

April 20, 2010

Ontario Energy Board 2300 Yonge Street Suite 2700 Toronto, ON M4P 1E4

Attention:

Ms. Kirsten Walli

**Board Secretary** 

Dear Ms. Walli:

Re:

Tribute Resources Inc./Tipperary Gas Corp.

EB-2006-0279 - Conditions of Approval 4.1, 4.2 and 4.3

Please find enclosed four (4) copies of the Monitoring Report in accordance with Conditions 4.1, 4.2 and 4.3, EB 2006 –0279.

- Condition of Approval 4.1 -Construction Monitoring Log
- Condition of Approval 4.2 -Interim Monitoring Report
- Condition of Approval 4.3 -Final Monitoring Reports

Four (4) copies will be provided to the Ministry of Natural Resources and a copy will be sent to the TSLA.

As always, feel free to contact us at anytime should you require any further information.

Yours truly,

**Tribute Resources Inc.** 

William Blake

Vice President –Operations

encl. (4)

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c. Mr. Dan Elloitt, Acting Manager, MNR, Petroleum Resources Centre

Mr. Fred Dutot, TSLA

Mr. Dale Van Der Meersch, Union Gas Limited

## **Tipperary Gas Corp.**

# <u>Conditions of Approval 4.1, 4.2 and 4.3 –EB-2006-0018 / EB-2006-0159 / EB-2006-0279</u>

Tipperary Gas Corp. is the holder of various licences and Board Orders with respect to the Tipperary Gas Storage Project and has the responsibility to fulfill certain commitments and conditions including the Conditions 4.1, 4.2 and 4.3 attached to Board's Decision with Reasons EB-2006-0018/EB-2006-0159 /EB-2006-0279.

Although the well bore for the Tribute 22 well was completed in 2004, the remainder of the project construction commenced in 2007 with the drilling of the Tribute 23 well, the horizontal laterals and the pipeline. Free flow injections commenced in the spring of 2008. The final compressor station equipment was commissioned in late 2008. Sitework and cleanup related to the initial phase of work was completed in 2009.

By way of order dated December 24, 2007, the Board granted Union Gas leave to acquire 75% of the voting securities of the Tipperary Gas Corp. On June 5, 2009, the Board recommended the approval of five (5) additional gas storage wells. Further drilling operations, with pipeline connections were undertaken in 2009 and are expected to be complete this year.

This report includes the log of comments and complaints as well as the interim and final reports related the initial phase of the project.

# **Tipperary Gas Corp. Construction Monitoring Log**

## Condition of Approval 4.1 –EB-2006-0018 / EB-2006-0159 / EB-2006-0279

Both during and after construction, Tipperary shall monitor the impacts of construction, and shall file four copies of both an interim and final monitoring report with the Board and the Ministry of Natural Resources. The interim monitoring report shall be filed within six months of the inservice date, and the final monitoring report shall be filed within fifteen months of the inservice date. Tipperary shall attach a log of all comments and complaints to the interim and final monitoring reports. The log shall record the times of all comments and complaints received the substance of each comment and complaint, the actions taken in response, and the reasons underlying such actions.

DATE	Comments/Complaints	Action Taken and Reasons
5/29/2007 Call	Bill Blake received a call from Lorna Vanderploeg, the Central	Tribute advised that they would research it and be back in contact with her.
received in the later	Huron By-law enforcement officer. Lorna indicated that she had	A copy of the noise by-law was requested which she emailed the link on
afternoon	received a call from a resident in the area of our drilling project	Wednesday May 30 <sup>th</sup> AM. Bill Blake's coordinates were sent to Lorna a
	on Tipperary Line. The caller had given her the Tribute Office	few minutes later. Bill Blake sent Lorna a message explaining the noisiest
	number in London to call. She indicated that the drilling noise	part of the drilling was completed by Wednesday AM. There were further
	was disturbing. Lorna seemed to recall that Tribute had some	comments in the message indicating the project had been approved by the
	sort of exemption when they were drilling prior and asked if	OEB and that as such felt orders prevail. In addition, the matter was
	Tribute could assist her with this.	addressed at the first landowner committee meeting which was held at the
		Dutot residence on May 30 <sup>th</sup> . The company representatives indicated that
		the noisiest part of the drilling had been completed. The meeting was held
		at the Dutot residence and there was no noticeable noise at that time.
5/30/2007	Landowner Meeting – Topics of concern included the following:	The meeting commenced at 1:30 PM and was attended by Howard Jordan,
		Bill Blake, Rob Lockhart, Carol Dutot, Fred Dutot, Linus Yeo and Al
		Feddes.
	Casing and cementing program with respect of fresh water was	The Dutots expressed frustration that their concerns were not addressed in
	presented as a concern by Mr. Dutot.	the regulatory process. They wanted a further explanation. The company
		indicated that the well was being drilled in accordance with the program
		and that it had been reviewed by the company's engineers and the MNR.
		Mr. Dutot drew a diagram and Mr. Blake indicated that he was not expert
		in the casing program and could not indicate the details.

06/25/2007	A letter from Mr. Dutot of the TSLA was received by Mr. Budd which included a complaint about the noise from the drilling rig.	Mr. Budd responded on July 11 indicating that the portion of the drilling that resulted in the most noise had been completed and it was expected the remaining drilling would be quieter. He also indicated that every effort
8/8/2007	There was a comment at the construction committee meeting that although the noise was substantially reduced, it could still be heard.	was being made to mitigate the noise from the site.  Bill Blake explained that drilling operations with the cable tool rig were nearing completion and every effort would be made to ensure the rotary operations were within acceptable guidelines.
9/05/2007	Landowner complaint from Fred Dutot. Water test summary Appendix font too small	Howard notified Bill Blake and Chris Butler to enlarge and redistribute – copies were immediately sent printed in a larger font.
9/26/2007	During the Pipeline preconstruction meeting held at 8:00 PM on September 26, 2007 at the Central Huron Municipal Offices in Clinton, several of the landowners expressed concern about tile drains.	A copy of the complete pipeline plan was laid out at the meeting and property owners were asked to mark the location on any known tiles, water lines etc. on the plan. Tipperary/Tribute staff and the contractor's representatives were on hand and available to discuss concerns and arrange to locate any structures noted. Any and all concerns were addressed at the meeting or with individuals on site.
11/20/2007	Pipeline Complaint from Lenus Yeo concerning damage to crop from bore spoils piles.	Members of the committee were advised that all damage claims would be addressed and any claims payments would be made after restoration. The damages for all parties were resolved.
12/18/2007	Pipeline complaint from Fred Dutot concerning a pile of pipe on road allowance:  a) Drifting snow across road b) Collision concern	Notified Bill Blake and T.W. Johnstone. Pipe was removed.
12/30/2007	Lenis Yeo complained to the Ontario Energy Board regarding crop damage	The damages claims were all handled and resolved over the course of the project.
01/10/2008	Lenus Yeo – tile drain plugged, drain staked, Johnstone had already noted various drain issues	The company representatives on the pipeline committee agreed to identify and fix tiles in spring. All tiles were repaired and checked.
01/16/2008	Fred Dutot – hydro being trenched – riser off surface lease lease.	The surveyor was contacted and the contractor corrected the location.

01/18/2008	A letter addressed to Tipperary Gas Corp. attention Bill Blake was sent by Mr. Dutot by email to Jane Lowrie. In the letter, Mr. Dutot, complained that there had not been a meeting since September 2007, the location of stakes on the McCullough property were incorrect, the hydro service was installed without notice, he was not contacted by the supervisor in charge of the downhole testing, he had not received a copy of the Holland report, there had not been a meeting about the easement for the corrosion protection equipment, water sampling results from November had not been received and the electrical service is off the easement.	Bill Blake responded by letter dated January 21, 2008 to all items. He noted that the meeting frequency had been agreed to be on an as deemed necessary basis and that the most recently scheduled meeting had been cancelled by mutual agreement since there were no issues to discuss. He noted the meeting called on short notice to deal with the location of the electrical service was an example of the company's willingness to arrange meetings on short notice to deal with any issues as expeditiously as possible. Mr. Blake noted that Mr. Jordan had met with Mr. Dutot on several occasions in October and November to discuss the moving of the well site easement so as to accommodate the corrosion protection system. Mr. Blake noted that the downhole surveys had been completed and were being sent out under separate cover and had been performed in keeping with the prescribed program. He addressed the plans for the corrosion protection system and provided information on the conversion of the north observation well with the possibility an additional well might be required. He clarified the requirement to provide the water testing results to the TSLA et al is 45 days after receipt by Tipperary and not 45 days after the tests are performed. He noted that Stantec's report was received on January 18 and would be mailed out one day later. Mr. Blake noted that the electrical contractor had been given instructions to move the electrical service so it was within the easement. Finally, Mr. Blake indicated he was looking forward to meeting with Mr. Dutot on January 23 <sup>rd</sup> for the next meeting.
`01/18/2008	E Peterson – Tile drain plugged on west side of road  - Well water seems to have a higher iron content	The Petersons were advised the well water report was coming soon. The environmental consulting reports indicated acceptable water quality. All tile drains were repaired with no subsequent surface water problems reported or noted.
	D Axford – 2 weeks ago water had some rust in it and not since	Upon receiving the TSLA concerns/complaints. Tipperary requested that Stantec address these water quality issues. The environmental consulting reports indicated acceptable water quality.  Upon receiving the TSLA concerns/complaints. Tipperary requested that
		Stantec address these water quality issues.

1/22/2008	Mr. Dutot sent a letter dated January 22, 2008 with comments	Any and all items of concern were dealt with at the meeting of January 23,
	and complaints about the content Mr. Blake's letter of January	2008.
	21, 2008. Mr. Dutot did provide one positive comment that the company's contractor, Pantera, had "completed the wells in a	
	very professional manner having full regard for the environment	
	and neighbouring people."	
01/23/2008	Landowner Meeting –topics of concern included repair of drain	The drain tile matter was addressed with the contractor and
	tiles, water well iron content, residual gas calculations, loose	repaired/inspected in due course as weather permitted. Consultation was
	asphalt in one location and damage to road surface in 2 other	made with the municipal drainage inspector as well to ensure all repairs
	locations, Mr. Yeo complained that the road was damaged by	were completed properly. There were two minor repairs that were
	farm equipment driving near the shoulders. Other information	completed to the asphalt surface when weather permitted. The company
	items were discussed as well.	could find no indication of any other damage to the asphalt as a result of
		the construction and has received no complaints or comments from the
02/01/2000	M. D. (1.1.1) (F1 1.2000 (1.1.1)	road authority.
02/01/2008	Mr. Dutot in his letter of February 1, 2008 commented that	Mr. Blake provided a response dated February 12, 2008 in which he
	Bliant had moved the electrical service, that several wells had	thanked Mr. Dutot for confirming that the electrical service had been relocated. He also noted that Ms. L. Veale from Stantec would be
	higher methane levels. He also complained that Mr. Blake had	
	not provided a letter retracting what he believed were incorrect statements.	responding to the concerns about the methane readings. Finally, he provided comments and clarification with respect to the topics discussed at
	statements.	a former meeting and asked that the matter be brought to a close.
02/10/2008	Landowner Meeting – Topics of concern included the following:	a former meeting and asked that the matter be brought to a close.
	Based on the Stantec report, the TSLA interpreted an increase in	Stantec reported that methane levels in the residential wells were typically
	the number of residential wells with methane detections	below the laboratory detection limit of 0.05 L/m3 and that methane was
		detected within five water quality samples at concentrations ranging from
		0.01L/m3 to 3.0L/m3. Subsequent testing indicated all levels within
		acceptable range.

	The TSLA requested clarification regarding the historical sulphur monitoring and requested that all water quality samples be tested for Sulphur	Stantec indicated that sulphur can be present in groundwater in various forms. A species of sulphur, hydrogen sulphide is of interest for natural gas. Previous analysis for sulphur within the residential samples included total sulphur and sulphate but did not specifically measure hydrogen sulphide. As sulphate concentrations are generally much greater than hydrogen sulphide, these historical Sulphur concentrations do not represent hydrogen sulphide levels within the groundwater nor can these concentrations be used approximate hydrogen sulphide concentrations, it is recommended that future monitoring include this analysis.  Hydrogen sulphide has a strong offensive (rotten egg) odour that can be detected. Stantec field staff did not indicate an odour from any of the residential wells. To confirm the hydrogen sulphide concentrations, it is recommended that future monitoring include this analysis.
03/04/2008	Letter received from Fred Dutot including a comment that higher methane levels had been encountered in some wells, particularly the Hathaway well.	The water wells were tested in accordance with procedures as outlined and in accordance with recommendations of Stantec. The water quality was found to be within the guidelines and later testing indicated a decline in methane. The results of additional analysis indicated the methane was naturally occurring not related to the storage operations. Mr. Blake enclosed a copy of the Stantec letter dated March 4, 2008 together with his letter of March 12, 2008 to Mr. Dutot.

## **Tipperary Gas Corp. Interim Monitoring Report**

# Condition of Approval 4.2 -EB-2006-0018 / EB-2006-0159 / EB-2006-0279

The interim monitoring report shall confirm Tipperary's adherence to Condition 1.1 and shall include a description of the impacts noted during construction and the actions taken to prevent or mitigate the long term effects of the impacts of construction. This report shall describe any outstanding concerns identified during construction.

Tipperary confirms that it has adhered to the conditions as set out in Condition 1.1. The drilling, completion and operations comply with the CSA 341.1-02 Storage of Hydrocarbons in Underground Formations.

Stantec stated in Section 8 -Conclusion and Summary of The Tipperary Gas Corp. Proposed Natural Gas Pipeline Environmental and Socio-Economic Impact Assessment ("EA") dated December 2003, that it is their "opinion that the location of the proposed pipeline and development of the storage pool minimizes potential environmental effects and that the mitigation measures proposed will ensure that the construction and operation of the pipeline and storage pool will result in negligible long-term effects." Stantec goes on to say "Construction of the proposed transmission pipeline and storage pool does not require any unique or complex mitigation techniques since routing has avoided features that are sensitive to disturbance."

The predicted impacts and mitigation measures were set out in Section 5 –Route Alignment and Mitigative Measures and Section 6 –Storage Pool Environmental Management Plan. The following summarizes the impacts noted during construction, the actions taken to minimize the long term effects and any outstanding concerns indentified during construction.

## **Section 5 – Route Alignment and Mitigative Measures**

#### 5.1 PHYSICAL FEATURES

## 5.1.1 Physiography

Slope stabilization concerns were limited to the Yeo Drain area.

The Yeo Drain was crossed using the horizontal directional drill method as recommended in the Stantec report thereby avoiding any bank stabilization or other issues. In addition, the drilling avoided any possibility of disturbance to the only identified location capable of supporting a fish habitat.

#### 5.1.5 Climate

A period of heavy rainfall was identified as having the potential to increase flows in ditches and drains and the movement of heavy equipment as having a detrimental effect on soils.

Efforts were taking during construction to the greatest extent possible to prevent the migration of soils and avoid the movement of heavy equipment on farmland. Virtually all the construction occurred on the previously disturbed Tipperary Line road allowance with the exception of several areas accessed for horizontal directional drilling of the road allowance for the installation of the pipeline.

## 5.1.6 Hydrology

#### Surficial Watercourse

Stantec noted water quality could be affected by erosion or sediment release, accidental spills of fuels, lubricants, etc. from construction equipment and removal of vegetative cover.

The installation methods employed by the company's contractor including a combination of trenching, directional drilling and open excavation as well as an effective wet weather work policy minimized any impacts on the watercourses.

#### Groundwater

The possible impact of a breach to the water table during trenching activities was noted by Stantec.

All water wells in the vicinity of the pipeline route were identified and tested prior to and during construction. The water wells were determined to be of a depth of 50 to 60 meters, far below the approximate 1.2 meter trench depth. There were no reports of any change to the quality or quantity of water as a result of the pipeline installation.

#### 5.2 AGRICULTURAL FEATURES

#### 5.2.1 Surficial Soils

Although Stantec noted that the pipeline is to be located almost exclusively on the disturbed road allowance, they identified possible impacts to the soils along and adjacent to the road allowance resulting from construction.

The mitigative measures recommended were employed by the pipeline contractor including utilizing the road allowance for construction activities.

The construction of the pipeline occurred in the fall and early winter season. It is recommended that construction, when possible, be undertaken during the summer months so as to allow the clean up and reseeding to occur during the same time period.

# 5.2.2 Artificial Drainage

The impact on the farm drainage was minimized by locating the pipe on the road allowance property. However, Stantec noted there are a number of municipal and farm drains that could be severed during construction.

In keeping with the mitigative measures detailed by Stantec, the adjoining landowners were invited to a meeting where they were asked to identify any private drains located on the road allowance. The pipeline contractor was provided with this information and made efforts to locate the drains prior to and during construction.

Although many drains were repaired during construction, several drains required repair during the spring following construction. Construction during the summer months may have allowed for the repair of these drains during the installation period.

## 5.2.3 Soybean Cyst Nematode (SCN)

Stanec identified the potential of the spread of SCN to non-infested areas.

The company implemented the recommended mitigation measures as noted in the report.

#### 5.3 BIOPHYSICAL FEATURES

#### 5.3.1 Watercourses and Fisheries

The disturbance of the Yeo Drain was noted as having the potential impact on the only location identified as a potential fish habitat.

The Yeo Drain was crossed using horizontal directional drilling resulting in no disturbance of the watercourse or surrounding area.

## 5.3.2 Hydrostatic Testing

The discharge of water utilized for hydrostatic testing of the pipeline was noted as having "a potential impact on domestic and agricultural users as well as fish, aquatic and waterfowl habitats."

The pipeline contractor developed and employed a plan and utilized appropriate equipment which prevented any negative impact resulting from the taking and discharge of the water utilized in the hydrostatic testing process.

## 5.3.3 Forestry and Vegetation Cover

Stantec noted potential impacts to the vegetation cover, particularly Indian Plantain and Green Dragon.

There were no mitigation measures necessary as neither of the above were identified as being present in the area. In addition, there was an absence of trees along the road allowance.

Construction vehicles and equipment were restricted to the road allowance minimizing the disturbance to wildlife.

#### 5.4 SOCIO-ECONOMIC ENVIRONMENT

## 5.4.1 Population and Institutional Facilities

A temporary disruption to the use and enjoyment of the road allowance by the residents of the 17 homes along the route were noted as resulting from noise, dust and increased traffic.

The road authority provided a "local use only" road closure which allowed for reduced traffic flow and greater safety for residents and construction workers. The travelled portion of the road was paved in the areas of most of the residential properties reduced the dust. The pipeline construction activities were limited to daylight hours.

## 5.4.2 Existing Linear Corridors

## Roadways

Potential impacts along roadways were noted to be impedance to traffic, emergency vehicles and possible disruption of telephone or hydro services.

The "local use only" road closure as noted above, together with traffic control measures, minimized the impacts to local residents. Some minor inconvenience was noted during certain operations where both lanes were temporarily closed.

## 5.4.5 Heritage and Archeological Resources

Stantec noted that there was only a moderate potential for archeological remains resulting from the Phase 1 study.

There were 2 mitigative/ protection measures offered by Stantec. The first was that the results of the study be factored into the route selection. The second was that a Stage 2 field assessment be carried out once the preferred route was established. The road allowance was selected for the route and the Stage 2 assessment was undertaken with no concerns with the route identified.

## Section 6 –Storage Pool Environmental Management Plan

Stantec indicated that "developing multiple wells from a single location significantly reduces the potential negative impacts that pool development could have." They also noted that "no significant adverse effects are expected as a result of constructing and operating the proposed pool."

The two (2) injection/withdrawal wells included in the first phase were developed from the same pad. A further well was also drilled from the same pad in the second phase of drilling approved in 2009.

#### **6.3 PHYSICAL FEATURES**

## 6.3.2 Bedrock Geology

Stantec noted that drill cuttings could contain a number of potentially harmful contaminants.

The mitigation measures suggested by Stantec were undertaken in proper handling, bonding and disposal of the drill cuttings.

#### 6.3.5 Climate

The potential impacts related to climate were possible damage to tiles and soils when moving equipment during wet weather. Also noted, was the possibility of high winds eroding soil during periods of dry weather in summer.

The company made every effort to follow the mitigation measures as noted in the report including constructing all weather roadways and drilling pads. There was no evidence of or complaints received concerning erosion due to high winds. Clean up was undertaking in the spring as recommended.

## 6.3.6 Hydrology

#### Groundwater

Stanec noted that a temporary interruption or contamination of the water supply to the eight homes in the vicinity of the storage pool as a possible impact of breaching the water table.

During the drilling operations, casings were installed below the freshwater zone and cemented in place. In addition, a water well testing and monitoring plan as recommended by Stantec was implemented so as to allow the water quality and quantity to be monitored.

## 6.4 AGRICULTURAL FEATURES

#### 6.4.1 Surficial Soils

Stantec noted that the construction is occurring on agricultural lands and could have an impact on the soils of the Tipperary Pool. They noted that the clay soils are susceptible to rutting and compaction in addition to being prone to erosion due to forces of water and wind.

Topsoil was stripped and stockpiled as recommended by Stantec. The schedule did require some construction during the winter resulting in the stockpiling of soils which were ultimately surplus

due to sand padding. The subsoil was removed in the spring and the topsoil was restored. Any excess topsoil was offered to the landowner.

For future projects, it is recommended that topsoil be stripped during the dry summer months when possible.

## 6.4.2 Artificial Drainage

Potential crop losses and soil erosion were noted as possible impacts resulting from tiles which could be damaged during construction.

In keeping with the mitigation measures suggested, the landowner was consulted on the location of the tiles, new headers were installed following construction by a licensed tile drainage contractor to ensure proper operation of the drainage system.

#### 6.6 SOCIO-ECONOMIC ENVIRONMENT

## 6.6.1 Agricultural Operations

Stantec noted that the access roads and permanent surface facilities are likely to have the greatest impact on the agricultural operator with the potential for increased time to cultivate the field, inconvenience, farm drainage conflicts and potential crop losses.

Efforts were made to follow the recommendations provided and included narrowing the width of the permanent easement so as to minimize the inconvenience to the farm operator, returning the temporary portion of the easement as quickly as possible to restore the productive acreage and installing new drainage headers to eliminate any possible long term drainage problems. The landowners were compensated for crop loss and inconvenience in an equitable manner.

## 6.6.2 Residences and Occupants

The potential impacts to the 5 homes within 500 meters of the drilling location as noted by Stantec included noise, drill rig lighting, dust and additional traffic volumes.

Noise generated by the cable tool rig while drilling in the summer of 2007 during pipe driving and tool dressing operations proved to be the issue of greatest concern to the local residents, particularly those living closest to the drilling rig operation. The complaints are detailed in the log included in the response to Condition 4.1.

Efforts were undertaken to reduce the noise resulting from the cable tool operations when drilling the more recently completed wells. These measures will be implemented in the future where noise is indentified as a potential impact.

## 6.6.4 Heritage and Acheological Resources

As with the pipeline routing, Stantec noted that there was only a moderate potential for archeological remains resulting from the Phase 1 study.

There were 2 mitigative/protection measures offered by Stantec. The first was that the results of the study be factored into the route selection. The second was that a Stage 2 field assessment be carried out once the preferred route was established. The Stage 2 assessment was undertaken and no concerns with the route were identified.

#### 7 – Cumulative Effects

Stantec devoted Section 7 of their report to evaluating the Cumulative Effects ("CE") of the project. Their report assumed 2003 as the Base Year, 2004 as the Construction Year and that the project would be in the Operation and Maintenance stage by 2009. Construction of the project commenced with the drilling of the first well bore in the 2004 and has continued since then until the present. The programs as contemplated in the 2003 Stantec report were largely undertaken in 2007 and 2008 with some surface restoration in 2009. Further drilling operations, with pipeline connections were undertaken in 2009 and are expected to be complete this year.

Table 6 of the Stantec report provided the Summary of Potential Cumulative Effects for All Projects to the Year 2004 (Construction). After taking the actual timing of the construction into account and considering the current activities, there have been no significant deviations which would change the Cumulative Effects at this phase.

#### Soils

Gravel pads and lanes were utilized during the drilling and well completion operations. The temporary portions were removed following completion of the work and the lands restored. Landowners were compensated for crop and other losses. All topsoil not required for cleanup was offered to the landowner. The abandoned pipeline was removed on the McCullough and Feddes properties and every effort was made to prevent mixing of the soils. The pipeline was abandoned in place on the Brandt property in keeping with instructions from the property owner.

Although there are no outstanding concerns identified during construction with respect to soils, monitoring of crop productivity will continue during the upcoming growing seasons.

#### Open and Tile Drains

A number of tile drains were damaged and subsequently repaired during the construction. Although efforts were made to locate drains prior the construction, a number were damaged and required repair during the spring of the year following construction. All, with the exception of one drain, were on the Tipperary Line road allowance. Any and all tile drains have been repaired and additional headers have been installed in keeping with discussions with landowners.

There is no evidence of any ongoing tile drain issues.

#### Socio-Economic

The potential impacts included those on agricultural operations and residences and occupants. Every effort was made to minimize the impacts. The details of the noise complaints are included in the log included in the response to Condition 4.1.

There are no long term impacts anticipated as a result of the construction or operation of the storage wells or pipeline.

#### Water Wells

All water well testing has been completed in accordance with the Board Orders and the plans. There has been no evidence that any water well in the drilling area has been impacted by the drilling of the wells. Water well testing is ongoing and will continue for the first five (5) years of the project. All reports have been distributed to the various stakeholders.

Tipperary Gas Corp., utilizing the resources of Stantec, will continue to monitor water wells in the area in keeping with the plans and ensure the reports are provided to the landowners.

Pressure Monitoring: All pressure survey information was completed and distributed in accordance with the undertakings.

As well, subsequent drilling activities have continued on the sites, the impacts of which will be the subject of subsequent reports.

## **Tipperary Gas Corp. Final Monitoring Report**

## Condition of Approval 4.3 -EB-2006-0018 / EB-2006-0159 / EB-2006-0279

The final monitoring report shall describe the condition of the rehabilitated land and the effectiveness of the mitigation measures taken or to be taken to prevent or mitigate the long term impacts of construction. This report shall describe any outstanding concerns identified during construction.

#### General

Subsequent to the drilling program as contemplated under –EB-2006-0279, an application was filed and an Order issued under docket EB-2009-0060. The additional wells and facilities are currently being completed. There will be a comprehensive final report issued under Condition of Approval 4.3 of this Order upon completion of the construction and when the facilities are fully operational.

#### **Rehabilitated Lands**

The lands impacted along the pipeline route have all been rehabilitated with no evidence of the pipeline installation. The lands located over the storage pools have been returned to productive farmland save and except those areas used for permanent access and those utilized in the most recent drilling program. The laneways on the Feddes property that existed prior to the development of the pool were removed in 2009 and some minor adjustments are being undertaken at this time. Any indication of contamination of soils was investigated by a third party engineering firm and has been reported as meeting all guidelines with no further action required. The ongoing monitoring program will be detailed in the final report once current operations are complete. There are no outstanding concerns identified during construction.

#### **Predicted and Actual Impacts**

The predicted and actual impacts were compared in the Interim Report section. There were no impacts that were not predicted in the Stantec report. The mitigation measures recommended and employed on the project were detailed in the Interim Report.

## Water Well Sampling

The water well sampling program will continue over the first five (5) years of the pool operations. The results of all tests have been provided to the various stakeholders.

#### **Improvement to Mitigation Measures**

The noise mitigation measures were improved following the completion of the drilling of the first cable tool wells. The improvements were noted with the drilling of the most recent wells in 2009.

Improvements in locating and repairing drain tiles at the time of construction are recommended for future projects.

## **Log of Complaints**

A log of complaints is included in the response to Condition 4.1.

#### **Cumulative Effects**

Stantec devoted Section 7 of their report to evaluating the Cumulative Effects ("CE") of the project. Their report assumed 2003 as the Base Year, 2004 as the Construction Year and that the project would be in the Operation and Maintenance stage by 2009. Construction of the project commenced with the drilling of the first well bore in 2004 and has continued since then until the present. The programs as contemplated in the 2003 Stantec report were largely undertaken in 2007 and 2008 with some surface restoration in 2009. Further drilling operations, with pipeline connections were undertaken in 2009 and are expected to be complete this year.

Table 7 of the Stantec report provided the Summary of Potential Cumulative Effects for All Projects to the Year 2009 (Operation and Maintenance). After taking the actual timing of the construction into account and considering the current activities, there have been no significant deviations which would change the Cumulative Effects at this stage of the project. A full Final Monitoring Report will be filed as required in the Monitoring and Reporting Requirements detailed in the Condition of Approval in EB-2009-0060.