools: non-conformances, field observations and positive field observations.

Non-conformances occur when situations are identified that are not consistent with Social Management Plan requirements and therefore require corrective actions. A field observation involves an observation, intervention and/or corrective action that is required to prevent a non-conformance.

If not corrected in a timely manner, field observations can escalate to a non-conformance. Innovative or excellent performance against Social Management Plan requirements is recognized as a positive field observation.

During this quarter, 19 positive field observations were recorded in areas such as cultural awareness training for new workers, improved camp and waste management processes, and drama performances to convey safety messages to communities.

Two non-conformances were raised during this quarter at the Komo Airfield site. These were attributed to an outstanding payment of worker's compensation and impacts on the community water supply catchment in several areas due to construction works. With regard to the latter non-conformance, the Socioeconomic team conducted a thorough investigation, with water sampling and testing undertaken by the Komo Airfield contractor to determine the best mitigation options. Both clans affected on the western boundary of the Komo Airfield and at Emberali Village are being provided with an alternative water source.

Meanwhile, 15 field observations were recorded, as shown in Figure 5.3. The closure status of non-conformances and field observations is shown in Figure 5.4. In addition, two non-conformances raised during previous quarters were closed this quarter.

Monitoring was also conducted on the implementation of the Project's Industrial Relations strategy. The strategy, developed in September 2011, focuses on practical and fundamental steps that can be taken to mitigate industrial relations concerns. It comprises key industrial relations enablers such as worker engagement, communications, procedures, pay, Lancos, supervision, culture and strike handling.

Monitoring shows that each contractor has improved their implementation of the strategy. The Project continues working closely with contractors to achieve ongoing improvement in this area.

Figure 5.3 – Number of non-conformances and field observations raised during the third quarter

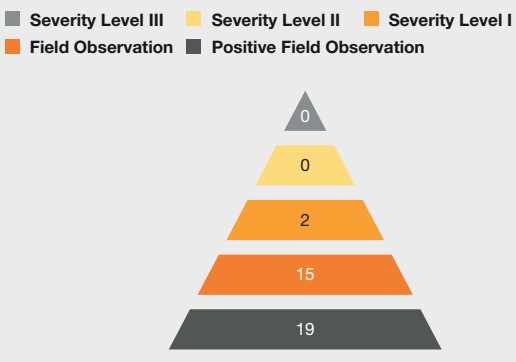
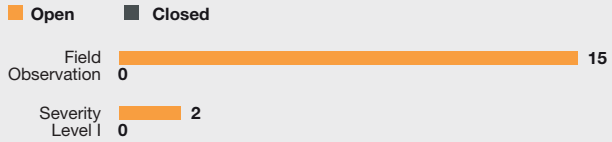


Figure 5.4 – Closure status of non-conformances and field observations raised during the third quarter



5.4 Community health

The Project's integrated Community Health Impact Mitigation Management Program is based on a framework developed by IPIECA and in line with the International Finance Corporation's guidance notes on Performance Standard No. 4 Community Health, Safety and Security.

Through working collaboratively with non-government organizations and Papua New Guinean health professionals, this Program is designed to mitigate and manage potential Project-related health impacts. The aim of each program activity is to build sustainable health services infrastructure and capacity.

A large portion of the Program is carried out through two major partners; the IMR and Population Services International (PSI). In keeping with the Project's commitments under the National Content Plan, the IMR and PSI engage local non-government organizations on-the-ground to support the implementation of their activities.

5.4.1 Integrated Health and Demographic Surveillance System

The Integrated Health and Demographic Surveillance System (iHDSS) was established by the IMR under the 'Partnership for Health' agreement with the Project.

The iHDSS collects population and household-level data across the critical project areas through survey sites in the four LNG plant site villages (Boera, Papa, Lea Lea and Porebada) and the Hides and Komo areas, along with two matched comparison sites at Asaro Valley and KarKar Island. The iHDSS is a useful tool for capacity building and training for the next generation of Papua New Guinean researchers.

This data is being used to monitor and assess potential health impacts, including morbidity, mortality and nutrition as well as social impacts in Project areas. The iHDSS data can potentially be used by the Papua New Guinean Government to develop health and social policy interventions, and is anticipated to be published in peer-reviewed journals in the future.

In September, the Independent Scientific Advisory Board held its annual meeting in Goroka to review progress on the iHDSS including the methods used and the preliminary results.

The Board includes: Professor Maxine Whittaker (Head of School of Population Health, University of Queensland); Professor Marcel Tanner (Director, Swiss Tropical and Public Health Institute); Professor Burt Singer (Adjunct Professor, Emerging Pathogens Institute, University of Florida); and Professor Eduardo Gotuzzo (Principal Professor and Director, Instituto de Medicina Tropical, Universidad Peruana Cayetano Heredia, Peru).

During this quarter, household census/registration work continued in both the Asaro Valley and KarKar Island comparison sites. Over 12,000 individuals were recorded for the Asaro Valley site, while data from almost 5,200 individuals was captured in the KarKar Island census. In addition, more than 900 households were involved in a socioeconomic survey covering all of the survey sites, while a nutrition survey was completed in all survey sites involving more than 3,200 individuals.

5.4.2 Tuberculosis

Through the IMR, the Project is funding tuberculosis research at Kikori Hospital in the Gulf Province. A review of hospital records undertaken during this quarter indicated an unusually high incidence of tuberculosis unrelated to co-infection with the Human Immunodeficiency Virus (HIV)/ Acquired Immune Deficiency Syndrome (AIDS). The IMR is also investigating the level of multi-drug resistance in Kikori-based tuberculosis patients. Findings from this tuberculosis research are anticipated to have significant public health implications for the Gulf Province and for the overall tuberculosis control program in Papua New Guinea.

Plate 5.11 – Beverlyn Warigi, Scientific Officer from the Kikori Hospital studying slides under a microscope

5.4.3 Support to non-government organizations

PSI, in partnership with Susu Mamas, Maries Stopes International and other local non-government organizations, is delivering numerous community health initiatives across the Project area with support from the Project. These initiatives include: Marital Relationship Training and the Water, Sanitation and Hygiene (WASH) Program, as well as campaigns targeted at preventing STIs, including HIV.

The Water, Sanitation and Hygiene Program

Both the Project and PSI are maintaining a focus on the WASH Program and associated activities such as the Community-Led Total Sanitation program which aims to improve sanitation and hygiene at the community level. The Community-Led Total Sanitation program is supported by an educational campaign targeting the prevention and reduction of diarrheal diseases.

As part of the WASH program, essential water, hygiene and sanitation interpersonal communication sessions were conducted with 1,590 individuals from communities throughout the Project impact area during this quarter. In addition, WASH kits were distributed in the Hides, Komo and Margarima areas. The PSI team is also providing Healthy Men and Healthy Women training sessions that target the prevention of diarrheal diseases. During this quarter, 26 participants were trained in Hides and Komo.

Prevention of Sexually Transmitted Infections

The Project is committed to supporting the national movement to reduce STI and HIV transmission through educating people about STI prevention measures and the importance of minimizing the number of sexual partners/ concurrent partnerships.

PSI is targeting STI prevention through the distribution of PSI-branded prophylactics with more than 52,500 distributed to key outlets along transportation routes in the Project impact area this quarter.

Marital Relationship Training

The Project has provided funding to PSI for development and implementation of a Marital Relationship Training program.

Plate 5.12 – Participants from the Marital Relationship Training workshop at Porebada

The Marital Relationship Training program targets married couples with an emphasis on those aged between 20 and 39 years. It provides a safe place for men and women to learn in groups – separated by gender – about sexual health issues, partner communication, HIV/STIs, the use of prophylactics,

the benefits of having one partner, and decision-making and goal-setting skills. At the same time, Marital Relationship Training uses sessions on empathy to expose couples to a companionate type of relationship where husbands and wives help and listen to each other, moving beyond traditional gender roles in their relationships.

During this quarter, 173 men and women have participated in Marital Relationship Training workshops conducted in the four LNG plant site villages. These workshops are helping to achieve behavioral change, particularly with regard to reducing the numbers of sexual partners, avoiding gender-based violence and reducing alcohol consumption.

Meanwhile, 179 truckers and transportation company workers took part in behavioral change communication sessions, which involved reproductive health and gender-based violence prevention training.

Safe Driver initiative

More than 1,000 health care vouchers were distributed to truck drivers in Lae, the Morobe Province and the Southern Highlands Province during this quarter as part of the PSI-led STI prevention initiative '*Seif Draiva*' (Safe Driver).

The health care vouchers provide truck drivers with access to '*Fit Man*' and '*Fit Meri*' health services at Susu Mamas and Marie Stopes Papua New Guinea clinics in Lae, Mount Hagen and Goroka.

National Infectious Disease Diagnostic and Research Laboratory

Following construction of the National Infectious Disease Diagnostic and Research Laboratory, the Project is funding an extensive effort by the IMR to develop high-quality laboratory facilities to conduct world-class biomedical research. The IMR has engaged one of Australia's leading manufacturers of laboratory systems furniture to complete the final installation of fittings and fixtures. The Laboratory is scheduled to be fully operational by the end of 2012 and will undergo independent quality assurance and certification in preparation for opening in early 2013.

In addition to supporting laboratory research, the Project has provided funding for the IMR to conduct an extensive cross-sectional bio-behavioral survey to investigate the epidemiology of STIs. This includes the human papilloma virus (a known cause of cervical cancer), HIV/AIDS, herpes and the more common curable infections such as syphilis, gonorrhea, chlamydia, and trichomonas. The goal is to recruit 1,000 women attending antenatal clinics across the iHDSS survey sites as study participants. More than 150 patients have already been recruited from Hides, the LNG plant site villages and Asaro Valley. This study will provide the first ever data on human papilloma virus infection in Papua New Guinean women. Information gathered will be important with helping to prevent and treat cervical cancer, which is a leading cause of cancer-related deaths in Papua New Guinean women.

5.5 Community safety

The LNG Plant and Marine Facilities contractor is conducting ongoing education seminars with local high school students to reinforce the importance of a safety culture both at the LNG plant site and at home. Focusing on a typical day at the LNG plant site, these seminars highlight both Project and community-based mitigation measures for traffic, personal and worker safety.

As work progresses in Caution Bay, local communities have been advised of the next phase of navigation aid construction and made aware of how to stay safe. Navigation lights and channel beacons near Papa Village, and off the coast of Lea Lea Village, are essential to helping guide LNG tankers safely in and out of the harbor in this area.

Depending on weather and sea conditions, construction of the navigation aids will take until late 2012/early 2013. Communities have been advised that, because this area is a construction site, fishers need to maintain a distance of at least 500 metres from construction-related vessels.

In Komo, a temporary community market facility was completed by a local Lanco to provide a safe location for people attending the market, improve access for road users and keep pedestrians and marketers away from road traffic.

Completion of a permanent fence around the HGCP site has also significantly decreased the number of pedestrians traversing the site. The Project's Socioeconomic team continues to distribute road safety messages to the community and deliver road safety training to students in local schools.

5.6 Community investment

The Project's community investment approach aims to identify and work with local organizations and individuals who can lead initiatives designed to improve facilities and opportunities for their communities.

Rapid Implementation Projects

The Project introduced Rapid Implementation Projects as a way of quickly progressing some initiatives in the early stages of its community investment program. As the Project advances, Rapid Implementation Projects are being replaced with medium- to long-term community development support programs delivered through local groups that can support their implementation.

During this quarter, four new projects were supported under this new approach: the Kutubu Festival; the Kutubu Independence Day sports celebration; the Porebada Women's Fellowship National Convention; and the Chimbu and Eastern Highlands Provinces school desks initiative.

The Kutubu Festival is a three-day event involving communities from Kutubu, Mount Bosavi and Moran featuring and celebrating local culture through traditional dances, along with arts and crafts displays from these three communities. Sponsored by the Project, the Festival is in its second year.

Also in Kutubu, the Project provided sporting equipment for the Independence Day sports celebration for villages located around Lake Kutubu. In this area, the Project is working to help develop the capacity of the Lake Kutubu Wildlife Management Area (WMA) Committee in delivering on its environmental management objectives. This includes helping them move towards managing their own banking and financial administration needs.

In support of the Porebada Women's Fellowship National Convention, the Project provided tarpaulins to help shelter some of the 600 women from across Papua New Guinea who attended the Convention.

Meanwhile, the Project also provided 145 school desks to schools in the Chimbu and Eastern Highlands Provinces.

Plate 5.13 – Providing sponsorship to the Kutubu Festival

Plate 5.14 – One of the cultural dances performed at the Kutubu Festival

5.6.1 Community Development Support Plan

In August, the Project's Community Development Support team conducted a planning session to review progress across the three focus areas of: Strengthening Social Resilience, Local Economic Development and Community Capacity Building and Partnerships. From the workshop, the team identified key actions including:

- Assisting communities to build a profile of themselves by utilizing a livelihood framework.
- Facilitating community registration and training opportunities, as well as forums for stakeholders to communicate issues affecting them.
- Monitoring practical application of Project-provided training to determine whether additional training or infrastructure support is needed and ensure that identified projects are appropriately supported.

The Community Development Support team is implementing these actions across all three focus areas.

Strengthening Social Resilience

The Toea children's book series continues playing a vital role in delivering important safety, health and cultural messages to school-aged children. To date, the children's book series includes the adventures of Toea in six different areas of Papua New Guinea: Hiri (the National Capital District), the Gulf, Sepik, the Highlands, Rabaul and the most recent addition, released this quarter: *Toea's Milne Bay Adventure*.

In addition to the release of the sixth book in the Toea children's book series, during this quarter, the fourth installment of the Toea Project Interface series, titled the *Toea Money Management Game Board* was launched. The *Toea Money Management Game Board* is similar to the famous MONOPOLY board game but uses Kina as the currency and teaches children money management skills through scenarios related to everyday Papua New Guinean household expenses.

To date, the Project has distributed more than 19,500 books and activity packs from the Toea series to over 80 schools in the Project area.

Training for Village Court officials also began in Boera, Papa and Lea Lea during this quarter. Conducted by the Secretariat for Village Courts and Land Mediation, the sessions involve orientation and induction training for Village Court officials and provide introductions to various stakeholders they may work with in delivering local justice. The Project is working closely with the Secretariat to extend this training to Village Court officials.

The highly successful Personal Viability training continued in partnership with the Entrepreneurial Development Training Centre, with training sessions conducted at the LNG plant site villages and Komo. This brings the total number of Personal Viability training sessions to 18 with over 700 participants to date, split almost equally between male and female participants.

Participant surveys have shown that one quarter of all participants have received no formal education. Of those who have received formal education, 80 percent left school before the equivalent of Year 8. Based on these results, the Project is providing a three-day basic mathematics training program for participants before they progress to the next stage of Personal Viability training.

The surveys have also revealed a number of positive behavioral outcomes in participants such as: the diversification of sources of income; improved time and family management; an increase in profits; and the ability to pass on learnings to benefit others in their community.

However, the participants highlighted a number of challenges with applying what they had learned in their communities. Customary obligations are the key challenge faced by course participants across both Komo and the LNG plant site villages, along with transportation issues, competition and lack of capital.

Local Economic Development

During this quarter, the Project supported the creation of a community-led Agriculture Development Plan for communities in the LNG plant site area. The Plan will be reviewed with community members in the fourth quarter 2012 prior to its implementation. It is anticipated the review will include activities that introduce communities to crops that are viable for their area, opportunities to build farming skills and a network of officers trained to support each village.

In the Hides, Angore and Komo areas, 11 potential micro-entrepreneurs were identified and targeted for small infrastructure support projects to enhance their ability to implement sustainable small businesses.

In the Kutubu to Moran area, several small income-generating projects were also identified. These mostly included the potential for establishing vegetable nurseries and inland fish farm businesses. The Project will provide technical support to assess these potential projects during the fourth quarter 2012.

Meanwhile, following the success of a nursery established with women in the Omati region, the Project is in discussions with women in Kaiam and Samberigi regarding similar ventures.

Creating new mindsets

It might have an unusual name, but Personal Viability training is proving to be a life changing experience for many participants. Veronica Papers and Timon Togoya, who are both 54 years old and have had no formal education, are two people who completed Level 1 training this year.

“I am a widow and my greatest challenge is that I don’t have the support from my partner anymore. The PV [Personal Viability] course taught me to be more resourceful. I have four children that I support, so the family needs and budget topic we learned was most useful to me.”

“One week after receiving the PV certificate, I went to Tari and bought 52 day-old chicks to start a small poultry project. I know that by the time the chicks are adults, I should make about 3,000 Kina and my children really support the idea and will be participating in this project as well. I am looking forward to PV Level 2 as I want to grow my small income activities into larger ones because of my children’s future,” Veronica said.

Veronica Papers

Timon Togoya

Timon added that “Personally, I enjoyed the topics related to business as I am an owner of small bush material roadside trade store near Kobalu. I wish these valuable lessons were taught to me many years ago.”

“I saved up to 1,300 Kina and it is all owed to the training I received from the PV course. In my old life, it would have been spent on wants and not my needs. I want to continue growing and saving up so I can build a permanent house on high stilts.”

Community Capacity Building and Partnerships

Awareness sessions were conducted during this quarter with community leaders to identify and progress initial Personality Viability training participants to the next stage of the training program. The aim is to help participants develop basic accounting skills and further develop their ability to effectively participate in a team or organizational environment.

Numerous community capacity building programs were also completed during this quarter including a workshop focused on strengthening management capacity for the Delta Green Field Marketing Limited Women's Group.

In addition, a number of women's empowerment programs were implemented to support local women's groups. These empowerment programs included livelihood training provided by the Women in Mining and Petroleum group.

5.6.2 Strategic community investments

The Project is helping to mend young hearts through contributions to the Operation Open Heart Foundation. This Foundation relies on money raised through corporate and individual donations to provide treatment to patients with a condition described as a hole in the heart, where the heart valve at the end of the artery remains open after birth.

In affected children, the heart pumping motion causes the child to have shortness of breath. In a normal heart, the valve closes after birth.

Plate 5.15 – A young boy nicknamed "Little Big Man" with his mother after open heart surgery

Plate 5.16 – A mother with her daughter in recovery following open heart surgery

This heart defect cannot be corrected in most hospitals in Papua New Guinea. Through the annual Operation Open Heart Program, volunteer doctors and medical staff from Australia spend a week in Port Moresby General Hospital to conduct surgeries on Papua New Guineans, mainly children.

Donations such as those provided by the Project enable families from throughout Papua New Guinea to travel to Port Moresby for treatment, which would normally cost about 70,000 Kina (US$33,635) per patient in Australia.

Women's economic empowerment

During this quarter, the Project sponsored five Papua New Guinean women to attend a five-week Global Women in Management program in Jakarta, Indonesia. The program aims to help women from developing countries improve their economic participation within their country. Since 2009, the Project has sponsored 17 women from Papua New Guinea to attend the program, which is hosted in different locations around the world.

To date, the Project has provided $US600,000 to support the World Bank's Women's Self Reliance Program, which provides training and support to women in the Upstream and LNG plant site areas.

The Program covers topics such as basic finance and family life improvement skills. In particular, it teaches women how to generate income through means such as farming, sewing or baking activities.

Most of the training is provided in local villages and is conducted in conjunction with local women's associations and community groups.

Biomedical training

The Project is also sponsoring three Papua New Guinean biomedical technicians from Port Moresby General Hospital and two officials from the National Department of Health for six months of training in Dallas, Texas through the Biomedical Equipment Repair Training program. The team includes two women.

Biomedical technicians install, operate, repair and maintain equipment such as X-ray machines, incubators, and cardiac pressure monitors.

To date, the Project has sponsored nine biomedical technicians and two health administrators from Mendi, Mount Hagen, Goroka, Kundiawa, and Port Moresby to attend the training program. The previous four trainees have now returned to Papua New Guinea and are supporting health care facilities throughout the country, including the Project area.

Plate 5.17 – Project representatives with the five Biomedical Equipment Repair Training program participants

From left to right: Shabaka Gibson, Community Investments Lead, Esso Highlands Limited; Ambrose Kwaramb, National Department of Health; Martha Posaweu, Tracey Mandawali and Robert Mokela, Port Moresby General Hospital; Henry Tenambo, National Department of Health; and Valentina Kaman, Community Investments Advisor, Esso Highlands Limited

Teacher needs assessment

In conjunction with the Papua New Guinean National Research Institute, the Project is providing support for teachers to upgrade their teaching qualifications and acquire new skills to improve the quality of teaching in the Southern Highlands, Gulf and Central Provinces. The Project and National Research Institute teams are also surveying schools in the Project impact area to guide additional programs that will help to improve education outcomes for local children.

5.6.3 Volunteer programs

Following recent flooding in parts of the Gulf and Southern Highlands Provinces, the Project provided 10,000 Kina (US$4,800) to an on-the-ground non-government organization known as the Community Development Initiatives Foundation, to purchase fuel to help disaster assessment teams move people from affected areas to higher ground.

In addition, the Project worked with the National Disaster Committee to transport essential medical supplies to communities in Gobe, Kopi and Kaiam. In some cases, Esso Highlands Limited-chartered helicopters were used to deliver supplies when bridges and roads became impassable.

Another 40,000 Kina (US$19,200) was also donated to the Community Development Initiatives Foundation to assist with recovery efforts, providing rations, logistics and shelter for flood victims.

6 Compensation and Resettlement

As part of the Project's compliance with the *Oil and Gas Act 1998*, landowner clans are compensated for land impacted by the Project. Livelihood restoration activities are also closely monitored to give physically and economically displaced people the opportunity to, at a minimum, restore their livelihoods and standards of living.

6.1 Compensation

Ongoing engagement is being conducted in Project areas to execute clan agency agreements with customary landowner clans. These agreements record the appointment of clan agents and provide for the payment of statutory compensation owed to the identified clans for access to customary land. Compensation includes initial damage, surface damage and annual deprivation payments.

As construction nears completion on the Hides Wellpad Access Road and Spineline, the Socioeconomic team is meeting with landowner clans to arrange compensation. During this quarter, clan agency agreements were achieved and compensation paid for four of the nine spoil sites, along with the Hides Vehicle Washdown Area. In addition, one of two landowner clans for Hides Quarry 1 received their payment, while the Project continued working with the remaining clan to execute their agreement and pay compensation.

Meanwhile, two Taguali clans have negotiated clan agency agreements and received their complete statutory compensation packages, including annual deprivation payments for 2012, for the HGCP site. Currently, compensation has been paid for 17 percent of the total HGCP site. The Project is engaging with the remaining four Taguali subclans to execute their agreements and complete compensation for the first half of the site. Due to internal subclan issues, the Tuguba land (the remaining half of the HGCP site) could not be demarcated prior to construction. The Socioeconomic team is working with all subclans to reach an agreement on how to divide the land area as a first step toward executing agreements and paying compensation.

Also this quarter, a final compensation payment was made for the Hides Waste Management Facility, while the Socioeconomic team continued meetings with the three remaining Komo Airfield clans to finalize their compensation agreements. Formal land dispute proceedings and '*bel kol*' debts (compensation for tribal wars) are hindering the Komo Airfield clans from accepting their statutory compensation.

Along the onshore pipeline, two clans received their statutory compensation. This means 29 percent of the pipeline has now been compensated for. Another three clans have signed clan agency agreements covering approximately 18 kilometres of the onshore pipeline ROW near Tamadigi Village. Their payments are scheduled for the fourth quarter 2012. Compensation on the ROW continues to align with backfill operations, with payments made as operations are completed. The Socioeconomic team also remains committed to finalizing agreements and paying compensation for another 55 kilometres of the pipeline ROW between Gobe and Kaiam once clans in this area have resolved land disputes.

6.2 Resettlement

During this quarter, resettlement activities progressed in the Homa, Paua, Benaria, Awatangi, and Angore areas to further secure land access along the proposed pipeline ROW. Livelihood restoration efforts focused on the distribution of vegetable cuttings and seeds in the Hides and Komo areas, as well as providing training in crop propagation and livestock breeding.

6.2.1 Milestones and progress

Land access along the proposed pipeline ROW between the HGCP and the Homa and Paua areas, as well as around Angore Wellpad A and B, was the main focus of resettlement activities this quarter. Livelihood restoration also retained prominence, with activities concentrated in the Hides, Komo and Angore areas.

Plate 6.1 – A Kulu villager brings her sow for breeding with a Project-provided boar

Plate 6.2 – Planting cabbage seedlings at Mapuli Women's Nursery

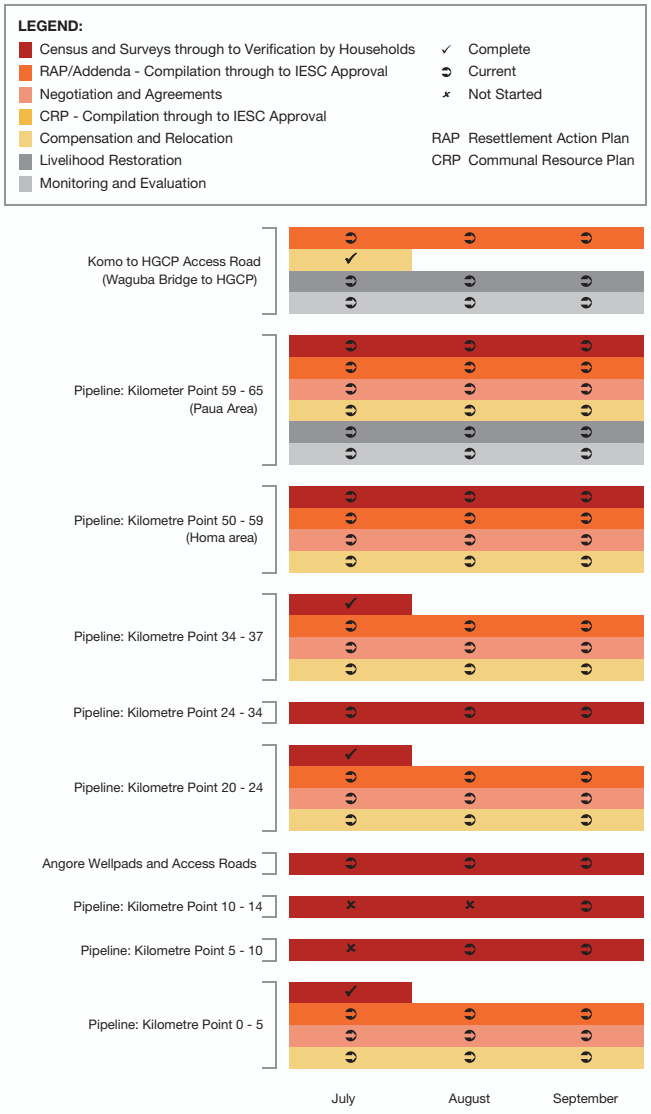
Resettlement milestones achieved included:

- Implementation of video procedures to serve as visual documentation for the cut-off dates for speculative building, as well as to protect the interests of principle landowners and the Project from false claims.
- Completion of a video survey for Kilometre Points 5 to 10, 10 to 14, and 24 to 34 along the pipeline ROW, as well as the Angore Access Roads and Wellpads.
- A focus on the development and approval of Resettlement Action Plan requirements for pipeline Kilometre Points 0 to 80.
- Signing of agreements and progression of payments in the Homa, Paua, and Awatangi areas. In Awatangi, Village Liaison Officers assisted with the verification of dismantled structures.
- Signing of agreements to address inconveniences caused by a pipeline re-route near Kilometre Points 60 to 62 was completed.
- Commencement of census and survey assessments for Kilometre Points 24 to 34.
- Construction of two houses commencing for vulnerable individuals.

Livelihood restoration and monitoring and evaluation activities continue in 16 areas. These include: Tumbi Quarry, the HGCP area, Komo to the HGCP Access Road, Hides Quarry, the Timalia River Borrow Pit, the Kopeanda Landfill and at numerous points along the onshore pipeline route.

Figure 6.1 provides an overview of the status of key resettlement activities during this quarter.

Figure 6.1 – Status of key resettlement activities



6.2.2 Highlights, achievements and lessons learned

The following key activities took place during this quarter:

Livelihood restoration: The Project-established nursery at Komo continues providing plants to villagers. Nearly 3,500 sweet potato cuttings were distributed to 22 households, 58 kilograms of corn seed supplied to 199 households, 180 kilograms of peanut seed allocated to 102 households, and 1 kilogram of temperate climate vegetable seeds was distributed to 47 households. The recipients included both resettled and community households in the Hides, Komo and Angore areas. Ducks and chickens specifically raised at the Komo livestock propagation facility were also distributed for household use and income generation. About 40 crossbred chickens were supplied to 22 households in these areas, along with 178 breeder ducks distributed to another 83 households. The Project continued to evaluate additional suppliers to meet the growing demand for livestock as a source of income generation.

This quarter, the Project delivered skills training in propagating sweet potato, corn and other high yielding food crops to over 180 households. Education was also provided on breeding chickens, ducks and pigs. Also, 280 households in the Komo, Angore, Homa/Paua, Hides and Juni areas were trained in entry-level food preparation and processing, along with household hygiene. Awareness-raising campaigns continue about the benefits of accessing Project-provided boars for breeding with local sows as a means of improving local pig genetic stock.

Other key livelihood restoration activities this quarter included:

- Completion of household and garden surveys for the Homa laydown area (included in Kilometre Point 50 to 59), Hides spoil storage sites, Wellpad B, and the Hides Vehicle Staging Area.
- Monitoring of food supplies for vulnerable (at-risk) households.
- Development of 27 farming fact sheets in Tok Pisin, which provide information on how to grow healthy crops. These fact sheets will be delivered to communities in the coming months.

Monitoring of vulnerable individuals: All potentially vulnerable individuals identified in the Hides and Komo areas were consulted and provided with assistance based on their priority of needs this quarter. Additional potentially vulnerable individuals identified by the census and survey process in Homa are being assessed. In the meantime, construction was completed on a house in Koli for a vulnerable individual.

Komo and HGCP: As part of an internal process, an assessment was conducted in the Komo and HGCP areas this quarter. This was to evaluate whether resettled households in these areas were in a better position in terms of access to social services and infrastructure, such as health and educational facilities, water sources, and markets. Overall, there was a general improvement in food production, which can be directly attributed to the high yielding crops and livestock distributed through the Livelihood Restoration Program, as well as to the food processing and other training provided by the Program.

Pipeline camps and components: Additional garden and household surveys were completed in Hegero (Kilometre Point 76) and Paua (Kilometre Point 63 to 67), which arose as a result of minor pipeline ROW re-routes in those areas. Following household surveys undertaken in the second quarter 2012, assessments for the laydown area and pipeline ROW section near Homa (Kilometre Point 59) continued. Significant progress was made in Awatangi (Kilometre Point 20 to 24), with houses being dismantled and the majority of payments made. Negotiations and the signing of agreements continued in Benaria.

Resettlement housing and water structures: Seven houses were completed during this quarter along with two communal water structures for resettled communities in the Hides and Komo areas.

Plate 6.3 – Successful cabbage production at Mapuli Women's Nursery

Plate 6.4 – Women leaders from Komo and Hides receive mills to produce flour for baking

7 Workforce

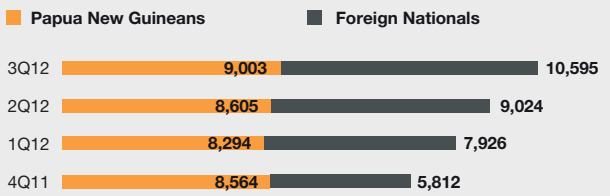
A key objective of the Project's National Content Plan is to develop and enhance the skills of the Papua New Guinean workforce to meet the demands of construction activities and for longer term operations roles.

7.1 Development

The Project's workforce continues expanding and diversifying to meet the needs of construction and pre-commissioning activities. The HGCP and LNG plant site are driving most of the workforce expansion.

At the end of this quarter, almost 19,600 people were engaged on Project activities. This represents an increase of almost 2,000 workers compared with the previous quarter. As shown in Figure 7.1, Papua New Guineans make up 46 percent of the total Project workforce, with approximately 70 percent of these workers sourced through Lancos.

Figure 7.1 – Project workforce numbers



The workforce population trend is showing a decrease in the ratio of Papua New Guineans to foreign nationals employed on the Project. This is due to the increasing demand for workers with specialized skills to complete highly technical components of construction, as well as an overall deceleration in workforce growth as demobilization activities begin on some worksites. Despite this trend, the actual number of Papua New Guinean workers has increased by almost 5 percent compared to the last quarter, with the total Project workforce also showing an 11 percent increase. The Project continues to focus on developing the Papua New Guinean workforce for long-term operations opportunities.

7.2 Workforce training

The Project is implementing numerous capacity building initiatives to help develop the skills of Papua New Guinean citizens. For example, formal classroom training in three Papua New Guinea-based facilities, trainee programs in Canada, graduate development programs in Australia and Japan, as well as internships and on-the-job training across various Project sites.

7.2.1 Construction training

To date, more than 10,000 Papua New Guineans have been trained for construction and operations based roles through over 6,000 courses delivered in over 1.4 million hours of training across six countries. During this quarter alone, the Project delivered 949 courses over almost 170,000 hours to Papua New Guinean workers.

Local school gets new desks

Students from Para School, located adjacent to the HGCP site, are enjoying new desks thanks to the efforts of Juni Construction Training Facility graduates.

Twenty graduates from the third intake of trainees built the desks as part of their practical training in carpentry and woodwork.

A total of 20 completed desks were donated to the Para School, providing the children with a more comfortable learning environment.

Trainees working together on the construction of the school desks

Para School students enjoying the comfort of their new desks

Project provided training

The Project's training initiatives comprise both core mandatory and job-specific training modules, with the Port Moresby Construction Training Facility and Juni Construction Training Facility providing Australian Quality Training Framework certified courses. Operations and Maintenance training continues in preparation for the coming operations phase of the Project.

Core mandatory modules for all trainees encompass a wide range of subjects to develop skills that are applicable to work on the Project as well as being transferrable and applicable worldwide. These courses include; Safety, Security, Health and Environment (SSHE), first aid, personal safety, cultural awareness, construction, camp maintenance and catering.

Contractor provided training

Construction contractors continue to provide training courses that are preparing Papua New Guineans for long-term career opportunities both within the Project and in other areas. Courses include: instrumentation, mechanical and electrical engineering, piping, project control, quality control, welding, plumbing, refrigeration/air conditioning, carpentry, driving, painting and insulation, catering and housekeeping, and office administration.

The 38 trade apprentice trainees – sponsored jointly by the Project and the Offshore Pipeline contractor – graduated during this quarter after completing their Level 3 apprenticeship training at the Works Institute of Technology in Port Moresby. All 38 trade apprentice trainees were also awarded their Level 1 Tradesperson qualification in July after successfully completing the National Apprentice Trade Test.

7.2.2 Contractor workforce training

During this quarter, 20 students from the third intake of trainees completed their 12-week course at the Juni Construction Training Facility and graduated with their Australian Quality Training Framework standard Certificate Level II in General Construction and Civil Construction. This brings the total number of graduates for this facility to 54, of which, 12 are female graduates.

The fourth intake of trainees, including seven females, commenced their course in late August and are expected to graduate towards the end of 2012.

Meanwhile, trainees from the Port Moresby Construction Training Facility are continuing their on-the-job training at the LNG Plant and assessment for the internationally recognized Technical and Further Education (TAFE) Australia Certificate Level I in Resource and Infrastructure Operations certification. During this quarter alone, 117 trainees have received their Certificate I. This brings the total number of graduates from the Port Moresby Construction Training Facility to over 1,660, with 30 percent female. The Project and the LNG Plant and Marine Facilities contractor are working together with a joint aim of graduating 1,041 people in the coming months.

Plate 7.1 – Students from the fourth intake at Juni Construction Training Facility

Plate 7.2 – Trainees with TAFE Australia Certificate I at the LNG plant site

7.2.3 Graduate programs

The original six engineering graduates from the 2011 program returned to Port Moresby in September to work at the Project's headquarters as part of the Operations Technical team. The graduates have completed over 18 months of training, which included a comprehensive program conducted in Melbourne, Australia.

Meanwhile, the ten Papua New Guinean graduate engineers recruited by Esso Highlands Limited earlier this year continue their progress, with three based in Port Moresby, one based in Singapore and six based in Melbourne. The graduate recruiting program for 2013 is underway.

Two drilling engineers who received on-the-job training with an ExxonMobil Australian affiliate in Melbourne have also returned to Papua New Guinea and are now working with the Drilling team.

7.2.4 Operations and Maintenance training

The first intake of Operations and Maintenance trainees initially recruited in mid-2010 are close to completing their Advanced Skills training in Nova Scotia, Canada. The training has involved hands-on technical training in their choice of either production operations or one of the maintenance trades – mechanical, electrical or instrumentation.

Since the beginning of their training, the students have been immersed in the Esso Highlands Limited safety culture. Safety meetings, the application of safety tools such as Job Safety Analyses, and, shared safety moments are a regular part of everything the students do – both inside and outside the classroom. In addition, topics like the importance of punctuality and attendance; teamwork; ethics and integrity; and effective communication are regularly woven into their curriculum. These areas are considered critical to ensuring a successful transition from trainee to employee with Esso Highlands Limited.

The trainees are scheduled to return to Papua New Guinea in early December 2012 for on-the-job training commencing in early 2013. This training will include access to experienced operations and maintenance personnel who will help mentor the trainees.

Graduate engineer testimonials

"Working amongst a breed of talented and experienced engineers in ExxonMobil is such a humbling experience. The structure of the development of graduate engineers speaks volumes on the value ExxonMobil puts into the company's engineers and all employees alike," said engineering graduate Seth Woruba regarding his time spent in the graduate engineering program in Melbourne, Australia.

"When you consider the complexities involved with operating a mature hydrocarbon plant such as the Longford Plant, you can appreciate the risk management and engineering effort required to ensure the safe start-up and operation of new facilities. For me, to be given some of that responsibility puts into context the general expectation given to all the graduate engineers."

Fellow graduate Peter Pomeleue also valued the time he spent in Melbourne: "The transition back to the PNG LNG Project from Esso Australia has been unique and exciting. We are now developing programs and procedures for when we start operations in comparison to using already established processes and tools. Apart from that, most things are pretty much similar; challenging tasks, friendly work environment, diverse workforce, etc. However, the lone event which doesn't occur regularly here is the regular coffee run … well I suppose it's not that cold."

Seth Woruba

Peter Pomeleue

Thoughts from the second intake

Jeremy Palme, trainee from the second intake of Operations and Maintenance trainees said "The Basic Skills Training Program for me was very much anticipated as we had been doing science foundations for the first six months of this year and I was keen to get into the actual skills training. The Basic Skills Training Program material in itself was very straightforward and thoughtfully put together. It proved challenging at first, as most of the material and terms were new to me, however, after a while it became quite interesting and useful. A recent trip that we took to the LNG plant site proved to be very helpful, because when going through the material, I could recall the LNG plant site layout and equipment which helped me improve my understanding of the whole operation better. During Project updates, terms and definitions that were formerly unclear to me suddenly became perfectly clear and understandable which is quite pleasing."

Another of the trainees, Yvette Kuma, added "The Basic Skills Training Program has introduced me to a whole new world. The past six weeks have been some of the most challenging and yet exciting. In addition to the trip that we took to visit the LNG plant site, every day is a new experience. There is so much new information to learn and new concepts to grasp about the oil and gas industry. With what has been covered so far in the program, it has helped me to understand and appreciate the industry and my future career as either an operations or maintenance technician."

Jeremy Palme

Yvette Kuma

Plate 7.3 – Audrey Tohora, hands-on in the electrical workshop

Plate 7.4 – Indi Sorom and Olive Isikiel in the instrumentation workshop

Meanwhile, the second intake of Operations and Maintenance trainees commenced their Basic Skills Training Program in September. They are learning about the basics of the oil and gas industry to help provide a foundation for future careers in either operating or maintaining the HGCP or the LNG Plant. Once they have successfully completed both the Foundation Skills and Basic Skills Training Programs, these trainees will also participate in Advanced Skills training in Nova Scotia.

7.2.5 Above Field workforce training

The Project's focus on the professional development of office-based employees, otherwise known as the Above Field workforce, continues to grow. During this quarter, employees had the opportunity to participate in programs such as Succeeding in ExxonMobil and the PNG LNG Personal Development Program, as well as tailored communications skills programs. Participation rates are high and feedback from these programs has been positive.

7.3 Health management

With drilling activities commencing this quarter, the Project began providing health monitoring and support for workers involved in drilling operations.

To meet the changing needs of the Project as construction progresses, health management continues to evolve and focus on improving the efficiency of health assessments and monitoring, improving the quality of public and clinical health services and providing specialist support in industrial hygiene.

During this quarter, 98 percent of planned health activities were completed, as shown in Figure 7.2.

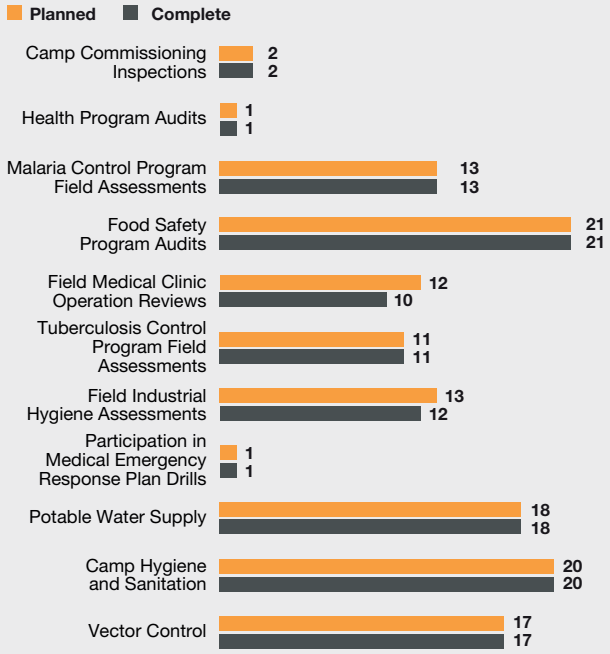
7.3.1 Camp and contractor health support

During this quarter, field health advisors began conducting joint health assessments in collaboration with contractors. This helped make health monitoring more efficient and enabled greater contractor alignment with the Project's standardized health criteria. Assessment checklists were also updated to reflect improved clinical diagnosis procedures, such as GeneXpert® tuberculosis testing, and the health issues relevant to current Project activities. A new checklist was also developed in-line with community health program requirements such as food nutrition and portion control, and vaccination programs.

Through 122 joint assessments conducted in the quarter, the Health team and contractors assessed areas such as: clinical operations; food and potable water safety; vector control; camp hygiene and sanitation; and camp industrial hygiene. Results showed all program areas are maintaining a high level of compliance as illustrated in Figure 7.3.

The Project continues mobilizing and demobilizing worker camps as onshore pipeline work moves toward Hides.

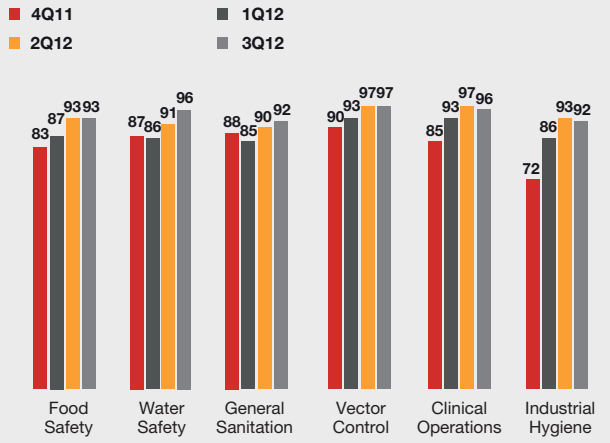
Figure 7.2 – Number of planned and completed health activities during the third quarter[1]



The Health team conducted pre-commissioning support for one new camp, which opened at Hegero along the pipeline, and provided early support to the Drilling organization as they prepared to build a camp in the Hides area near the wellpads.

Workers at the Kopi Shore Base Camp were relocated this quarter due to flooding. Once floodwaters receded, the Health team conducted a camp mobilization assessment to ensure the Camp was clean and ready for reoccupation. Some areas checked were the clinic and water supply systems, as well as the Camp's cleaning and sanitation.

Figure 7.3 – Percentage of camp adherence to Project specifications by health category[1]



1 Data adjustments may be reported by contractors after the Report is released, and as such health data may be refined between one report and the next.

7.3.2 Leading and lagging indicators

The Project uses leading and lagging health indicators to monitor the effectiveness of its health programs. Leading indicators are those in which the Project is proactively managing worker health such as mandatory initiatives that are part of the Tuberculosis Control Program to minimize the risk of tuberculosis to Project workers. Lagging indicators track actual cases of illness to confirm the effectiveness of control programs. For example, the Project tracks the cause of malaria cases to evaluate the effectiveness of malaria diagnosis and control measures. This section covers both leading and lagging indicators for the Project's health criteria.

Malaria and tuberculosis

One case of serious malaria, involving non-immune[2] personnel, was reported on the Project this quarter. Investigations revealed that the case originated from outside Papua New Guinea.

A total of 37 malaria cases involving semi-immune[3] personnel living in local villages were also recorded, showing a downward trend from the previous quarter. The Project's Health team continues monitoring the affected sites and working with contractors to provide ongoing education and awareness, as well as to ensure mosquito repellant is available to all workers. The Health team is also working with the Project's medical provider to improve malaria diagnostic capabilities and is trialing microscopes with camera attachments to help train laboratory technicians. These microscopes may be used to support malaria diagnosis when laboratory technicians are working with experts from overseas.

The Project is also effectively managing tuberculosis at worksites, with the total number of Serious Illness Event cases – those resulting from exposure to an Index case in a camp or worksite – remaining at zero. However, five Index cases (community-acquired) were confirmed in the quarter.

Both malaria and tuberculosis incident trends for the year-to-date are shown in Figure 7.4.

Malaria

Project compliance with the Malaria Control Program continues to improve achieving 97 percent during the quarter compared with 94 percent recorded in the second quarter 2012.

The non-detect[4] rate for non-immune worker compliance with the Malaria Chemoprophylaxis Compliance Control Program increased to 3.9 percent for the quarter.

Investigations into the increase relate to a combination of behavioral factors including:

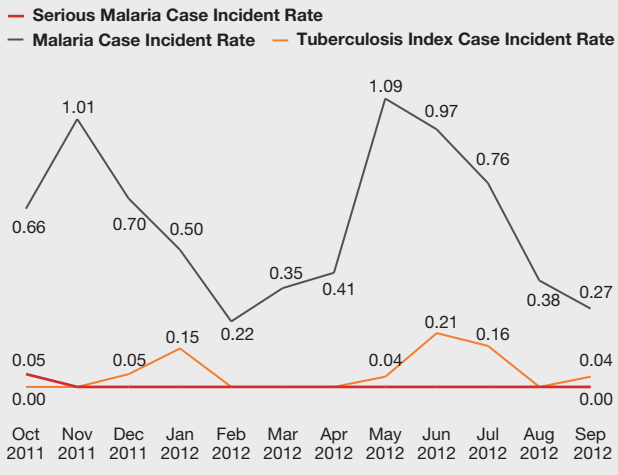
- Mobilization of new non-immune personnel.
- Demobilization of non-immune personnel.
- Failure to present at a clinic within a specified timeframe.

Any person that returns a non-detect result is provided additional training and awareness about the risks of contracting malaria. Personnel returning repeat non-detect results may be removed from working for the Project.

Tuberculosis

Compliance with the Project's Tuberculosis Control Program remained consistent with the previous quarter at 94 percent. The Health team's focus on improving tuberculosis diagnosis continued this quarter with trials conducted using revised QuantiFERON® testing procedures in clinics in Port Moresby and at the LNG plant site. Once the trials are completed, revised testing protocols will be deployed across the Project. Meanwhile, the GeneXpert diagnostic machine purchased by the LNG Plant and Marine Facilities contractor in the second quarter 2012 is in operation at one of the LNG plant site clinics. Another GeneXpert diagnostic machine, purchased by the Hides Gas Conditioning Plant and Hides Wellpads contractor, began operation at a clinic in Hides. These two machines will be used together to provide faster tuberculosis diagnostic results with a high degree of confidence and reliability. Ongoing improvements in diagnostic technology and rigorous adherence to testing protocols is helping to improve tuberculosis diagnosis and treatment across the Project.

Figure 7.4 – Malaria and tuberculosis case incident rates per 200,000 work hours[1]



NOTE: This Figure shows the incident rate for tuberculosis Index cases only as there were zero Serious Illness Event cases for tuberculosis within this period.

2 A non-immune individual is where a person was not born and raised (at least to the age of five years) in a location that has malaria exposure.
3 A semi-immune individual is where a person was born and raised (at least to the age of five years) in a location that has malaria exposure.
4 A non-detect means chemoprophylaxis is not detected during testing.

Food and water safety

The Project is maintaining high food and water safety standards, achieving an ongoing improvement in food and water safety since the fourth quarter 2011. This result is largely through the Health team working with contractors and subcontractors to rapidly identify and address food and water-related concerns. One example is improving conditions for protecting food on display, such as providing sneeze guards and keeping vaccinations for all food handlers up-to-date.

The food safety compliance score for the Project remained consistent with the previous quarter at 93 percent. Water safety scores increased to 96 percent for the quarter, compared with 91 percent in the second quarter 2012.

Camp hygiene and sanitation

Camp hygiene and sanitation compliance continues to improve, with a score of 92 percent against assessment criteria compared to 90 percent in the second quarter 2012. Laundry sanitation procedures and adequate cleaning of shared accommodation and shared facilities remains a focus for the Health team as camp populations increase across the Project.

Vector control

The Project is aware of the risk of malaria and dengue in Papua New Guinea and conducts regular surveillance of Project accommodation, worksites and recreational facilities. Surveillance involves monitoring adult mosquito populations, larval populations and recent cases on the Project. With this data, the Health team works closely with vector control contractors to build mosquito risk maps and educate workers about where and when they should take any additional precautions. Locations most at risk for mosquito-borne illness include Port Moresby and the Highlands.

The vector control compliance score remained consistent with the previous quarter at 97 percent.

Clinical operations

The Project's clinical operations maintained its high compliance rating with 96 percent recorded this quarter.

The medical provider also improved staff safety procedures for blood borne pathogens, site-based clinical services delivery and the Project's medical emergency response program.

The Project's integrated clinical model, which includes the HGCP medical clinic in Hides and smaller satellite clinics in Moro, Juni and Kobalu, continues working well. The clinic at the HGCP is the largest Project clinic in the Highlands, providing medical services to approximately 3,000 workers. It also includes an X-ray machine and a laboratory service that all contractors in the Hides and Komo areas utilize. The laboratory is able to conduct specialized testing for tuberculosis using the newly purchased GeneXpert diagnostic machine. It also has the capacity to perform malaria diagnostics, biochemical tests and hematological tests, as well as prepare specimens for analysis.

Industrial hygiene

Industrial hygiene is an important component of the Project's health assessment program. The Health team's industrial hygiene expert regularly visits sites to ensure occupational risks and hazards are identified and measures are put in place to reduce the risk and exposure to heat stress, noise, respiratory irritants and radiation. During this quarter, the industrial hygiene expert visited worksites to assess task-specific exposure criteria and provide technical support to construction activities relevant for the current phase of the Project.

Industrial hygiene assessment results for the quarter were steady with a score of 92 percent. Improvements in respiratory protection were observed across the Project as a result of reminders about policies governing the use of protective equipment. The Health team will continue to focus on respiratory protection, as well as other industrial hygiene factors such as hearing and noise.

General illness events

There was one case of dengue recorded during this quarter. Investigations indicated this case was likely to have originated outside of Papua New Guinea. Dengue is a mosquito-borne illness that is spread predominately by the *Aedes aegypti* mosquito. This mosquito often breeds in containers around the home and traditionally bites during the day. Until recently, diagnosis for dengue has been difficult, but the new SD BIOLINE Dengue Duo test kit has given Project clinicians greater confidence in diagnosing dengue. This test kit is a much more sensitive and accurate test with greater specificity.

Improving diagnosis of dengue in the field

Dengue is a mosquito-borne illness with flu-like symptoms and a skin rash that is similar to measles.

Dengue diagnosis has been difficult in the field as rapid field tests have not been very sensitive or accurate until now. The Project has adopted a new dengue test kit – the SD BIOLINE Dengue Duo kit – which provides accurate results within minutes and can detect dengue infection in the early stages of illness. Rapid confirmation of dengue is important in Papua New Guinea where malaria is also present and can complicate the diagnosis.

The new kit is being used at all Project sites to enable early and accurate detection of dengue, which allows for rapid clinical treatment, investigation and infection control.

The new dengue test kit

There were eight cases of chickenpox reported across the Project during this quarter. Six cases were linked to two outbreak events, while the other two cases originated outside of Papua New Guinea and were not linked to any onsite transmission.

Medevacs and medical transfers

The Project recorded 18 medevacs during this quarter; all of which were related to individual health issues and not work related. There were also 152 medical referrals and transfers, comparable to 148 recorded during the previous quarter despite the increase in worker population.

Approximately 65 percent of referrals originated from the LNG plant site, where the largest workforce resides. Most referrals were related to individual health conditions, with six potentially resulting from work related health issues.

7.3.3 Other strategic initiatives

The Health team is integrating Project health activities with community health program initiatives. An example of this is the increased focus on nutrition across the Project, with a Camp Obesity Prevention Plan being developed. This Plan will provide education on the nutritional quality of food, portion control and appropriate food choices. It also examines options for providing the right type and quantity of foods from a nutritional perspective, while catering for the many cultures and dietary considerations of the Project's workforce.

7.4 Safety management

Regrettably, two separate fatal incidents occurred during this quarter. The Project is greatly saddened by these tragic events and expresses deepest sympathies to the families and friends of the workers involved.

The first incident involved a contractor excavator operator who was engulfed on the pipeline ROW by a debris flow. The second incident involved a contractor worker who was caught between a winch truck and a material basket at a drilling laydown area that is part of a contractor-managed site.

Relevant authorities were immediately notified and the Project conducted investigations into both incidents. As a result of these investigations, mitigation measures were implemented to address the identified causes. Key learnings from both incidents are being shared across the Project.

The Project's focus continues to be addressing risk tolerance elements such as hazard recognition, perception of consequences, and risk acceptance. In addition, the Project is conducting a workshop with both Project and contractor executives in October 2012 to review lessons learned from fatal incidents and plans to further enhance safety performance.

Prior to these fatalities, the Project recorded over 25 million work hours without a Lost Time Incident between March and August 2012. The Project will continue to build upon its successes to achieve sustainable best practice safety performance, while systematically applying lessons learned from incidents. As part of this approach, the Project will continue to implement high impact initiatives with the aim of achieving a work environment where *Nobody Gets Hurt*. Some of the Project's many safety initiatives include:

- SSHE leadership workshops.
- Stewardship of contractors' fatal risk mitigation plans.
- Implementation of Critical Life Saving Rules in a socially sensitive manner.
- The application of the Leading Indicators for Higher Hazard Activities Toolkit.
- Thorough analysis of higher potential incidents to identify trends and focus areas for improvement, even when nobody gets hurt.
- Engaging workers in utilizing core safety processes (such as Job Safety Analyses, Observations and Interactions, personal risk assessments and near miss/hazard identification reporting).
- Training programs including the Safety Champions initiative, First Line Supervisor SSHE training and the Field Safety in Uncontrolled Environments training.
- Communications including fireside chats, the *SSHE Matters* newsletter and SSHE Alerts.
- The Incident and Injury-Free® (IIF®) program.

The IIF program is a notable safety initiative which was introduced at the LNG plant site at the beginning of 2012. The program aims to 'win the hearts and minds' of the workforce through a structured supervisor and worker training program, which provides insights and tools to help individuals better observe and manage their own attitudes and actions. The intended result is for individuals to place a high value on personal safety and therefore make their own decision to follow the rules, regulations and procedures for their own benefit and that of their fellow workers. Refer to *Case Study Three – A culture of safety at the LNG plant site* for an overview of the IIF program.

A key Project initiative undertaken this quarter was a SSHE workshop, which aimed to enhance the SSHE performance of contractors other than the major construction contractors.

More than 70 contractor representatives participated in the highly interactive workshop where themes included:

- The prevention of higher potential incidents.
- Avoiding complacency and planning for safe demobilization.
- Leaving a positive legacy (for example, road safety, public health, preventing violence against women).
- Presentation of the 2012 safety awards.

Plate 7.5 – Presentation of the Material Logistics and Infrastructure Senior Project Managers Safety Award for Outstanding Safety Performance to the management of C&H Laitepo Limited

Plate 7.6 – Presentation of the 2012 Development Support Senior Project Managers Safety Award to Airlines PNG for their outstanding safety performance

A safety milestone was achieved during this quarter when the 500th worker graduated from the Safety Champions initiative, allowing the Project to meet its target of training 500 personnel within a year. The positive impact of the Safety Champions is generating additional interest from contractors who continue to nominate candidates for the initiative.

Plate 7.7 – Safety Champions from other nationalities

Although the Safety Champions initiative was originally designed for Papua New Guinean workers, its success has led to the inclusion of workers from other nationalities. Expansion of the initiative has also required the translation of training packages into multiple languages including Tagalog, Tamil, Hindi, Korean and Thai.

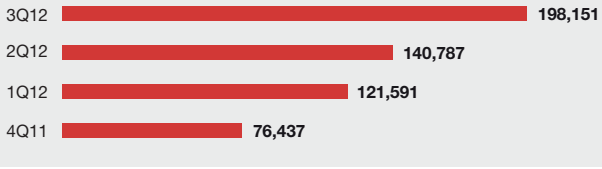
Also during this quarter, the Project's Ground Transport and Aviation teams achieved commendable safety records. They have logged over 12,000 aviation hours, traveled over 10 million kilometres on roads and transported over 100,000 passengers and 2,000 tonnes of freight without a recordable incident.

7.4.1 Leading indicators

The Project's multiple safety initiatives and ongoing improvements in core safety processes such as Job Safety Analyses, and Observations and Interactions are having a positive impact as shown in Figures 7.5 and 7.6.

Figure 7.5 – Number of Job Safety Analyses conducted by quarter[5]

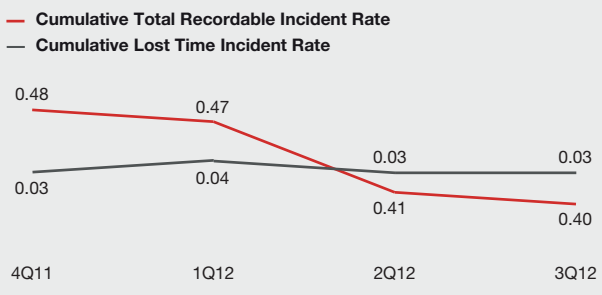
Figure 7.6 – Number of Observations and Interactions conducted by quarter[5]



7.4.2 Lagging indicators

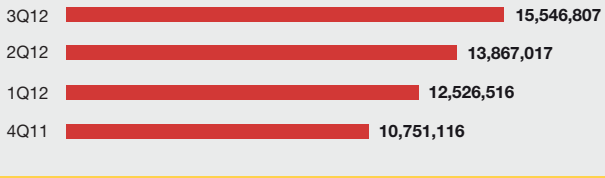
The Project's Total Recordable Incident Rate continues to improve, while the Lost Time Incident Rate remains steady (as shown in Figure 7.7). In addition, Figure 7.8 shows the Project's work hours continue to increase.

Figure 7.7 – Project incident rates by quarter[5]



5 Data adjustments may be reported by contractors after the Report is released, and as such safety data may be refined between one report and the next.

Figure 7.8 – Project work hours by quarter[5]



NOTE: Project-to-date work hours totalled 88,528,370.

7.5 Worker welfare and conditions

The Project is making ongoing improvements in worker welfare and conditions in accordance with commitments made under the Labour and Worker Conditions Management Plan and the Camp Management Plan.

7.5.1 Camps

To build cultural understanding within multi-cultural worker camps, the Project has implemented numerous initiatives, which include music jam sessions and cultural events. For example, in September, more than 1,000 workers participated in a music jam session at the LNG plant site. In addition, the LNG Plant and Marine Facilities contractor hosted a Japanese festival (*Matsuri*) at a plant site worker camp. The *Matsuri* featured a Japanese traditional portable shrine to pay respect to the god associated with the festival. Japanese food and entertainment were provided, including dance performances and a *Hayagui* (speed eating) contest.

The Project is also catering for the dietary and religious needs of individual cultures. During this quarter, a designated area was established in the dining room of a Komo Airfield worker camp to accommodate residents who follow the Muslim holy worship period of Ramadan.

During the quarter, construction at the HGCP temporary camp advanced, with the second and final dining hall completed along with additional recreational facilities and accommodation. The Camp Facilities Management Committee is playing an important role in providing timely information to camp residents and addressing residents' concerns as they arise.

Plate 7.8 – The *Mikoshi* (traditional portable shrine) used in the *Matsuri* festival

In addition, the first combined LNG Plant Site Camp and Food Committee meeting was held in August. The Committee consists of representatives from Project management and the LNG Plant and Marine Facilities contractor and subcontractors who meet to address any worker concerns regarding food and accommodation at the LNG plant site. Each day this quarter, meal services were coordinated for over 9,000 people at the LNG plant site. Since the beginning of 2012, over three million meals have been prepared to accommodate the dietary requirements of 30 worker nationalities. With another 1,000 workers arriving on-site, the role of the LNG Plant Site Camp and Food Committee is becoming increasingly important.

Plate 7.9 – Designated area of the Komo Camp mess serving Middle Eastern cuisine for celebrating the end of Ramadan (Eid al-Fitr)

7.5.2 Labor and worker conditions

During August, 23 newly elected representatives of the LNG Plant worker committee met for the first time. This Committee gives Papua New Guinean workers the chance to raise work-related concerns with their Committee member, who places these concerns on the agenda for discussion at the monthly meeting.

Similar worker committees already established in Komo are proving an effective forum for expressing worker concerns and managing and resolving worker disputes and grievances. These committees are receiving positive feedback from the worker representatives involved.

The Project and the Komo Airfield contractor continue working with Lancos to address challenges with labor hire management and ensure workers have the appropriate training, tools and support they need to perform their duties safely and effectively. This approach, along with training provided to Lancos on the correct procedures to deal with grievances and wage queries, reduced work stoppages this quarter.

Meanwhile, the Hides Gas Conditioning Plant and Hides Wellpads contractor continued building positive relationships with the workforce, and there were no work stoppages from industrial action or worker related issues this quarter. Regular reviews of the contractor's industrial relations gap analysis are also helping to identify areas that require attention and management.

CASE STUDY THREE

A culture of safety at the LNG plant site

The Project's safety management model is based on Project and contractor management commitment and leadership, active worker engagement, the application of a structured incident prevention processes, and the application of lessons learned.

A strong example of this is the LNG Plant's successful Incident and Injury-Free® (IIF®) program, which aims to build the leadership capacity of supervisors and engage workers in ensuring the personal safety of themselves and others is paramount to how they approach their work every day.

The IIF program promotes a culture based on awareness and safe behaviors, which are critical to ensuring everyone goes home safely. The IIF program involves an orientation session for all workers, specialized skills training for supervisors, and structured toolbox talks designed to create an incident and injury-free workplace. It is supported by promotional materials such as banners, newsletters and worker bulletins.

The first IIF Orientation sessions were held in January 2012, and by the end of this quarter, more than 10,500 LNG plant site workers had completed their training. To quickly and effectively train such a large and diverse workforce, approximately 70 workers completed a 'train the trainer' course that qualified them to provide orientation training sessions in several of the key languages on-site. As part of the IIF Orientation session, workers are taught three key principles:

- If it is unsafe, do not do it, and do not let or make your co-workers do it either.
- If you see something that is unsafe, SPEAK UP IMMEDIATELY there and then, no matter who you think may not like it.
- If you are not sure of something, if it does not look right, you do not understand the assignment or are unsure of how to do the job safely, SPEAK UP AND ASK.

In addition to completing the IIF Orientation session, almost 1,500 supervisors have been provided with IIF Supervisor Skills training. This training focuses on developing field supervisors' skills and knowledge of how to assign and facilitate incident and injury-free work by their crews, which is a critical aspect of the program. In the IIF Supervisor Skills training, supervisors are taught to remember the EAT principle – **explain, ask, tell**:

- Supervisors should **explain** the task to be performed.
- Supervisors should **ask** the workers if they understand the task and associated hazards and controls. Additionally, the workers should **ask** questions if any aspect of the task needs further clarification.
- Supervisors and workers should **tell** each other if anything about the work or work environment has changed since the start of the activity to ensure new hazards are not encountered.

The difference IIF makes

Working IIF simply involves:

- Watching out for ourselves and each other.
- Intervening when we see a person doing something that is unsafe.
- Doing all we can to ensure everyone goes home safe every day.

The LNG Plant and Marine Facilities contractor's concrete batch plant crew used the IIF approach to safely deliver 100,000 cubic metres of concrete and achieve over 325,000 work hours without a Lost Time Incident.

The concrete batch plant crew

"I am very thankful for being nominated to attend the IIF 'train the trainer' course. During this training, I have learned a lot and changed my mindset toward safety. Now safety is a part of my life and starts with me. Safety becomes personal, relevant and important to me. With IIF we take care of each other and speak up to save lives," said Manuel Salvador, Building Electrical Supervisor for the LNG Plant and Marine Facilities contractor.

CASE STUDY THREE

A culture of safety at the LNG plant site

Maintaining an IIF culture

In support of the IIF training, the LNG Plant and Marine Facilities contractor's management team has specified that IIF behaviors are an integral part of how work is completed at the LNG plant site.

Weekly leadership team walkthroughs reinforce this, as management and safety personnel engage with workers across the site to help them identify and correct unsafe conditions, and find ways to perform their work in the safest manner.

In addition, workers participate in daily field activities such as toolbox talks and pre-task safety instruction meetings where messages revolve around incident prevention, risk identification, hazard mitigation, and reinforcing the key elements of working in an incident and injury-free manner.

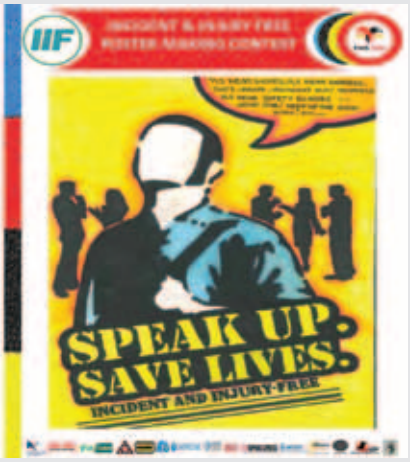
Implementing recognition programs is another proven method of sustaining interest and attention to maintaining the IIF culture. Multiple recognition programs are in place throughout the site and are provided on both an individual and team basis when workers or work crews are found to be working in an incident and injury-free manner.

LNG plant site management actively encourages ongoing promotion of the IIF program. For example, in April 2012, the LNG Plant and Marine Facilities contractor conducted a contest for workers to create eye-catching IIF posters. A total 55 entries were received and the winning posters are still displayed throughout the worksite to remind everyone of the IIF culture.

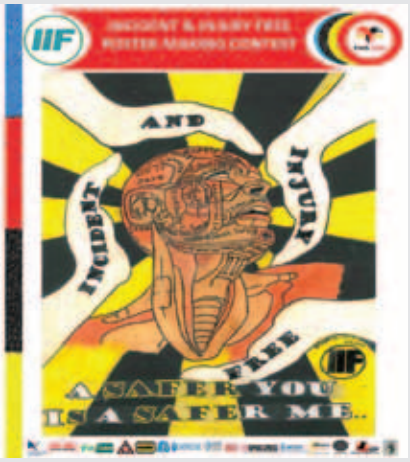
As part of a continuous improvement cycle, an annual Pulse Survey is conducted into how the IIF program is perceived by the workforce. After the survey results are analyzed, adjustments are performed as appropriate to ensure the IIF program maintains its effectiveness amongst the workforce.

Weekly safety walkthrough

1st place



2nd place



3rd place

The top three winning submissions from the IIF poster contest

8 Conformance

The Project's verification, monitoring, assessment and audit activities have expanded to support the implementation of areas that are identified for improvement, to enable conformance with the environmental commitments outlined in the ESMP.

8.1 Verification

The Project's Field Environmental team operates within contractor organizations to provide ongoing verification and monitoring at worksites. Along with inspections and checks, the team is delivering training and awareness on-site and working with contractors to manage issue resolution.

Team responsibilities expanded during this quarter to include assisting contractors with a range of activities including:

- Project-wide monitoring campaigns such as water, noise and weed control.
- Groundwater bore monitoring at the Hides Waste Management Facility, which is a pre-requisite prior to landfill use.
- Training Esso Highlands Limited's camp management personnel in wastewater treatment plant performance, operations and monitoring.
- Training and coaching drilling contractors on environmental management.
- Multiple field visits by the Project Archaeologist to the onshore pipeline, HGCP and Komo Airfield worksites to assist with verifying cultural heritage activities, including chance finds.
- Completing investigations to assist the Socioeconomic team address community grievances.
- Progressing Project-wide registers and the collation of data.
- Preparations for audits and assessments.
- Site inspections prior to hand-over of facilities such as the communications facilities at Moran Peak.

The Project's annual Environmental Internship Program conducted in partnership with local universities also continued this quarter and, for the first time, an intern was offered a full-time role with the Project's Field Environmental team.

8.2 Monitoring

The Project maintains consistent monitoring methods which are communicated through the Environmental Verification and Monitoring Manual. The Manual comprises detailed monitoring procedures and is regularly updated to address identified issues and share lessons learned.

In addition to the Project's Manual, contractors use individual environmental management systems to meet the monitoring requirements of the ESMP and the Environmental Monitoring Plan. Results of monitoring programs conducted in the third quarter are outlined in the following sections.

Serah Pyawa – From intern to Field Environmental Advisor

Serah Pyawa, from Lumusa Village in the Western Highlands Province, recently joined the Project's Field Environmental team after successfully completing her internship with the Project.

Serah, who has a chemistry degree from the University of Papua New Guinea, said the training she received through the Environmental Internship Program gave her the confidence to face new challenges.

Serah Pyawa

"The Environmental Internship Program has been challenging, exciting and rewarding and has provided me with the opportunity to work and learn with a great team on a world-class project," she said.

"The Program has helped me to gain sufficient knowledge in the company's operation and production outcomes and how my new role as a Field Environmental Advisor will contribute to a positive outcome in safety and Project targets."

Through her training, Serah said she gained a diverse range of skills across areas such as: safety; environmental verification, monitoring and sampling; report writing; communication; research; mentoring; auditing; and community liaison.

8.3 Assessments and audits

Contractor-led inspections and verifications complement regular Project inspections. For example, the Upstream Infrastructure contractor conducted a week of hazardous materials storage inspections this quarter. The Project and contractors also conducted joint inspections covering specific aspects of environmental performance. One such inspection focused on erosion control management at the HGCP site.

The Project's annual Regulatory Compliance Assessment also commenced this quarter with work continuing into the fourth quarter 2012.

In addition, the IESC completed its seventh site visit in August to monitor conformance with the Project's environmental and social commitments. When completed, a report of the IESC's findings from inspections of selected worksites and meetings with Project workers and involved communities will be available on the Project website.

Visit the Project website at
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8.4 Incidents, non-conformances and corrective action

8.4.1 Incident summary

During this quarter, there were no serious environmental incidents (greater than Severity Level 0), requiring notification to the IESC/Lender Group or the Papua New Guinean Department of Environment and Conservation (DEC). However, 80 environmental incidents less than Severity Level 0 were reported. All related to hydrocarbon or chemical spills with the exception of three wastewater spills and a vehicle incident with a Cuscus, a small native mammal. There was one Severity Level 0 incident involving the release of hydraulic fluid from a shipping container that was not packed properly, resulting in damage to the barrels of hydraulic fluid inside.

All incidents were recorded and investigated to a level appropriate to their severity so that causal factors could be determined and corrected. Figure 8.1 illustrates incidents classified by severity, while Figure 8.2 groups incidents by their cause.

8.4.2 Non-conformance and field observation performance

The Project records non-conformances and field observations as part of its ongoing environmental performance verification efforts. Field observations present a potential non-conformance situation where an observation, intervention and/or corrective action is required to prevent a non-conformance. A non-conformance is a situation that is not consistent with ESMP requirements.

During this quarter, the Project recorded 36 positive field observations. This is similar to the number of positive observations made in the previous quarter. These positive observations related to erosion and sediment control, ecological management and waste management. For example, the Upstream Infrastructure contractor was commended for transplanting local seedlings to disturbed areas along a road, assisting in reinstatement without the need for a nursery.

Also during this quarter, 68 field observations and one Level I non-conformance were raised. Most field observations recorded were in relation to erosion and sediment control, spill prevention and waste management. The Level I non-conformance raised was for erosion control structures and ongoing maintenance of structures in place along Wellpad Access Road. No Level II or Level III non-conformances were recorded during the quarter.

A summary of all non-conformances and field observations is outlined in Figure 8.3.

Figure 8.1 – Number of environmental incidents by severity level[6]

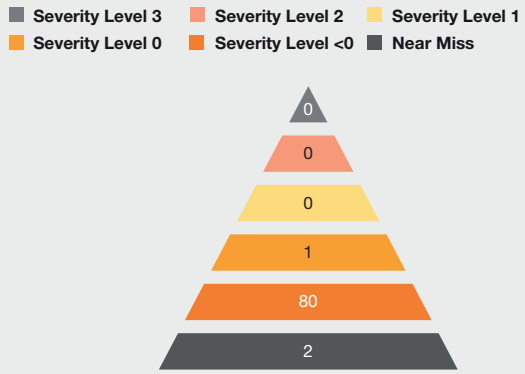


Figure 8.2 – Percentage of environmental incidents by causal factor[6]

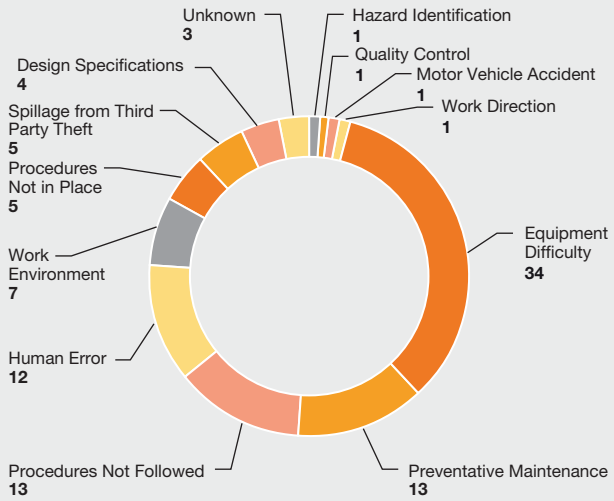
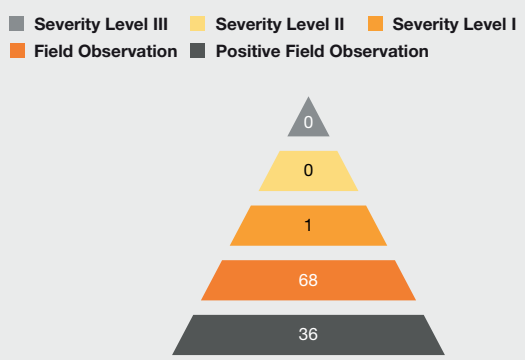


Figure 8.3 – Number of environmental non-conformances and field observations by severity level[6]



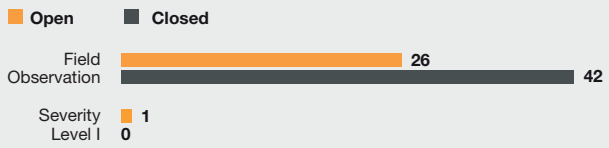
6 Data adjustments may be reported by contractors after the Report is released, and as such conformance data may be refined between one report and the next.

The Project's Field Environmental team continues to work with contractors to:

- Proactively address performance areas identified.
- Ensure contractors address field observations in a timely manner.
- Provide support to contractors with addressing field observations and non-conformance issues.
- Reduce the level of risk to prevent future environmental incidents.

The closure status for non-conformances and field observations is shown in Figure 8.4.

Figure 8.4 – Number of environmental non-conformances and field observations by closure status[6]



9 Pollution Prevention and Abatement

The Project aims to continuously improve environmental performance, including recycling, across all of its activities wherever possible.

9.1 Air emissions

Air emissions generated by Project activities include: dust from exposed earthworks, equipment and vehicle movements; exhaust gases from waste incineration and combustion engines; and greenhouse gas emissions from direct fuel combustion.

During this quarter, the need for dust control measures was limited due to the high rainfall experienced across the Project area. At Komo Airfield, trials commenced on a new additive to enhance the effectiveness of water used for dust suppression. The additive is a blend of polymer and surfactants, which binds fine dust particles and improves water penetration when added to water truck reservoirs. The use of this additive in water spraying will aid the compaction of road surfaces and suppression of dust from trafficable areas.

At the HGCP site, a shrouded hopper is being used to reduce the dust generated when cement is poured into the batch plant. The shroud over the hopper is big enough for the direct transfer of cement bags from the delivery vehicle.

Plate 9.1 – Minimizing dust by delivering cement bags directly into the shrouded area

Incinerator operations continue to be optimized by monitoring burn chamber temperatures, the content of waste batches incinerated and visual observations of exhausts. Some Onshore Pipeline contractor waste incinerators were briefly shut down during the quarter due to flooding and a resulting fuel shortage. As a temporary measure, Oil Search Limited's facilities in Gobe and Moro were used for perishable waste that could not be stored.

At the LNG plant site, spot checks were conducted on heavy equipment and vehicles during the quarter. These random checks covered vehicle and equipment maintenance records, pre-start equipment check records and spill kits to ensure that scheduled maintenance was maintained, to help reduce exhaust emissions and minimize any possible spills.

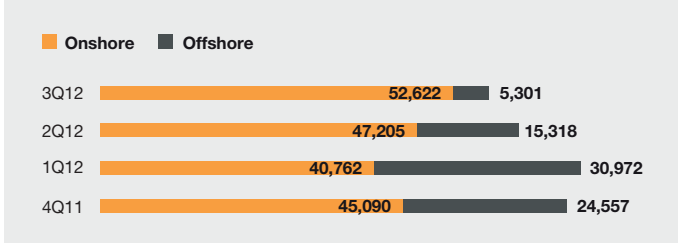
Plate 9.2 – Checking maintenance records and pre-start checklists during equipment spot checks at the LNG plant site

The Project calculates greenhouse gas emissions based on direct fuel use. Indirect sources, such as purchased electricity, are therefore not included. At the LNG plant site landfill, greenhouse gas measurements will not commence until the waste cells are capped. Meanwhile, the Project does not anticipate that the Hides Waste Management Facility will generate measurable greenhouse gas emissions given that no disposal of organic or other green waste is planned.

Greenhouse gas emissions continued to reduce this quarter as the offshore installation of fiber optic cable near-shore at Omati was completed and the contractor vessels removed as an emission source. During the quarter, the Project's onshore and aviation fuel use equated to a greenhouse gas emissions value of 52,622 tonnes of carbon dioxide equivalent, with marine operations contributing an additional 5,301 tonnes of carbon dioxide equivalent. Marine operations peaked during the first quarter 2012 and will continue to decline for the remainder of the year, along with related emissions.

Figure 9.1 shows Project-related greenhouse gas emissions.

Figure 9.1 – Greenhouse gas emissions (tonnes of carbon dioxide equivalent) per quarter



NOTE: Emissions calculations are based on the Australian Government Department of Climate Change and Energy Efficiency, National Greenhouse Accounts Factors, July 2011.

The LNG plant site continues to conduct atmospheric monitoring, with the latest monitoring undertaken in September. All four monitoring sites remained well below the air monitoring criteria levels adopted for the Project.

9.2 Noise and vibration

The Project Environment Permit stipulates that noise criteria are applicable to permanent Project facilities but not to temporary construction activities, such as drilling associated with well development. However, the Project continues identifying and managing the potential impacts of construction noise.

External consultants were engaged during this quarter to undertake a review of the Project's noise monitoring program and to conduct training in noise monitoring. The review included a desktop assessment of existing noise monitoring procedures, followed by a detailed noise level monitoring campaign at seven sites, including the HGCP and drilling sites, to quantify and characterize ambient noise.

Specialized noise monitoring training was completed by the Project Field Environmental Advisors and representatives from each onshore contractor. Training included classroom and practical field sessions that explained and demonstrated the process of identifying prominent camp noise sources, estimating distances to sensitive receptors, the selection of locations for noise recording devices and correct use of this equipment.

Project-wide, there were no unresolved noise grievances at the end of the quarter.

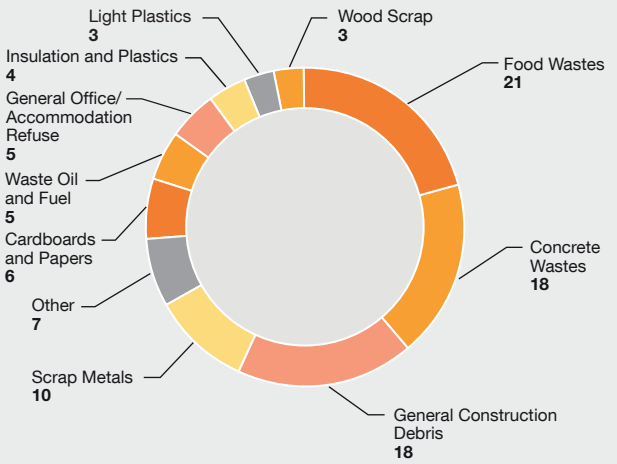
9.3 Waste management

Based on the weight of each waste type, most waste materials generated by the Project this quarter fell into the categories of: food waste; concrete waste; general construction debris, and scrap metals as illustrated in Figure 9.2. Disposal methods used for solid wastes during the quarter are shown in Figure 9.3.

At the Hides Waste Management Facility, work continued on constructing the waste processing facility, which is scheduled for completion by the end of 2012. The waste processing facility will include waste sorting bays, a tire debeader, an industrial shredder, a drum crusher, and an incinerator. Bulk earthworks for a second stage of the landfill were also completed and installation of the protective liner is expected by early 2013.

Meanwhile, the sludge dewatering facility was commissioned and put into service. Following the selection process completed in the second quarter 2012, the contract for the provision of waste collection services and operation of the Hides Waste Management Facility was awarded. In late August, the operator mobilized to site and began recruitment and early waste management activities, including bulk waste consolidation. In addition, a groundwater monitoring well network was installed in preparation for landfill operations in the fourth quarter 2012.

Figure 9.2 – Percentage of solid waste by type



NOTE: Waste types with values of 2% and under have been combined in the category of 'Other'.

Figure 9.3 – Percentage of waste by disposal method

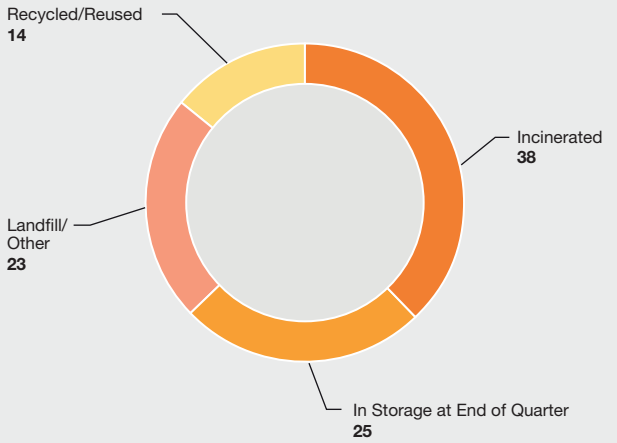


Plate 9.3 – Hides Waste Management Facility showing the start of bulk waste consolidation

The Upstream Infrastructure contractor has begun moving waste, mostly consisting of tires, waste oil and chemical containers, to the Hides Waste Management Facility where it is being stored until operations commence.

Meanwhile, Onshore Pipeline contractor waste management areas are now operational at Kopi Shore Base, Gobe Camp 3, Tamadigi Camp 4 and at Moro Camp 5. In addition, all waste processing equipment (such as the shredder, aerosol can crusher, tire debeader, oil filter crusher, drum crusher and bailer) is functional in Moro Camp 5. To date, shredding, crushing and bailing activities have reduced waste volumes by up to 70 percent.

Opportunities for beneficial reuse continue to be sought. For example, the Hides Waste Management Facility operator is undertaking planning and design for the use of large waste tires to be stacked and filled with soil to create additional bulk waste storage and sorting bays. The Project is also working with the PNG Ports Corporation Limited to examine options for providing tires for use as marine fenders (bumpers used to prevent damage to boats and port structures). A sample of various sized tires was sent to the PNG Ports Corporation Limited for testing.

The Project is using three local entities for the reuse of waste oil. Individual contractors are batch transferring waste oil to either a sugar factory where the oil is used to fire furnaces; a chicken processing facility to fire kilns to heat boilers or to an oil reprocessing facility that on-sells the oil.

The Project has also identified and audited an Australian waste disposal contractor that will provide waste management services for hazardous wastes and some recyclable materials through their newly established Papua New Guinean affiliate company. Approvals and the export permit for trans-boundary movement of hazardous materials were received from the DEC and the Australian Department of Sustainability, Environment, Water, Population and Communities. These were issued as per the Waigani Convention 2001. Subsequently, the LNG plant site sent its first load of excess waste tires to the Australian waste disposal contractor for recycling. To comply with quarantine requirements, the necessary shipment documentation was prepared and the used tires cleaned with a high-pressure water jet to remove mud and foreign particles before being packed into shipping containers.

Following the successful World Environment Day can recycling competition held during the second quarter 2012, the Upstream Infrastructure contractor has continued donating aluminum cans to the Hides Women's Association for recycling. During this quarter, more than 7 cubic metres of cans were donated. The Hides Women's Association sells the cans to a can recycling company in Mount Hagen to raise funds for their programs, which includes buying material for sewing.

Plate 9.4 – Environmental assistants and members of the Hides Women's Association with bags of aluminum cans collected by the Upstream Infrastructure contractor

Meanwhile, the practice of distributing waste wood packaging to the community has spread from the LNG plant site to other areas of the Project. At the HGCP site, timber from packaging, pallets and crates is sorted and inspected to ensure it is free from nails and strapping before being transported to pre-agreed delivery points where the local community is able to collect any quantity they need. This timber is used by the community as building material for fencing and housing, as well as for cooking. Several donations have been made over the past few months, with the most recent occurring in early September.

Plate 9.5 – People from the Hides community collecting waste wood

9.3.1 Wastewater

The Project and its contractors continue to proactively manage wastewater treatment plant performance. As part of this effort in the Upstream area, higher frequency monitoring undertaken during the second quarter 2012 helped fine-tune wastewater treatment plant systems. This allowed for adjustments in areas such as chlorine dosing levels and the replacement of membranes this quarter.

At the HGCP site, the main camp wastewater treatment plant was commissioned this quarter to increase the capacity and effectiveness of wastewater treatment.

The Project also continues to build wastewater skills. For example, a dedicated Field Environmental Advisor was assigned to worker camps as a technical environmental presence to assist with in-situ water quality testing and training local operators.

Changes made to the Upstream Infrastructure contractor's wastewater sampling system have improved the results of test parameters. Sample holding times were previously a challenge due to transport and logistical delays with sending samples to laboratories. The introduction of in-situ site based testing equipment has meant sample holding times are minimized and parameters are more consistent.

Plate 9.6 – Isabel Roandi, Environmental Assistant, Upstream Infrastructure contractor completing a bacteriological test in the site-based water quality laboratory

9.4 Hazardous materials

The Project aims to avoid the use of hazardous materials, particularly those which are subject to international bans or phase-outs. In the third quarter, no materials subject to bans or phase-outs were reported on any Project site.

Contractors continue to conduct checks to ensure hazardous materials are appropriately stored. For example, the Upstream Infrastructure contractor conducts reviews of hazardous materials/chemical storage at each worksite as part of weekly inspections. In August, an audit was conducted into hazardous material types and quantities at worksites. The audit found that, generally, hazardous substances were stored appropriately and the results were used to update the Material Safety Datasheets and the hazardous substances register. Areas for improvement included keeping secondary containment (such as drip trays) free of water in high rainfall periods.

9.5 Spill prevention and response

In the third quarter, the Project recorded its lowest spill rate since substantial works began in January 2010. Breaking hydraulic hoses continues to account for the majority of spills.

Spill prevention and response is an ongoing focus. For example, this quarter the Upstream Infrastructure contractor and the Drilling organization conducted spill kit audits and replenished spill kits. The LNG plant site also conducted audits of spill kits and of fuel and used oil storage areas. There were random checks carried out at the plant site on the competency and identification of personnel who handle fuel. These checks aimed to ensure that only trained, certified and competent personnel are handling fuels/hydrocarbons at the site.

Plate 9.7 – Random checks for competent fuel handler identification

An external spill response expert provided training to 118 participants, representing approximately 40 percent of the drilling workforce on-site at the time, consisting of general laborers through to senior drilling personnel. The training program was taken to each worksite to minimize the impact on work activities, and theoretical training was supplemented with practical demonstrations on the types and use of spill response equipment. While on-site, the trainer conducted a detailed audit of the Drilling organizations' spill preparedness: kit type, availability and maintenance. A large emergency spill response container is due for delivery to the drilling site in the fourth quarter 2012 to increase the site's ability to initiate a first level response in the event of a large spill.

Similar training was also undertaken at the HGCP site, involving classroom sessions and a field demonstration. Participants included nine Project and contractor employees.

Plate 9.8 – Oil spill response training at the HGCP site

At the Komo Airfield, the oil/water separator at one of the storage areas was upgraded from plastic tanks to a more robust concrete box for increased security. A new bunded area with an oil/water separator for the storage of drums of petrol was also constructed at the fuel farm for the Main Camp.

Spill response drills occurred across worksites this quarter, including one by the Upstream Infrastructure contractor and two by the Offshore Pipeline contractor.

One of the drills was onboard a barge at the Omati River landfall and involved all the barge crew and catering crew. A simulated spill was created on deck and the crew demonstrated the use of all spill control measures and proper disposal of the spill.

9.6 Dredging and offshore trenching

There was no dredging activity during this quarter and disturbance to the seabed was limited to the installation of fiber optic cable, which continued from last quarter. The cable was installed by a specialized vessel using a water jet injector system to create a small cable trench less than 0.3 metres. The cable was installed parallel to the pipeline, with an offset of 20 metres for the first 50 kilometres; then was laid into the offshore pipeline trench for the next 20 kilometres to minimize installation impacts.

10 Biodiversity

The Biodiversity Monitoring Plan measures how the Project is minimizing the impact of construction activities on Papua New Guinea's valuable biodiversity resources.

10.1 Ecological management

During this quarter, work progressed in the Lake Kutubu WMA in line with the pre-construction survey requirement for this area. Activities covered tree felling and earthmoving works to clear the approved access road to Kilometre Point 91.5 (Kaimari). Signage displaying worksite rules were installed at work areas on either extremity of the pipeline ROW across the Lake Kutubu WMA to highlight the sensitivity of the area as well as enforce best practice behaviors. Toolbox talks were also delivered to front-end crews working in the area, while 60 workers received specific training on the Lake Kutubu WMA worksite rules.

There were no sightings of larger fauna by the Onshore Pipeline contractor this quarter, however, a White Lipped Treefrog *Litoria infrafrenata* was rescued during installation of erosion control devices. Monitoring of a possible bat cave at Kilometre Point 110.5 did not reveal any disturbance to bats following blasting operations in the area. Terrestrial trench inspections by both the Onshore Pipeline contractor and the Offshore Pipeline contractor did not reveal the presence of fauna in the pipeline trench.

Plate 10.1 – Signage installed at Tugibu Quarry highlighting worksite rules within the Lake Kutubu WMA

Plate 10.2 – White Lipped Treefrog rescued during installation of erosion control devices

Following a report by the Upstream Infrastructure contractor of a Cuscus being killed on the Wellpad Access Road, signage was erected to warn drivers to be aware of animals.

Contractor education on appropriate behavior when finding snakes continues. This includes advice such as stepping away from the snake, waiting for it go away and watching where it goes and seeking help from the Field Environmental team.

A snake was discovered by personnel from the Upstream Infrastructure contractor who enabled the animal to leave the worksite unharmed. Several Pythons were also found during grading activities for the onshore pipeline near Kilometre Point 101 as well as along the Gobe Spurline. Also, the Komo Airfield contractor relocated a snake from the Timalia Quarry to nearby intact forest.

Plate 10.3 – Discussions on ecological management at a daily pre-start meeting

No marine mammal or turtle sightings were made during the quarter by the Offshore Pipeline contractor. However, the LNG Plant and Marine Facilities contractor observed six Bottlenose Dolphins *Tursiops truncatus* and a Reef Manta Ray *Manta alfredi*, with a wingspan of approximately 3 metres, near the jetty trestle. In August, while the LNG Plant and Marine Facilities contractor's transfer vessel was returning from the work barge anchored at the end of the jetty, it came into contact with a submerged marine mammal. Following contact, a large dark dorsal fin or flipper was partially observed breaching the surface but the sighting and movement was too quick to identify the species. Prior to this, there was no indication of marine mammal or turtle activity near the vessel or along the vessel route.

The Project continues measuring and monitoring the pipeline ROW width and, despite the presence of extra workspaces at several locations, works remain well within the agreed footprint. Sidecasting has occurred in some locations with material moving into nearby vegetation, but the footprint where cutting/grading has occurred remains within the agreed limits.

To reduce the effects of sidecasting, felled timber is being placed on the sides of slopes and extra care is taken to salvage the topsoil. The graded area of the ROW is also being reduced to decrease the amount of material produced and minimize sidecasting.

10.2 Quarantine management

The deployment of the quarantine index for non-conformances, near misses and incidents resulted in improved monitoring of contractor performance this quarter. During the Project's regular meetings with the Papua New Guinean National Agriculture Quarantine and Inspection Authority senior management, contractor inspection and fumigation rates are shared, which is helping to identify opportunities for improvement in contractor procedures and the National Agriculture Quarantine and Inspection Authority's own internal processes.

Quarantine clearances continue in a timely and efficient manner, without any major delays or contamination of containers that could pose a significant risk to the Papua New Guinean environment.

10.3 Weed, plant pathogen and pest management

Weed inspections continued throughout this quarter with some priority weeds identified. The Upstream Infrastructure contractor recorded Elephant Grass *Pennistum purpureum* at Kopeanda, a *Desmodium* species at their camp and Giant Cane *Arundo donax* at one of the spoil storage sites. The LNG Plant and Marine Facilities contractor implemented manual control for a number of species including Silver Cock's Comb *Celasea argentia*, Guinea Grass *Panicum maximus* and Forest Blue Grass *Bothriochloa ewartiana*. The LNG plant site's third annual weed and Sandalwood *Santalum macgregorii* monitoring was also conducted in August. The full report will be produced in the fourth quarter 2012.

The Hides Gas Conditioning Plant and Hides Wellpads contractor controlled a number of weeds using herbicide this quarter. Meanwhile, the Komo Airfield contractor implemented weed control measures on parts of the site and at the batch plant. The Drilling organization provided weed photo identification cards to site leads to enhance awareness and capability for weed identification within their work areas, however, no Priority 1 weeds were identified on drilling worksites during this quarter.

As part of the Onshore Pipeline contractor's weed monitoring activities, daily patrols between Moro Camp 5 to Paua Camp 6 noted the presence of a few weed species at the Kilometre Point 76 road crossing, the Kilometre Point 72 road crossing and generally along roadsides. Significant quantities of Priority 1 weeds were observed at the Moro to Homa road. Weeds common along the roads include: Bamboo Piper *Piper aduncum*, Silver-Leaved Desmodium *Desmodium unicatum*, *Hedyotis auricularia*, Singapore Daisy *Tithonia diversifolia*, Kudzu *Pueraria Phaseoloides*, White Leadtree *Leucaena leucocephalla* and Giant Cane. A crew was deployed to manage weeds between the Mubi and Aio River crossings where pipe lay activities were completed. One weeds specialist was assigned to the Moro area to identify any pre-existing weed presence.

Meanwhile, manual weed management techniques at Kilometre Point 72, 76, 87, 88 and 94 are minimizing the spread of weeds onto the pipeline ROW in the area of the road crossings. Chemical control was applied at locations including Kilometre Point 173 and around Moro Camp 5.

Plate 10.4 – Control of Giant Cane by the Upstream Infrastructure contractor

Plate 10.5 – Preparing an area for chemical treatment of Kudzu near the ROW at Kilometre Point 173

Weed management formed part of environmental worker training delivered by the Drilling organization during this quarter. The Komo Airfield contractor also conducted ongoing training on weed and pest monitoring, including weed treatment. At onshore pipeline worksites, toolbox talks were conducted on preventing the spread of weeds.

The Hides Vehicle Washdown Area for the Wellpad Access Road, operated by the Upstream Infrastructure contractor, serviced over 10,500 vehicles during this quarter. There was a significant increase in certificates issued in July and August due to the increased work activity in the area. All vehicles and related equipment associated with drilling operations passed through the Hides Vehicle Washdown Area when traveling along the Wellpad Access Road to Wellpad B.

To support increasing construction activity, the Hides Gas Conditioning Plant and Hides Wellpads contractor constructed a temporary washdown facility at the warehouse area, which opened in September.

Prior to the temporary washdown area becoming operational, drivers were washing vehicles within the hardstand areas of the construction site using buckets and water.

Considering the limited movement of vehicles and equipment between sites belonging to the Komo Airfield contractor, 12 washdown certificates were issued for vehicles, an excavator, lighting towers, and excavator blades and arms.

10.4 Induced access

During this quarter, the Onshore Pipeline contractor opened seven access roads in the Moro, Paua and Homa areas to provide safe passage for vehicles through particularly steep sections of the ROW.

Where the onshore pipeline access roads link to existing community roads, the Project is maintaining security checkpoints at main junctions. To date, monitoring of Project roads shows they are used exclusively by Project-related traffic.

The Upstream Infrastructure contractor continues controlling access to the Wellpad Access Road by using worker inductions and identification cards.

10.5 Reinstatement

Considering that the reinstatement of spoil storage sites can be difficult, the Project has produced a reinstatement guideline to assist in spoil management. A spoil site is defined by the Project as a deposit of excess excavated material resulting from construction earthworks. Spoil storage sites are a common feature of infrastructure projects in mountainous terrain. Adequate planning is essential to achieve long-lasting reinstatement outcomes, such as site stability and agro/ecological functionality. The Project's new guideline covers topics including; access, site drainage, surface stability, soil quality, weed invasion and native vegetation.

The Upstream Infrastructure contractor continued reinstatement activities at the HGCP site and the perimeter road by planting locally sourced stock and spreading seed (Japanese Millet *Echinochloa* spp. and/or Carpet Grass *Axonopus compressus*). Meanwhile, jute matting installation continued across the HGCP worksites and Japanese Millet and/or Carpet Grass was spread at numerous locations. These included camp areas for the Upstream Infrastructure contractor and the Hides Gas Conditioning Plant and Hides Wellpads contractor, as well as the industrial park, utilities area, the rotator housing, and the process area at the HGCP.

For the Onshore Pipeline contractor, monitoring final reinstatement, as well as permanent erosion control and natural regeneration of the ROW were priorities for the quarter. Due to very heavy rainfall, reinstatement works were suspended for 25 days in September but reinstatement activities were completed at the Kantobo Camp and bypass despite this delay.

The Komo Airfield contractor reinstated 4.6 hectares of permanent works area, and continued preparing planting stock at the Komo Main Camp and Timalia nurseries. Reinstatement was completed on the slopes below the stores area and the batter of the Ariako River diversion, as well as at the spoil area south-west at Takore Creek. All reinstatement works are subject to post-reinstatement monitoring.

Plate 10.6 – Casting seeds on the HGCP perimeter road batter

Plate 10.7 – Natural regeneration following reinstatement at Kilometre Point 197

Plate 10.8 – Preparation of planting stock for reinstatement

10.6 Biodiversity Strategy

During this quarter, the Biodiversity Offset Delivery Plan, which includes the biodiversity offset program, was finalized and submitted to the IESC and Lender Group for review.

This program consists of five components:

- **Component 1: Protected area planning** – Support the DEC in the development of a protected area system for the Kikori River Basin.
- **Component 2: National Biodiversity Strategy and Action Plan** – Support the DEC in enhancing implementation of the National Biodiversity Strategy and Action Plan.
- **Component 3: Conservation capacity program** – Build technical capacity to ensure appropriately qualified and experienced professionals across a range of disciplines that relate directly to the biodiversity offset program.
- **Component 4: Existing protected areas** – Enhance and strengthen the operation of an existing or combination of existing WMAs in the Upstream Project Area.
- **Component 5: New protected areas** – Establish new community-based protected areas in the Upstream Project Area.

11 Resource Management

In recognition of the cultural, social and economic value of natural resources to the people of Papua New Guinea, the Project aims to use all resources such as quarry materials, timber, water and soils sustainably.

11.1 Water management

11.1.1 Usage

During this quarter, the Project extracted a total volume of 138,033 kilolitres of freshwater and 543,881 kilolitres of seawater for drinking, domestic camp needs, dust suppression and construction-related activities.

The groundwater bore installed during the second quarter 2012 at Wellpad B provided an additional water supply to accommodate the increased water use required this quarter as a result of the increased Project activities around the Hides area. All water extraction volumes remained within permitted limits and no additional water extraction permits were obtained. Groundwater is normally recharged through natural processes.

The volume of water used by each extraction source is shown in Figure 11.1 and a breakdown of water used by water type is shown in Figure 11.2.

11.1.2 Quality

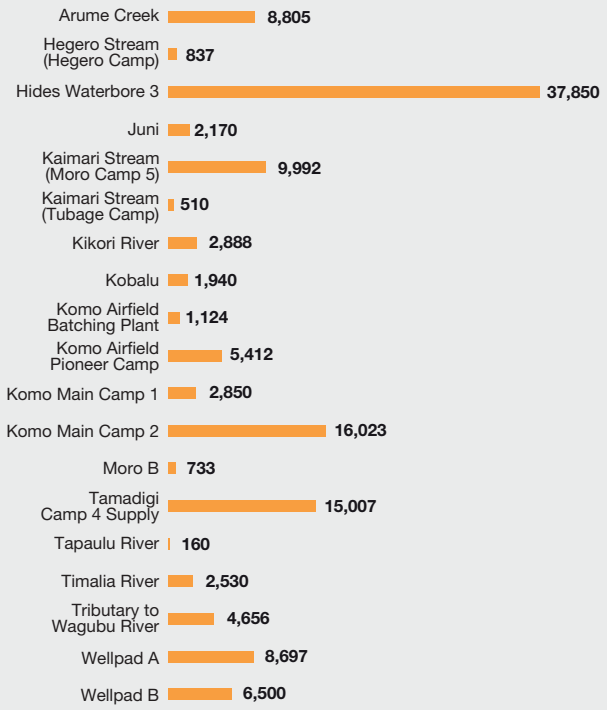
Water quality is monitored in surface waters, groundwater and seawater surrounding the Project. The monitoring aims to detect any changes that may be attributable to Project activities and have the potential to impact the environment.

An independent consultant conducted the Project's annual stream monitoring campaign, sampling all existing sites, with additional sites added to the south of the HGCP site to improve monitoring capabilities in relation to wastewater. Other sites were added to the north of the HGCP site to capture the potential Project influence from bulk earthworks and future drilling activities.

During the surface water monitoring campaign, the consultant also conducted freshwater ecology monitoring for macro-invertebrates. The sampling program for construction was completed in the first quarter 2012; however, the opportunity was taken to conduct extra sampling to provide additional data. An attempt was made to resample all sites, although high water flow levels meant some sites could not be resampled.

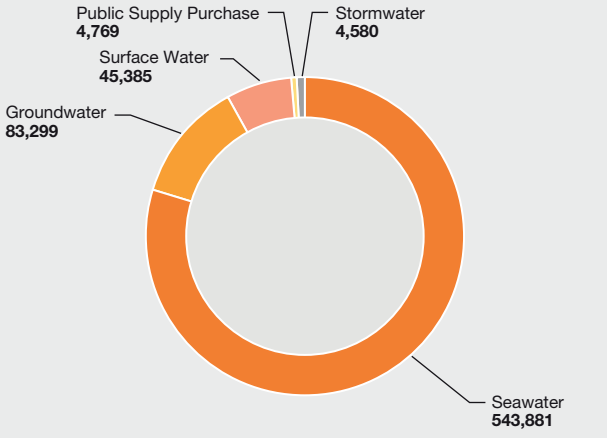
Individual contractors continued surface water monitoring throughout Project worksites. Higher turbidity was found following high rainfall events and efforts with erosion and sediment control continue. Water is monitored for oil and grease with no evidence of either found in the waters leaving sites.

Figure 11.1 – Volume (in kilolitres) of water used during the third quarter by extraction source[7]



NOTE: Seawater, stormwater and purchased water are not included in this Figure. Water use for the LNG plant site is not shown in this Figure as the site's water usage is from desalinated seawater.

Figure 11.2 – Volume (in kilolitres) of water used during the third quarter by water type



Additional leachate monitoring was undertaken at the LNG plant site's construction landfill following elevated levels of fecal coliform (*Escherichia coli*) and phenol detected in the second quarter 2012. An investigation established that fecal coliform levels were independent of landfill use, considering that inactive landfill cells had even higher levels than the active cells.

7 Water usage adjustments may be reported by contractors after the Report is released, and as such volumes may be refined between one report and the next.

The investigation concluded that fecal coliform is naturally existing in the area, possibly associated with bird feces. To manage this situation, leachate water will be treated with chlorine and pumped to a sedimentation pond for disposal.

An independent consultant was engaged to conduct a follow-up sampling event after the annual groundwater sampling undertaken in the second quarter 2012. The groundwater samples were taken surrounding the LNG plant site's construction landfill and from an additional sample location situated away from any construction impact. The results for fecal coliform, arsenic and silver were all within the limits of environmental reporting or, for phenols, the same as naturally occurring levels. Parameters that exceeded the baseline were compared with the United Kingdom Threshold for Groundwater Quality and found to be within these limits.

External consultants also completed baseline groundwater monitoring of the newly installed bores surrounding the Hides Waste Management Facility during this quarter. In addition, the consultants trained contractors working in the area on surface water and groundwater sampling techniques using on-site equipment.

With drilling activities commencing, pre-drilling baseline surface water monitoring data from the second quarter 2012 was followed-up with further sampling undertaken during this quarter. The Project implemented the Drilling Foam Management Plan, which involves sampling at the water/foam interface and analyzing for target parameters. Examination of the data collected showed no measureable difference between pre-drilling baseline and post-drilling surface waters.

The DEC issued a hydrotest water discharge approval during this quarter specifically for the 'LNG tanks and miscellaneous tanks'. Hydrotesting was conducted at the LNG plant site for the miscellaneous tanks. For example, the amine storage tank was tested using treated sewage water, which was then discharged into a drain and finally into the main LNG plant site sedimentation pond. Hydrotesting using potable water was conducted for the oil tank, the neutralization tank, the diesel storage tank and the desalinated water tanks. Where possible, water was reused between tests – for example, from the oil tank to the neutralization tank. During hydrotesting, in-situ water quality testing was undertaken for pH, temperature, dissolved oxygen, turbidity and electrical conductivity. The released water was visually monitored to check for any scouring in drains due to the rate at which the water is being discharged.

During this quarter, hydrotesting was completed for the onshore pipeline between the Omati River landfall to Kilometre Point 178, and the offshore pipeline between the LNG Plant landfall to the Omati River landfall. This was undertaken in accordance with the Project's hydrotesting requirements and included discharge monitoring, proper discharge locations and anti-fish entrainment devices. Water quality monitoring was undertaken in accordance with the Project Environment Permit and the DEC Hydrotest Permit approvals. While results were not available at the time of publishing, no discharge exceedences are expected.

Water-related grievances continue to be addressed through the Project's grievance management process. The Project's Field Environment team provides environmental expertise with regard to water-related grievances. Findings and recommendations from these investigations assist in grievance resolution.

Plate 11.1 – Hydrotest water at the LNG plant site being discharged into a concrete drain and finally into the main LNG plant site sedimentation pond

Plate 11.2 – Water sample collection during discharge of hydrotest water at Kilometre Point 176

11.2 Raw materials

During this quarter, the quarry register, which tracks quarries throughout the Project, was upgraded. This upgrade provides improved analysis of volumes, locations, quarry status and conditions. As part of this activity, environmental and social risk assessments were revisited where required.

The Project aims to maximize the use of existing quarries rather than opening new ones. In accordance with this approach, no new quarries were opened during this quarter and all aggregate materials were sourced from Project-approved facilities.

Development of an existing Project quarry progressed as an alternative laydown area with closer proximity to drilling operations than the originally planned location.

The quarry was re-profiled and capped during this quarter and will serve as a helipad, diesel depot and general laydown. Not only does the reuse of this existing quarry reduce the planned Project footprint but the closer proximity to drilling operations reduces trucking movements due to the shorter distances traveled.

Table 11.1 shows the volume of quarry material extracted by the end of the quarter.

Table 11.1 – Quarries in use and extracted volumes during the third quarter

Area/quarry name	Volumes extracted (cubic metres)
LNG plant site	126,643
Hides	217,953
Komo	116,273
Onshore Pipeline	138,930

The procurement of timber has only been required in small quantities, with 65 cubic metres purchased during this quarter. Much of the timber used was for camp upgrades, with a large amount of wood recycled from the drilling rig mobilization packaging.

11.3 Erosion and sediment control

The installation and maintenance of erosion and sediment control devices requires an ongoing and focused effort. High rainfall resulted in the reinstallation of some control measures, while others were reviewed and improved.

With the management changeover at the HGCP site (from the Upstream Infrastructure contractor to the Hides Gas Conditioning Plant and Hides Wellpads contractor) erosion and sediment control was the focus of a site visit by the Project's Field Environmental team. The visit assessed the HGCP boundary and perimeter erosion control and reinstatement efforts. The Project and the Hides Gas Conditioning Plant and Hides Wellpads contractor reviewed the status of structures and maintenance resourcing. Recommendations from the visit included modifications to rock drainage designs to redirect stormwater during heavy rainfall, and thereby reduce scouring around a nearby road. Other recommendations included transitioning existing local erosion control crews to maintain over 100 sediment fences on-site.

Meanwhile, onshore pipeline areas had significant rainfall and flooding during September that led to erosion washouts. On the recommencement of works, the level of impact was assessed and measures implemented to remediate control measures. Some erosion control measures installed prior to the rainfall were noted to have been overwhelmed, so installation of more robust measures by a dedicated temporary erosion control team was arranged.

On the Wellpad Access Road, the Upstream Infrastructure contractor is proactively addressing erosion control measures with a site-specific Erosion and Sediment Control Plan and temporary control measures. Additional erosion and sediment control crews have also been sourced to install temporary controls on the road. The final design of the access road incorporates specific permanent erosion control measures.

Plate 11.3 – North-eastern boundary of the HGCP site showing erosion control matting, green seeding, silt fencing and a rock lined drain to a culvert

11.4 Acid sulfate soils

At the LNG plant site, there were no deep excavations or dewatering activities along the shoreline during this quarter. Meanwhile, follow-up sampling around the feed gas pipeline route was conducted at two locations (at different depths) and sent to an external laboratory. The findings confirmed that none of the samples tested had results that would be classified as acid sulfate soil.

Based on assessments of previous monitoring results for the Omati River landfall and the unlikelihood of acid sulfate soils developing, no further testing is planned.

12 Cultural Heritage

In all its activities, the Project maintains respect for Papua New Guinea's cultural heritage and the history of communities located in the Project impact area. Project activities are guided by pre-construction surveys which identify sites that are either subject to salvage activities or protection from disturbance. Chance finds are managed in close communication with local communities and in accordance with a protocol agreed with the Papua New Guinean Government.

During this quarter, the LNG Plant and Marine Facilities contractor provided construction teams with cultural heritage awareness training in preparation for excavation works on the feed gas pipeline. The Onshore Pipeline contractor also trained construction crews involved with tree felling and ROW clearing and grading activities.

12.1 Pre-construction surveys

The Project conducts surveys prior to construction to identify cultural heritage sites requiring preservation, or mitigation measures developed in partnership with local landowners. Sites to be avoided are marked by archaeologists before any construction begins.

The sites demarcated and monitored for disturbance are listed in Table 12.1.

Table 12.1 – Cultural heritage sites monitored during the third quarter

Location	Site description
Kilometre Point 24	Former '*malihama*' (traditional ritual dance ground). This site continued to be demarcated but no monitoring was undertaken during this quarter due to access difficulties.
Kilometre Point 94	Two individual burial sites.
Kilometre Point 129	'*Putape Aina 2*' ossuary.
Kilometre Point 130	Ossuary.
Kilometre Point 142	Sleeping cave.
Kilometre Point 143	'*Nigira*' spirit pool/lake; and '*Kekenoparti*' cave.
Kilometre Point 144	Rockshelter with human remains.
Kilometre Point 149	Stone flakes.
Kilometre Point 150	'*Karisinana*' ancestral village.
Kilometre Point 153	'*Baiwara'araumarisa*'/'*baiwara'araumahaii*' healing pool oral tradition site; and '*Mafeka 2*' water filled doline oral tradition site.
Kilometre Point 154	'*Mafeka 1*' and '*Mafeka 3*' water filled doline oral tradition sites.
Kilometre Point 155	'*Awa*' cave inhabited by the spirit '*Daso*'; '*Bono*' oral tradition site (three palms belonging to the spirit '*Daso*'); and '*Mapiya*' ephemeral stream associated with the spirit '*Daso*'.
Kilometre Point 158.4	'*Marupe hai*' spirit water.
Moro Camp 5	Memorial site.

12.2 Salvage excavations

No salvage excavations were undertaken during this quarter.

Plate 12.1 – Cultural heritage site at Moro Camp 5 protected during construction activity

Plate 12.2 – Burial site protected during construction of the laydown facility near Kilometre Point 94

12.3 Incidents of disturbance to known cultural heritage sites

No incidents of Project-related disturbance to known cultural heritage sites occurred during this quarter.

12.4 Chance finds

Inspections for chance finds are conducted prior to any ground disturbance activities. Chance finds recorded this quarter from these inspections are shown in Table 12.2.

Table 12.2 – Chance finds during the third quarter

Location of find	Type of find
Komo Airfield	Tanged blade
Wellpad Access Road	Former ossuary
	Waisted stone axe
HGCP	Chert flake

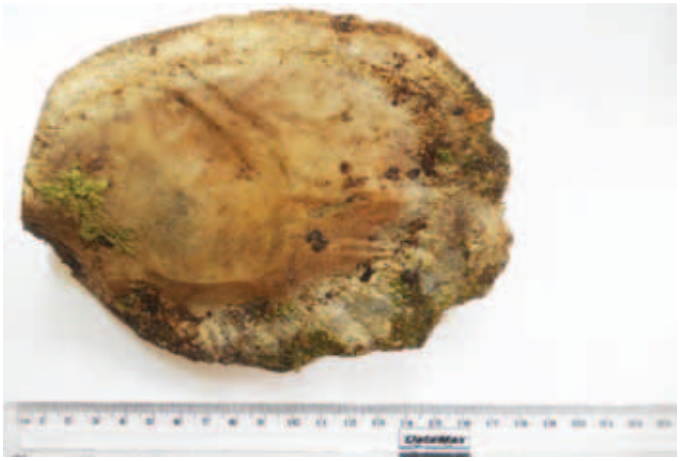


Plate 12.3 – Chert flake found on the surface of the Wellpad Access Road during early works

A former ossuary was found underneath a rock shelter along the onshore pipeline ROW. An ossuary is a site, building, well or chest that serves as the final resting place of human skeletal remains. With regard to the find along the onshore pipeline ROW, signage was installed to prohibit Project personnel from entering and disturbing the site.

Plate 12.4 – The former ossuary discovered near the onshore pipeline ROW

An important connection to the land

Throughout Papua New Guinea, different clans have strong connections to their natural environment. Caves, ponds, lakes and trees all have deep cultural heritage meanings and form part of Papua New Guinea's traditional heritage, which has been passed down for generations. The Project respects these beliefs and works with communities to protect sacred cultural heritage sites. These include caves once used by different clans as resting places for men during hunting expeditions and numerous spirit ponds and lakes throughout the Project impact area.

Spirit pond of the Arua clan

As part of protecting Papua New Guinea's sacred sites, the Project works closely with clan and tribal leaders and the Papua New Guinean Government to help identify and preserve sites of significance.

For example, Tandali Punga, Ward Councillor for the Wapiako Takima clan, has worked with the Project to protect a local spirit lake in Komo and liaised between the Project and his people to ensure traditional ceremonies were conducted at the lake to respect the spirits. "This Project is very good for the people," he said. "But we cannot neglect what our fathers have told us. We need to bring both of these worlds together, and that is what the Project has done. We are very happy."

Tandali Punga looks out across the spirit lake in Komo

13 Stakeholder Engagement

The Project and its contractors proactively engage with Papua New Guinean communities with the aim of building positive relationships based on trust, mutual understanding and collaboration.

13.1 Government

As construction progresses, the Project continues keeping all levels of government, members of the community and other stakeholders informed of Project activities.

13.1.1 People processes

Papua New Guinea's Department of Labour and Industrial Relations and Immigration and Citizenship Service Authority are expediting Project-related visas and work permits, with 14,000 processed to date. In addition, the Immigration and Citizenship Service Authority has implemented a Restricted Employment Facility, which allows Project personnel to work 30 days at a time for up to four times in a year without a work permit. The Restricted Employment Facility will assist in areas where there is urgent specialist or emergency work required.

The Department of Labour and Industrial Relations is also permitting an exemption for work permit changes as a result of job changes within the Project. This exemption permits individuals to remain in Papua New Guinea while work permit processing occurs for changes to the applicant's internal employment status. This will eliminate potentially unnecessary administration for both the Department and the Project as well as minimize travel costs for the individuals involved.

13.1.2 Materials and tax

Papua New Guinea's Customs Service is currently clearing Project cargo within approximately seven days. Together with the Project, the Customs Service is also developing a new policy for the disposal of surplus materials and equipment once Project construction is complete. An in-principle agreement has been reached on a process that involves exporting some materials duty free and donating others to organizations within Papua New Guinea.

Meanwhile, the Project continues engaging with the Papua New Guinean National Agriculture Quarantine and Inspection Authority to measure contractor performance and compliance with Papua New Guinea's quarantine requirements.

13.1.3 Infrastructure and Government support

The Project continues supporting Papua New Guinea's Department of Works with critical repairs to the Highlands Highway, minimizing delays for the general public as well as Project contractors. For example, Project engineers help the Department of Works identify sections of the Highlands Highway needing repairs or maintenance and engineering design. Contractor supervision is also provided as needed.

During this quarter, Papua New Guinea's National Road Safety Council completed the first phase of a Project-sponsored Road Safety Awareness campaign covering Goroka to Mount Hagen. Next quarter, the campaign will be delivered to road users and communities between Mendi in the Southern Highlands Province and Hides in the new Hela Province.

13.1.4 Advocacy

Following completion of the Papua New Guinea 2012 National Election this quarter, the Project conducted numerous advocacy workshops with key incoming Government ministers, departments and agencies.

13.1.5 Benefits assurance delivery

During this quarter, activities focused on addressing issues related to the distribution of benefits/commitments under relevant agreements between the Papua New Guinean Government and landowners.

The Papua New Guinean Department of Petroleum and Energy deployed field officers to conduct routine activities such as administering royalty payments for the petroleum development license area, following up on existing beneficiaries, and addressing specific landowner concerns.

The Project's dialogue with the Department of Petroleum and Energy regarding Government-related concerns in the Project impact area continues.

13.2 Communities

The Project's relationships with communities and ongoing community engagements help achieve mutual understanding while communicating current and future construction activities.

During this quarter, the Project and communities across Papua New Guinea celebrated the 37th anniversary of the country's independence; refer to *Case Study Four – Celebrating independence*.

13.2.1 Engagement activities

During this quarter, the Socioeconomic team conducted 101 formal engagements with 218 participants, representing 29 different communities. The Socioeconomic team also recorded 49 informal engagements. To date, the Project has completed more than 760 formal engagements, interacting with almost 28,200 community members. This is in addition to more than 1,220 people reached through informal engagements.

Key topics discussed with communities during this quarter included safety near the pipeline ROW, pedestrian safety, hygiene in schools, drilling operations, pre-commissioning activities and general Project updates.

Hides and Komo

The Project is delivering a comprehensive pedestrian and road safety awareness program to communities. This includes visiting schools to highlight the need for safety on the road, visiting communities to explain the importance of pedestrian road safety and conducting informal engagements along roadsides. Two key engagement tools for children are safety activity materials from the Toea book series and Project Interface series along with the Project's *Stop, Look, and Listen* theme. For communities in the Hides and Komo areas, Project personnel are providing a road traffic program for drivers involving topics such as, driving at the correct speed, no distractions, pedestrian awareness, and road condition awareness.

Plate 13.1 – Assisting with the road traffic program for drivers

With drilling activities commencing this quarter, the Project's Socioeconomic team conducted extensive stakeholder engagement with community leaders, schools, women's groups, churches, health facilities and Government. These engagements were designed to provide information about what to expect during drilling operations, such as noise and light from the rigs; as well as foam drilling operations. Engagements were conducted prior to the start of drilling operations and provided an opportunity for community members to ask questions and provide feedback about the planned drilling activities.

A newsletter was introduced during this quarter for workers in the Upstream area. The *PNG LNG Upstream Newsletter* will provide Project updates, key messages and highlight activities taking place to the workforce in the Upstream areas. Workers can share this information with their families and communities. It is currently produced in English and depending on demand, may be produced in Tok Pisin and/or Huli. The *PNG LNG Upstream Newsletter* will be published every two months.

Pipeline (north and south)

Along the northern pipeline route, community discussions conducted this quarter focused on general Project updates, an overview of pipeline activities, and the different roles of Project teams.

Meanwhile, engagements along the southern part of the pipeline focused mainly on safety, with the distribution of the *Toea Fun Road and Worksite Safety Activity Pack* and yellow visibility shirts to school children. Meetings with local women also occurred during this quarter to update them about Project activities.

In the Omati area in particular, community engagement covered offshore pipeline pre-commissioning activities, as well as social considerations with regard to fishing and the barging route waterways.

Plate 13.2 – *Toea Fun Road and Worksite Safety Activity Pack* distribution by Toea himself

Plate 13.3 – Road safety lessons at Idauwi Community School

LNG plant site

As construction activity increases at the LNG plant site, the Socioeconomic team has increased engagement with Project workers, communities and other key stakeholders. For example, during this quarter alone, more than 250 visitors participated in educational seminars and site tours. These included key community and women's groups, fisheries associations, school teachers and high school students, local level government leaders and Government departments. Participating Government departments included the DEC, Department of Transport, Department of Commerce and Industry and the Department of Lands and Physical Planning.

Targeted communications messages were also distributed providing updates on the construction of navigational aids, offshore pipeline pre-commissioning activities and worker demobilization. To support engagement activities around the LNG plant site area, the Project continues publishing the monthly *PNG LNG Plant Site Newsletter*, along with a *Plant Site Camp News* bulletin every two weeks, and the *Plant Site Worker Bulletin* published three times a week.

Issues identification

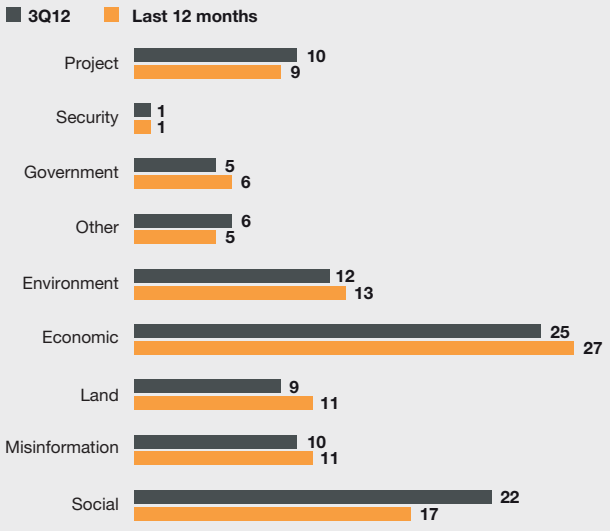
Project-related issues raised during this quarter, and for the past twelve months, continue to show economic concerns as the largest issues category. As shown in Figure 13.1, 25 percent of all issues raised during this quarter related to economic concerns. However, this is a decrease from the 32 percent recorded in the second quarter 2012. Economic issues mostly involved enquiries about employment and business development opportunities with the Project.

The second most common issue category was social concerns, representing 22 percent of all issues recorded during the quarter. Social issues related primarily to community health and safety, and questions about labor and working conditions.

Another key social concern related to the potential impact of resettlement activities changing the social structure and culture of communities in the Project impact area.

The Project's Socioeconomic team continues working closely with communities to identify and address any issues raised.

Figure 13.1 – Percentage of issues received by issue category



13.2.2 Media

The Project launched a three-month newspaper and radio advertising campaign titled '*Yu Save Olsem?*' (Did You Know?) during this quarter. The campaign consists of several key Project facts and images depicting Project milestone achievements under the three pillars of citizenship, economic development and operator of choice. The advertisements are being published in English in *The National*, the *Sunday Chronicle* and the *Post Courier*, as well as aired over the four major Papua New Guinean radio stations. They have also been translated into Tok Pisin to be inserted into the *Wantok Nius* and aired on *Yumi FM*.

Project senior management continue appearing on radio station FM100's popular talkback show. During this quarter, appearances included: Peter Leahy, Highlands Highway Area team Manager outlining the Project's efforts to build and strengthen partnerships with local communities and other key stakeholders along the Highway; Ruben Medrano, Environmental and Regulatory Manager talking about environmental aspects of the Project; and Dr. Moses Lester, Medicine and Occupational Health Deputy discussing health topics.

Meanwhile, the monthly newspaper column by Esso Highlands Limited Managing Director, Peter Graham featured an update about stakeholder partnerships. The column is also published in Tok Pisin in the *Wantok Nius*.

Quarterly workshops for business reporters continue to be well attended and have generated extensive media coverage of the Project's milestone construction achievements and successful community engagement activities.

In addition, the Project's tenth PNG LNG Quarterly Environmental and Social Report covering activity during April to June 2012 was published on the Project website and in hard copy for distribution to a wide network of stakeholders.

Read the Quarterly Environmental and Social Report series at
www.pnglng.com

The Executive Summary of the Report was distributed in Tok Pisin and English through a suite of national papers including the *Post Courier, The National, Pacific Business Review, Wantok Nius,* and the *Sunday Chronicle*.

CASE STUDY FOUR

Celebrating independence

September 16 marked the 37th anniversary of Papua New Guinea's independence – with celebrations held across the country.

The Project marked the occasion with its own Independence Day celebrations tailored to each of its locations.

Workers at Juni celebrated Independence Day with a banquet featuring a cake decorated with the Papua New Guinean flag

At Port Moresby, Project offices conducted their celebrations on Friday September 14 in a unique and colorful fashion. For the second consecutive year, the theme was 'Adopt an Expatriate', giving Papua New Guinean workers the opportunity to dress their expatriate colleagues in the traditional '*bilas*' (costumes) of their local provinces.

While female workers were dressed in grass skirts, tapa cloth and tattoos, male workers had the chance to wear spectacular headdresses and face-paint. Traditional artifacts were also displayed in Project offices.

Prizes were awarded for the 'Best Dressed Duo' – the Papua New Guinean and expatriate duo who looked the most similar in their traditional dress.

As part of the celebrations, each department decorated their work areas, all proudly displaying the national colors of Papua New Guinea. The 'Best Decorated Department' at each office location also received an award for their creativity.

This event is proving to be a great success with helping international Project workers learn more about Papua New Guinea's diverse culture.

Carmen Dunkley in Oro Province 'tattoos'

Winners of the 'Best Dressed Duo' for the Town office: Ekaterina Hiskins and Lilias Lalatute in Mekeo '*bilas*'

Shabaka Gibson wearing a Simbu headdress with Andy Kenyon in Oro Province dress

Rodney Geoffrey and Mark Krueger were the winners of the 'Best Dressed Duo' award for the Konedobu office

14 Acronyms

AIDS	Acquired Immune Deficiency Syndrome
DEC	Papua New Guinean Department of Environment and Conservation
EBCS	Emmy's Bakery and Catering Services
ESMP	Environmental and Social Management Plan
HGCP	Hides Gas Conditioning Plant
HIV	Human Immunodeficiency Virus
IESC	Lender Group's Independent Environmental and Social Consultant
iHDSS	Integrated Health and Demographic Surveillance System
IIF®	Incident and Injury-Free®
IMR	Papua New Guinea Institute of Medical Research
ISO	International Standards Organization
Lanco(s)	Landowner Company (Companies)
LNG	Liquefied Natural Gas
MCHE	Main Cryogenic Heat Exchanger
PNG	Papua New Guinea
PSI	Population Services International
ROW	Right of Way
SSHE	Safety, Security, Health and Environment
STI	Sexually Transmitted Infection
TAFE	Technical and Further Education
WASH	Water, Sanitation and Hygiene
WMA	Wildlife Management Area

APPENDIX 1 – Project Contractors and Work Scopes

Table A1.1 – Summary of contractors and work scopes

Contract	Description of work scope
Upstream Infrastructure Clough and Curtain Brothers Joint Venture	• Infrastructure upgrades supporting main construction activities in the Gulf Province and Southern Highlands Province. • Camps for Esso Highlands Limited and to support construction activities. • Construction of a landfill site at Hides. • Bulk earthworks for the HGCP and wellpads.
LNG Plant Early Works Curtain Brothers Papua New Guinea Limited	• Upgrade of existing road from Motukea Island to LNG plant site. • New Bypass Road (re-routing of existing public road, which transects with the LNG plant site).
Telecommunications TransTel Engineering	• Installation of a telecommunications system to support construction and operations.
Offshore Pipeline Saipem	• Construction and installation of the offshore pipeline from Omati River landfall to LNG Plant landfall site. • Pipeline tie-in at Omati River landfall and shore crossing at the LNG Plant landfall site. • Installation of near-shore fiber optic cable in the Omati area.
Offshore Fiber Optic Cable Alcatel	• Installation of the offshore fiber optic cable from the Omati delta to the LNG Plant landfall.
LNG Plant and Marine Facilities Chiyoda and JGC Joint Venture	• LNG facility engineering and construction, including LNG process trains, condensate storage tanks, LNG storage tanks, utilities, permanent accommodations, heliport, and telecommunications. • Marine facilities including the jetty and LNG/condensate export berths.
Hides Gas Conditioning Plant and Hides Wellpads CBI and Clough Joint Venture	• Engineering and construction of the HGCP processing facilities and associated wellpads, including permanent accommodations and maintenance facilities.
Onshore Pipeline SpieCapag	• Installation of the onshore gas and condensate pipelines, and associated valve and metering stations. • Installation of the pipelines for the Hides gathering system including flowlines, spineline, utility lines, and associated power and telecommunications cables.
Komo Airfield McConnell Dowell and Consolidated Contractor Group Joint Venture	• Airfield and supporting infrastructure.
Associated Gas Development Various	• Upgrades and modifications to Kutubu Central Processing Facility and Gobe Production Facility including gas dehydration, metering, and condensate handling.
Nabors Drilling International Limited	• Drill and complete 11 new wells.
Permanent Office and Housing Company (to be determined)	• Construction of office accommodation and housing to support the operation of the facilities.

Esso Highlands Limited acknowledges the aforementioned contractors for their respective contributions to developing this PNG LNG Quarterly Environmental and Social Report.

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