

Social Safeguards Compliance Audit Report

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Proposed Loan
Sarulla Operations Limited, Sarulla Power Asset
Limited, Kyuden Sarulla Private Limited, Or Sarulla
Incorporated and PT Medco Geopower Sarulla

Sarulla Geothermal Power Development Project
(Indonesia)



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DRAFT FINAL REPORT

**Volume IV: Social Safeguards Compliance Audit
Report (SSCAR) and Corrective Action Plan**

**Development of Sarulla Geothermal Field and
Power Plant of 330 MW Capacity**

**North Tapanuli Regency
North Sumatera Province**

October 2013

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
ES1 INTRODUCTION	1
1 INTRODUCTION	1
1.1 PROJECT PROPONENT	1
1.2 REPORT CONTEXT	1
1.3 STRUCTURE OF THE SSCAR	2
2 PROJECT DESCRIPTION	4
2.1 DEVELOPMENT HISTORY	4
2.2 SOL PROJECT LOCATION	4
2.3 DEVELOPMENT PLAN	4
2.4 SUMMARY OF PROJECT COMPONENTS	8
2.4.1 Project Components	8
2.5 PROJECT LAND ACQUISITION	14
2.5.1 Project Socialization	18
2.5.2 Land Acquisition	18
3 SCOPE, METHODOLOGY AND EXECUTION OF AUDIT	20
3.1 USE OF THIS REPORT	20
3.2 APPLICABLE STANDARDS GOVERNING LAND ACQUISITION	20
3.2.1 Indonesian Laws/Regulations	20
3.2.2 International Processes and Standards	21
3.3 METHODOLOGY OF AUDIT	24
3.3.1 Desktop Review of Documents	25
3.3.2 Field Investigations	25
3.3.3 Limitations	26
3.4 EXECUTION OF AUDIT	26
4 FINDINGS OF THE AUDIT	28
4.1 OVERVIEW	28
4.2 PROJECT LAND ACQUISITION STATUS	28
4.2.1 Prior Land Acquisition by UNOCAL	28
4.2.2 Land Acquisition Completed by SOL	30
4.3 SOL'S ACQUISITION PROCESS	30
4.3.1 On-going Land Acquisition by SOL up to August 2013	36
4.4 METHODOLOGY FOR ACQUIRING LAND AND APPROACH FOR ARRIVING AT COMPENSATION RATES	36
4.4.1 Validation of acquisition of land is through negotiated settlement	36
4.4.2 Valuation methodology of compensation for land, structures, crops and trees	37

4.5	CONSULTATION, GOOD FAITH NEGOTIATION AND PARTICIPATION ACTIVITIES	40
4.5.1	Process Documentation	40
4.5.2	Good Faith Negotiations to Resolve Major Disagreement	43
4.5.3	Sensitivity of the Grievance Mechanism to Local Culture	47
4.6	STATUS OF LAND ACQUISITION AND COMPENSATION PAYMENTS	51
4.6.1	Status of Payments	51
4.7	SOCIO-ECONOMIC SURVEY OF ALL LANDOWNERS COVERED BY SOL	57
4.7.1	Demographic Profile	57
4.7.2	Environmental Health Profile	61
4.7.3	Economic Profile	65
4.7.4	Ethnic Profile	69
4.7.5	Cultural Practices	73
4.7.6	Vulnerability Profile	75
4.7.7	Remaining Landholding in the Project area and Surroundings	75
4.8	INVOLUNTARY RESETTLEMENT AND INDIGENOUS PEOPLES IMPACTS	82
4.8.1	Extent of Economic and Physical Displacement	82
4.8.2	Project Impacts on Forest	84
4.8.3	Use of Compensation	85
4.9	ANALYSIS ON PHYSICAL AND ECONOMIC DISPLACEMENT SIGNIFICANCE	87
4.9.1	Loss of Land Assets	87
4.9.2	Loss of Structural Assets	87
4.9.3	Loss of Income	87
4.9.4	Income below the Regional Minimum Wage	87
4.9.5	Loss of Business (Sustainability of Business)	88
4.9.6	Source of Income: None (Livelihood)	88
4.9.7	Vulnerable Affected Household	88
4.10	FINDINGS FROM SURVEY QUESTIONNAIRE	89
5	STATUS OF UNOCAL COMPLIANCE	93
5.1	OVERVIEW	93
5.2	PERMIT LOCATION	93
5.3	METHODOLOGY FOR ACQUIRING LAND AND APPROACH FOR ARRIVING AT COMPENSATION RATES	93
5.4	CONSULTATION, GOOD FAITH NEGOTIATION AND PARTICIPATION ACTIVITIES	96
5.5	COMPENSATION PAYMENTS	99
5.6	WORKING PERMIT	100
5.7	OUTSTANDING ISSUES	101

6	STATUS OF SOL COMPLIANCE	104
6.1	OVERVIEW	104
6.1.1	Impact Assessment	104
6.1.2	Public Consultation and Information Disclosure	104
6.1.3	Livelihood Restoration	105
6.1.4	Grievance Resolution	105
6.1.5	Vulnerable Groups	105
6.1.6	Date for Discontinuing Use of the Land	106
6.1.7	Monitoring and Evaluation	106
7	CORRECTIVE MEASURES	112

UNITS AND ABBREVIATIONS

ADB	Asian Development Bank
AIDS	Acquired Immune Deficiency Syndrome
AMDAL	Analisis Mengenai Dampak Lingkungan
ANDAL	Analisis Dampak Lingkungan
BPN	National Land Agency
BPS	Central Statistic Bureau
CAP	Corrective Action Plan
CSR	Corporate Social Responsibility
EIA	Environmental Impact Assessment
EPC	Engineering Procurement Contracting
EPFIs	Equator Principles Financing Institutions
ERM	Environmental Resources Management
ESC	Energy Sales Contract
FGDs	Focus Group Discussions
FI	Financial Intermediary
FPIC	Free, Prior, and Informed Consent
GPS	Global Positioning System
GTRM	Grievance Tracking and Redress Mechanism
HIV	Human Immunodeficiency Virus
HR Dept.	Human Resources Department
ICP	Informed Consultation and Participation
IEC	Information Education Consultation
IFC	International Finance Corporation
IPPs	Independent Power Producers
IPP	Indigenous Peoples Plan
IPs	Indigenous Peoples
JOC	Joint Operation Contract
KPIs	Key Performance Indicators
LAQ	Land Acquisition
LPC	Land Procurement Committee
MOE	Ministry Of Environment
MW	Mega Watt
NIL	Namora I Langit
NGOs	Non-Governmental Organisation
PAH	Project Affected Household
PGE	Pertamina Geothermal Energy

PLN	PT. Perusahaan Listrik Negara
PS	Performance Standards
RoW	Right of Way
SIL	Silangkitang
SOL	Sarulla Operations Limited
SPS	Safeguard Policy Statement
SR	Safeguard Requirements
SSCAR	Social Safeguards Compliance Audit Report
UNSG	Unocal North Sumatera Geothermal
USU	Universitas Sumatera Utara

EXECUTIVE SUMMARY

ES1 INTRODUCTION

Sarulla Operations Limited (SOL) is the operation company established by the Consortium of Itochu Corporation, Kyushu Electric Power Co., Inc., Ormat International, Inc. and PT. Medco Energi International Tbk. SOL plans to develop the geothermal field and power plant combined capacity of 330 MW in Sarulla, in Pahae Jae and Pahae Julu Districts, North Tapanuli Regency, North Sumatera Province (Figure ES-1). Details of the Project are provided in Table ES-1.

Table ES-1 Summary of the Project for Development of the Geothermal Field and Construction of PLTP Sarulla

<i>Item</i>	<i>Contents</i>
Project Name	Sarulla Geothermal Power Project
Location	North Sumatra, Indonesia
Capacity	320.8 MW, net (1 Unit of 105.4 MW net at Silangkitang (“SIL”) and 2 Units of 107.7MW net at Namora-I-Langit (“NIL-1” and “NIL-2”))
Sponsors	PT Medco Power Indonesia (“Medco”) :37.25% Itochu Corporation (“Itochu”) :25.00% Kyushu Electric Power Co., Inc. (“Kyuden”) :25.00% Ormat International, Inc. (“Ormat”) :12.75%
Project Co.	Sarulla Operations Ltd. (“SOL”)
Commercial Operation Date	SIL: 29 months after financial close NIL-1: 40 months after financial close NIL-2: 46 months after financial close

In relation to the Regency Spatial Plan, the Government of North Tapanuli Regency issued North Tapanuli Regency Regulation No. 19 of 1994 regarding North Tapanuli Regency spatial planning, which designated the sub districts of Pahae Jae (Silangkitang area or SIL) and Pahae Julu (Namora I Langit or NIL) as areas of geothermal natural resources.

Figure ES-1 Location of the Project for Development of Geothermal Field and Construction of PLTP Sarulla



ES1.1 PROJECT OBJECTIVES AND BENEFITS

The proposed Project has the following objectives:

- To overcome electricity shortage in Indonesia, especially in North Sumatera;
- To support the Government of Indonesia policy in energy diversification and fossil fuel consumption reduction; and
- To optimize the use of geothermal energy that has a high economic and environmental potential.

The Government of Indonesia will benefit from this proposed Project through an increase in electricity supply of 330 MW from geothermal energy which is environmentally friendly compared to traditional sources of electricity generation and is locally available in an area with an increasing energy demand. This project can help to reduce fossil fuel dependency in producing electricity by utilizing the renewable energy of geothermal.

The benefit will also reach local governments and the community in the North Sumatera Region as the direct beneficiary of the power generated from this project. It will help to improve the local economy by providing business and employment opportunities, particularly at the project location. This project will provide economic, social and technological benefits at national and regional levels.

ES1.2 PURPOSE OF THIS REPORT

The Project has the following approvals under Indonesian environmental regulations:

- ANDAL, RKL/RPL Sarulla geothermal field development (PLN, 2005). Approved November 2005;
- ANDAL, RKL/RPL Sarulla Geothermal 330 MW Capacity. Approved August 2009 (disclosed on ADB's website for 120 days);
- Addendum ANDAL, RKL/RPL 2013 (approval predicted 4Q 2013).

SOL, as part of this development plan is seeking a financial investment from the Japan Bank for International Cooperation (JBIC), Asian Development Bank (ADB) and a group of Equator Principles Financing Institutions (EPFIs). Project proponents seeking financing from JBIC, ADB and EPFIs are required to comply with the applicable bank's environmental, social and health policies, developed for managing the environmental and social risks associated with project finance.

ERM was commissioned to conduct a land acquisition process and regulatory review to develop a Social Safeguards Compliance Audit Report (SSCAR). As

the prior land acquisition process was undertaken by PERTAMINA/ UNOCAL the process was reviewed against national requirements at the time of the acquisition (prior to 1994). Therefore this Report has been developed considering the principles of the ADB's Safeguard Requirement 2 (Involuntary Resettlement Safeguards), JBIC Social Requirements and the IFC's Performance Standard 5 (Land Acquisition and Involuntary Resettlement). It is intended to meet the requirements for documenting the negotiation and settlement processes and identifying past or present concerns related to impacts on involuntary resettlement.

This report forms part of five (5) Volumes for the proposed development of the Sarulla Geothermal Field and Power Plant of 330 MW Capacity, North Tapanuli Regency, North Sumatera Province. All Volumes are as follows:

- Volume I: Environmental Compliance Audit Report and Corrective Action Plan;
- Volume II: Environmental and Social Impact Assessment (ESIA) Addendum;
- Volume III: Indigenous Peoples Plan (IPP);
- Volume IV: Social Safeguards Compliance Audit Report and Corrective Action Plan (SSCAR) (this report); and
- Volume V: Resettlement Plan.

ES1.3 REPORT CONTENTS

This SSCAR presents socio-economic information, gathered by UNOCAL and SOL; along with ERM's audit findings on the impacted land owners. It also assesses the compliance of the land acquisition process (with national and ADB/JBIC/IFC standards) and provides corrective actions were deemed necessary. More specifically the audit summarises:

- UNOCAL and SOL's consultation, good faith negotiations and participative activities;
- Status of the land acquisition and compensation payments;
- Socio-economic data of the SOL landowners;
- Identified impacts as a result of the land acquisition process; and
- Corrective actions required to meet national (for UNOCAL land owners) and ADB/JBIC/IFC (for SOL land owners).

ES2 PROJECT DEVELOPMENT OVERVIEW

The Project was initiated by Unocal North Sumatera Geothermal (UNSG) in 1993. An extensive exploration activity was conducted in geology, geochemistry, geophysics investigations, and certain infrastructure development including well pad and its access road and followed by drilling activity starting from 1994 to 1998.

SOL's development of Sarulla geothermal field and 330 MW power plant includes the following activities:

- The development of Sarulla geothermal field i.e. Silangkitang (SIL) field and Namora I Langit (NIL) field;
- The construction and operation of a combined capacity of 330 MW geothermal power plant, one unit at SIL and two units at NIL each with a nominal capacity of 110 MW;
- The construction of a combined length of approximately 14kms of 150 kV (high voltage) overhead transmission line from Silangkitang field (SIL 1) to PLN Substation and from Namora I Langit field (NIL 1) to PLN substation.

Drilling activities for new production and injection wells in SIL are to take place at the existing well pads previously developed by UNSG. For NIL, all are planned to be on new well pad locations. A total of 23 production wells, 11 reinjection wells will be developed from 2 well pads at SIL and 5 well pads at NIL. The NIL new well pads are located on farmland and mixed forest areas.

ES3 SSCAR FINDINGS

UNOCAL conducted a land acquisition process between 1994 and 1995. (The land now belongs to PGE whereby SOL is leasing the land for the Project activities over the next 30 years). A total of 575 land parcels were acquired amounting to 673,795m² (379 which SOL has acquired totalling 475,283m²).

SOL has largely completed the land acquisition process in the SIL area with payment to land owners undertaken by SOL including compensation for land and crops and plants. SOL will acquire a total of 326 land parcels involving 216 land owners. There are 26 female landowners and 190 male landowners who have had land acquired by SOL. Of the 216 landowners, 148 are in the NIL area and 68 are in the SIL area. SOL has also obtained government owned lands, namely forestry land consisting of production and convertible forest production in the NIL area ~ 295 Ha (30 land owners).

UNOCAL and SOL undertook socialisation and consultation activities in relation to the land acquisition process where the process, compensation value (land and plants and crops) was discussed and agreed; along with the grievance mechanisms.

The land owners were free to decide whether to agree or reject the compensation price offered. If they agreed with the compensation price for land and plants, each land owner signed a letter of statement as confirmation of agreement. After receiving the signed letter of statement, every land owner was required to submit land ownership documentation along with a legal letter confirming land ownership.

The technical process of how the land and plant compensation would be paid was then explained; circulating an invitation letter to inform them of the compensation payment dates. Payment was then made on the dates agreed. Land owners received their compensation and signed a release letter in front of the attorney. They then received the money from SOL; BNI was the representative bank paying the compensation.

ES3.1 UNOCAL COMPLIANCE

The SOL Geothermal Project was initially managed by PERTAMINA and therefore considered a development project for public interest required to adhere to the President Decree No. 55 Year 1993. The compensation framework required the following provisions:

- Compensation provided (based on real selling values) for affected assets, i.e. Land, structure, plants, and any other objects attached to land;
- Compensation can be provided in the form of cash money, replacement land, housing resettlement, or combination of money and replacement asset;
- When any customary asset is affected, compensation can be provided in the form of replacement asset through the development of public facilities.
- The final decision to determine the form and value of compensation should be obtained through consultation process, which then is legalized through a decree letter issued by the land procurement committee (LPC/PPT).

Land measurements and an inventory were conducted by the LPC/PPT where village heads were given responsibility to invite all land owners to witness the measurement, identify land boundaries, and calculate plants attached to their land. The process to estimate the compensation value was then conducted by the LPC/PPT.

Compensation for the affected plantation land was compensated at IDR 5,500/m², paddy field at IDR 8,500/m² and plantation values were stipulated through a decree letter issued by the Head of Agricultural Agency. This estimation was used as basis for the land price consultation with the affected land owners.

The audit identified that a socialization meeting was conducted by the LPC/PPT to inform the land owners of the project plan for land acquisition. This was followed by a series of consultations for land measurement and inventory. The result of the measurements was also publicly disclosed, as shown in the Letter of Announcement. This process allowed any objections on the measurement and inventory to be raised within a month after the disclosure.

Good faith negotiation principles were used when determining the compensation value; when the first round of consultations did not reach an agreement, additional rounds of consultations were conducted. In addition grievances could be submitted by the land owner to UNOCAL.

A number of outstanding issues remain after the Project was transferred to SOL including 26 land parcels and a permanent structure not being compensated for. Furthermore cultivation is still on-going on the Pertamina/ UNOCAL acquired lands. SOL has closed out these issues.

Given no outstanding issues remain and considering the audit findings the Pertamina/UNOCAL land acquisition process has complied Indonesian regulation on the land procurement for the development of public interest.

ES3.2 SOL COMPLIANCE

Compliance has been considered based on the principles of the ADB's Safeguard Requirement 2 (Involuntary Resettlement Safeguards), JBIC Social Requirements and the IFC's Performance Standard 5 (Land Acquisition and Involuntary Resettlement).

SOL's land acquisition team conducted the negotiation process through holding several socialization and negotiation meetings with all the land owners in a culturally and gender sensitive manner. During these sessions the negotiated settlement concept was adopted to ensure no pressure was placed on the land owners to accept the offered compensation land price of IDR 65,000 per m². If the land owners did not agree to sell the land, the Project sought to re-route.

The valuation methodology for the land compensation was based on the sub-district office reference for PLN (IDR 50,000 per m²) in 2010 and also current land market prices (with no crops or plants) in the Pahae Julu (IDR 35,000 per m²). The compensation for land was not based on its productivity or type of land.

Consultations with the village leaders indicate that the current average price for paddy land and rice is 73,000 per m². SOL are offering 125,000IDR/m² which considers that 1 m² of rice paddy equals 20 clumps at 1,500IDR per clump (for 2 harvests. Therefore the land price offered is considered above market replacement value.

Only one temporary structure was acquired and the compensation price was agreed through negotiations with the land owner (1,000,000IDR). The compensation rate offered for plants is considered reasonable as they were based on the Agriculture Agency in the North Tapanuli Regency 2009 rates which are still considered higher than 2013 market rates.

It was identified during the audit that a timely and effective Grievance Mechanism was already being implemented by SOL; with responsibility lying with the external relations department. Grievances were raised to the department by land owners through verbal and written channels. However the majority of grievances have been handled verbally with little documentation recorded. Therefore it is unclear how many grievances in total have been submitted or addressed to date.

Of the 151 households surveyed 82 households lost more than 50% of their land; 51 households 10-49% of their land and 18 land owners lost less than 10% of their land. Therefore the majority of PAHs lost a significant portion (>10%) of the land that use for income for income generating purposes. No robust data was available on the change to household income or loss of income at the time of the audit as those compensated were still cultivated on their land.

ES4 ***CORRECTIVE ACTIONS***

As a result of this review a number of corrective actions are recommended to be implemented by SOL (Table ES-2). These actions aim to ensure all PAHs livelihoods are restored to an equal or higher level than before the land acquisition process commenced as well as support SOL in adhering to the ADB's SPS and JBIC requirements as well as the IFC's Performance Standard (PS 5).

Table ES-2 Corrective Action Plan for SOL

<i>Issues/Topics</i>	<i>Corrective Actions</i>	<i>Deliverable</i>
Insufficient impact assessment	The database of resettlement impacts requires updating. Impacts from other project components i.e. transmission line ROW, Laydown, Road 5, WJP 1N, etc. should be captured in the Resettlement Plan.	i. Land Census Report ii. Resettlement Plan
Currently, the compensation for structures is based on negotiation	SOL should prepare a list of compensation rates for any potentially affected structures. SOL to ensure the compensation rate meets market value of the structures, land and crops	i. List of compensation rates for structures ii. List of compensation records for structures, land and crops
SOL has a short term plan for PAPs to restore their livelihood	SOL to undertake a Livelihood Restoration Plan that should be prepared based on a Needs Assessment in each project affected village. The PAH needs assessment will be undertaken in Q1 of 2014; a detailed livelihood program will be developed and submitted to ADB.	i. Budget for Livelihood Restoration Planning
Date for land owners to stop using their land	The legal date for land owners to stop using their land should at least 1 month after the compensation is paid. This will with sufficient time for land owners to harvest their crops.	i. Management Time
The grievance mechanism is already in place, however there is no written documentation available	SOL to prepare comprehensive documentation for all grievances raised by PAHs, in particular if raised by vulnerable groups such as female headed households.	i. Grievance Records
Monitoring and Evaluation	SOL to prepare internal monitoring (submission of quarterly reports)	i. Internal Monitoring Report
	External monitoring (submission of semi-annual reports)	i. External Monitoring Report
	Post-resettlement evaluation (e.g. 6 months, 18 months, 36 months post the land acquisition process.	i. Evaluation Report

1 INTRODUCTION

1.1 PROJECT PROPONENT

SOL or “Sarulla Operations Limited” is the operation company established by the Consortium of Itochu Corporation, Kyushu Electric Power Co., Inc., Ormat International, Inc. and PT. Medco Energi International Tbk. SOL plans to develop the geothermal field and the power plant in Sarulla, in Pahae Jae and Pahae Julu Districts, North Tapanuli Regency, North Sumatera Province. Project proponent contact details can be found below:

Company: SARULLA OPERATIONS Ltd. (SOL)

Address: The Energy Building 51st Floor
SCBD Lot 11A, Jl Jend Sudirman
Jakarta 12190
INDONESIA

Telephone: +62 (0)21-29951648

Facsimile : +62 (0)21- 29951649

In the development of the Sarulla geothermal field and power plant at 330 MW capacity, the Consortium and SOL signed a DOA with PT. PLN (Persero); a JOC with PERTAMINA Geothermal Energy; and an ESC 1 with PERTAMINA Geothermal Energy - and PT. PLN (Persero).

1.2 REPORT CONTEXT

The Indonesian electricity business is largely conducted by the State and carried out by The State own enterprise (PLN). Indonesia’s energy demand is increasing with a growth of electricity demand estimated at 7.1% annually (2006-2026) and there is currently a shortage of electricity supply in several provinces, particularly in Java and Sumatera (Djamin, 2008). Operative, private sector and local enterprises have an opportunity to participate in electricity business as Independent Power Producers (IPPs).

Indonesia is estimated to hold approximately 40% of the World’s estimated geothermal resource. These resources are concentrated within tectonic areas in Sumatera, Java and Sulawesi, in the same areas where electricity demand is under met. With traditional fossil fuels widely developed, the Indonesia Government has placed a priority on alternative energy development including renewable energy to enhance energy security.

SOL is proposing the Sarulla Geothermal Field and Power Plant Development Project to further develop the geothermal potential in Sumatera, commenced in 1993 by Unocal North Sumatera Geothermal (UNSG). As part of this

development plan, SOL is seeking a financial investment from the Asian Development Bank (ADB) and a group of Equator Principles Financing Institutions (EPFIs). Project proponents seeking financing from the ADB and EPFIs are required to comply with the applicable bank's environmental, social and health policies, developed for managing the environmental and social risks associated with project finance.

The ADB and EPFIs recognise the specific issues associated with private sector projects and manage these through the ADB Safeguard Policies and Equator Principles.

SOL commissioned Environmental Resources Management (ERM) to support the Project in the preparation of this Social Safeguards Compliance Audit Report. The SSCAR is one of a number of studies to provide additional information to the Lenders further to the ESIA conducted under the Indonesian environmental regulatory approvals process (AMDAL, 2009¹).

This report forms one of five (5) Volumes for the proposed development of the Sarulla Geothermal Field and Power Plant of 330 MW Capacity, North Tapanuli Regency, North Sumatera Province. All Volumes are as follows:

- Volume I: Environmental Compliance Audit Report and Corrective Action Plan;
- Volume II: Environmental and Social Impact Assessment (ESIA) Addendum;
- Volume III: Indigenous Peoples Plan (IPP);
- Volume IV: Social Safeguards Compliance Audit Report and Corrective Action Plan (SSCAR) (this report); and
- Volume V: Resettlement Plan.

The SSCAR describes both land acquisition processes that have been undertaken by the Project, first by UNOCAL in the mid 1990's and then more recently by SOL (which is still on-going).

1.3 ***STRUCTURE OF THE SSCAR***

This report is structured as follows:

- Chapter 1: Introduction;
- Chapter 2: Project Description;
- Chapter 3: Scope, Methodology and Execution of the Audit;
- Chapter 4: Findings of the Audit;

¹The regulatory ESIA (ANDAL) report is available on ADB's website <http://www.adb.org/projects/42916-014/documents>

- Chapter 5: Status of UNOCAL Compliance;
- Chapter 6: Status of SOL Compliance; and
- Chapter 7: Corrective Measures.

2 PROJECT DESCRIPTION

2.1 DEVELOPMENT HISTORY

This Chapter provides a summary of the key aspects of the Project of relevance to this report. A full Project description is provided in Volume II: Environmental and Social Impact Assessment (ESIA) Addendum, Chapter 2. Nine exploratory wells (5 in SIL and 4 in NIL) were drilled in the contract area, followed by well completion and production testing to prove the quality and quantity of the resource.

2.2 SOL PROJECT LOCATION

The proposed activity is located \pm 40 km south of Tarutung at the side of the Trans Sumatera Highway (Tarutung – Sipirok). Administratively, the Project is located in Pahae Jae and Pahae Julu Districts, North Tapanuli Regency, North Sumatera Province.

In relation to Regency Spatial Plan, the Government of North Tapanuli Regency issued North Tapanuli Regency Regulation No. 19 of 1994 regarding spatial planning, which designated the sub districts of Pahae Jae (Silangkitang area or SIL) and Pahae Julu (Namora I Langit) as areas of geothermal natural resources.

After receiving the right to develop the Project, the Consortium has re-evaluated the Sarulla exploration data in order to undertake the next strategy for the field development stage of the Sarulla Contract Area.

2.3 DEVELOPMENT PLAN

The Project was initiated by Unocal North Sumatera Geothermal (UNSG), after the Energy Sales Contract (ESC) and Joint Operation Contract (JOC) were signed in 1993. Extensive exploration activities were then conducted including geo-scientific geology, geochemistry and geophysics investigations and the development of certain infrastructure such as well pads and access roads. This was followed by drilling activities between 1994 and 1998.

The development plan for the Sarulla geothermal field and 330 MW combined power plant includes the following activities:

- The development of Sarulla geothermal field i.e. Silangkitang (SIL) field and Namora I Langit (NIL) field;
- The construction and operation of 330 MW geothermal power plant, one unit at SIL and two units at NIL each with a nominal capacity of 110 MW; and
- The construction of a combined length of approximately 14kms of 150 kV (high voltage) overhead transmission line from Silangkitang field (SIL 1) to PLN Substation and from Namora I Langit field (NIL 1) to PLN substation.

The Silangkitang field (SIL) has three (3) existing well pads developed by UNSG in 1994. The pads are SIL 1, SIL 2 and SIL 3 and located around the periphery of these coordinates:

- SIL 1 - N201,374 and 510,500;
- SIL2 - N202,126 and E508,614; SIL 3 - N199,925 and E510,910.

SIL is located in Pahae Jae District, North Tapanuli Regency. The pad locations can also be described as follows:

- SIL 1 - located in Silangkitang Village, about 50 meter from Sumatera Highways (Tarutung - Sipirok);
- SIL 2 - located at the north-west of SIL 1, on the side of Aek Batang Toru which is part of Sigurung-gurung Village;
- SIL 3 - located at the south of SIL 1, in Pardomuan Nainggolan Village.

SIL 1 has three (3) existing wells, SIL 1-1, 1-2 and 1-3 drilled in 1994 through 1997 at the depth of around 2,000m. SIL 1-2 and 1-3 are planned to be used as permanent production wells for SIL PLTP. In 2008, these two wells underwent work-over to remove existing well plugs and in case of SIL1-3 repair a portion of the casing at 13-3/8" layer to prepare them for production testing and usage as permanent production wells. SIL 1-1 is not intended to be utilized as permanent well in the operation of SIL PLTP. It is intended to be used as a temporary reinjection well during the production flow testing of SIL 1-2 and SIL 1-3 (supplemental to SIL 2-1) and afterwards, the wells will continue to be used as monitoring point of reservoir. Three (3) additional production wells (allowing 1 as allocation for failure) are planned to be drilled in this SIL 1 pad to obtain the geothermal fluid quantity needed for SIL PLTP operations. Two (2) reinjection wells are also planned to be drilled in this SIL-1 pad.

SIL 2 pad has one (1) existing well, SIL 2-1. SIL 2-1 drilled in 1995 at the depth around 2,100m is not intended to be used as permanent part of the wells during operation of SIL PLTP. This is to be used as temporary reinjection (as the primary with SIL 1-1 and 3-1 as supplemental) well during the production flow testing of SIL 1-2 and 1-3 and afterwards, the wells will continue to be used as monitoring point of reservoir. Three (3) new reinjection wells are planned to be drilled in this SIL-2 pad.

SIL 3 pad has one (1) existing well, SIL 3-1 drilled in 1995 at the depth around 2,100m. SIL 3-1 is not intended to be used as permanent part of the wells during operation of SIL PLTP. This is to be used as temporary reinjection (as the supplemental to SIL 2-1) well during the production flow testing of SIL 1-2 and 1-3 and afterwards, the wells will continue to be used as monitoring point of reservoir.

Namora I Langit (NIL) field has three (3) existing well pads developed in 1997. The pads are NIL 1, NIL 2 and NIL 3 located around the periphery of these coordinates:

- NIL 1 - N207,509 and E501,941;
- NIL 2 - N208,245 and E501,131;
- NIL 3 - N208,745 and E503,328.

The pad locations can also be described as follows:

- NIL 1 - located in Sibaganding, Lumban Jaean, and Simataniari villages (there is one investigation well);
- NIL 2 - located in Sibaganding, Lumban Jaean, and Simataniari villages (there are two investigation wells); and
- NIL 3 - located in Sibaganding, Lumban Jaean, and Simataniari villages (there is one investigation well).

None of the 3 existing well pads or 4 investigation wells will be utilized as locations for drilling the permanent (or initial/start-up) production wells. The existing well in NIL-3 pad will be used as a temporary reinjection well during the early stage of drilling the new production wells in NIL for well testing purposes until such time that permanent reinjection wells are drilled, afterwards, the well will continue to be used as for monitoring point of the reservoir. The NIL new well pads are located on farmland and mixed forest areas.

The following permanent wells will be drilled on the following new well pads:

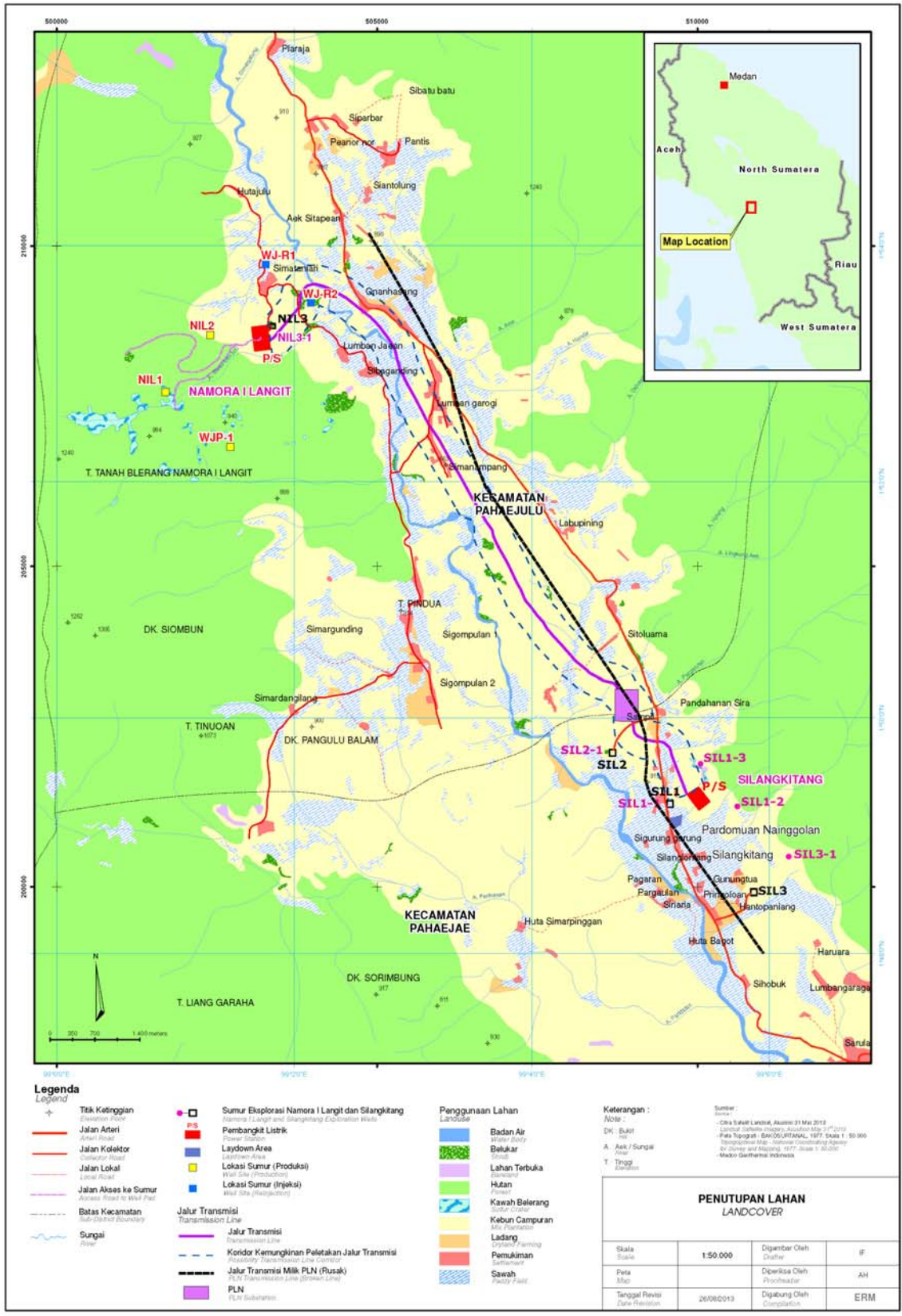
Table II-1 Number of wells be drilled on new well pads

<i>No</i>	<i>Location</i>	<i>Number of wells to be drilled</i>
1	NIL-1n	7 production wells (1 allocation for failure)
2	NIL-2n	8 production well (1 allocation for failure)
3	WJP-1n	5 production wells
4	WJR-1n	3 reinjection wells
5	WJR-2	3 reinjection wells

Source: SOL Data, 2013

The power plant locations for both SIL and NIL will be at plantation areas. SIL is situated approximately 500 meter from the nearest residential area whilst NIL is located at least 1km far from a residential area. The development plan for Silangkitang (SIL) and Namora I Langit (NIL) geothermal fields is shown in Figure II-1.

Figure II-1 Development plan for Silangkitang (SIL) and Namora I Langit (NIL) geothermal fields



The project schedule for the development of Sarulla 330 MW power plant at SIL and NIL is displayed in Table II-2.

Table II-2 Project schedule for the development of Sarulla 330 MW power plant at Silangkitang (SIL) and Namora I Langit (NIL)

Activity	Time	Month						
		0	+10	+20	+30	+40	+50	>50
Preconstruction		■						
Construction								
SIL			■	■	■			
NIL 1			■	■	■	■		
NIL 2			■	■	■	■	■	
Operation								
SIL					■	■	■	■
NIL 1							■	■
NIL 2								■

2.4 SUMMARY OF PROJECT COMPONENTS

Tables II-3 and II-4 summarise the Project Components and also show the status of those components. Tables II-5 and II-6 present the temporary intake canal/pipe RoW details at NIL to the well pads.

2.4.1 Project Components

The Project is divided into two areas: Silangkitang (SIL) Area and Namora I Langit (NIL) Area and requires a total of total 120 Ha of land. This land will be allocated for project components such as power generation facilities, geothermal wells with relevant equipment, access roads, steam and brine pipelines, quarry areas, temporary storage and temporary worker camps (during construction phase). The acquired land is largely rice paddy fields and a small proportion of rubber and cacao plantations. The acquired land is known as ‘tanah keluarga’ or family land which is similar to most of the land in the Pahae Jae and Pahae Julu Sub Districts. Acquired land that is privately owned by individual families (heritage land) is neither registered nor legally certified with the National Land Agency (BPN). To date the Project has completed land acquisition activities in the SIL area for the brine injection line covering two areas (SIL 1 and SIL 2). The total acquired land for SIL 1 is approximately 1.85 Ha and for SIL 2 to Batang Toru River about 1.06 Ha. Figures II-2 and II-3 presents the SIL and NIL areas with details of the Project components, name of land owners and GPS coordinates to show the Project location.

Table II-3 SIL Project Components

Component		Existing	Plan
Power Plant		-	To be constructed - Steam turbine - OEC - BOP etc.
Well pad (SIL-1) (for production and reinjection)		- Pad - 1 (one) sump pit - 1 (one) rock muffler	To be repaired and used - Pad - existing sump pit - existing rock muffler To be constructed - 1 (one) new sump pit - separator station
		- 3 (three) wells	To be drilled - 3 (three) wells for production - 2 (two) wells for reinjection To be used - existing 2 (two) wells for production - existing 1 (one) well for monitoring
Well pad (SIL-2) (for reinjection)		- Pad - 1 (one) sump pit	To be repaired and used - Pad - existing sump pit
		- 1 (one) well	- 3 (three) wells to be drilled - existing 1 (one) well to be utilized for monitoring
Well pad (SIL-3) (for reinjection)		- Pad - 1 (one) sump pit	- Pad to be repaired and used - 1 (one) sump pit to be abandoned
		- 1 (one) well	existing 1 (one) well to be utilized for monitoring
Access roads	to Power plant	-	To be constructed
	to SIL-2	Road	To be repaired and used

Component		Existing	Plan
	to SIL-3	Road	To be maintained and used
Pipeline		-	To be constructed between well pad and power plant
Transmission line		-	To be constructed - transmission tower - conductor - bays in PLN substation
Water intake station (temporary)		-	To be constructed
Site office		- Site office - Container house - Casing pipes	To be repaired to the some extent - Site office - Container house To be utilized or maintained - Casing pipes
Well pad (SIL-D)		1 (one) disposal area	- Existing area to be repaired and used as drilling disposal area
Laydown area		-	2 (two) area to be constructed
Water well (operation use)		-	1 (one) well to be drilled

Table II-4 NIL Project Components

<i>Component</i>	<i>Existing</i>	<i>Plan</i>
Power Plant	-	To be constructed - Steam turbine - OEC - BOP etc.
Well pad (NIL-1)	- Pad - 1 (one) sump pit - 1 (one) rock muffler	To be maintained - Pad To be abandoned - existing sump pit - existing rock muffler
	- 1 (one) wells	existing 1 (one) well to be utilized for monitoring well
Well pad (NIL-2)	- Pad - 1 (one) sump pit	To be repaired and used - Pad - existing sump pit
	- 1 (one) well	existing 1 (one) well to be utilized for monitoring well
Well pad (NIL-3)	- Pad - 1 (one) sump pit	To be maintained
	- 1 (one) well	existing 1 (one) well to be utilized for monitoring well
Well pad (NIL-1n)	-	- Pad to be constructed - 7 (seven) wells to be drilled
Well pad (NIL-2n)	-	- Pad to be constructed - 8 (eight) wells to be drilled
Well pad (WJP-1n) (for production)	-	- Pad to be constructed - 5 (five) wells to be drilled
Well pad (WJR-1n) (for reinjection)	-	- Pad to be constructed - 3 (three) wells to be drilled

<i>Component</i>		<i>Existing</i>	<i>Plan</i>
Well pad (WJR-2n) (for reinjection)		-	- Pad to be constructed - 3 (three) wells to be drilled
Access roads	to Power plant	- Road - Bridge	To be repaired - Road - Bridge
	to NIL-1n	- Road	To be repaired
	to NIL-2n	- Road	To be repaired
	to WJP-1n	-	To be constructed - Road - Bridge
	to WJR-1n	- Road	Road to be repaired Bridge to be constructed
	to WJR-2n	- Road	To be repaired
Pipeline		-	To be constructed between well pad and power plant
Transmission line		-	To be constructed - transmission tower - conductor - bays
Disposal area		-	2 (Two) area to be constructed
Laydown area		Land	1 (one) area to be constructed
Camp site		Land	1 (one) area to be constructed
Water well (operation use)		-	1 (one) well to be drilled

Table II-5 Temporary Intake Canal/Pipe RoW

<i>Length from Power plant(Approx. m)</i>		<i>To NIL-1</i>	<i>To NIL-2</i>	<i>To WJP-1</i>	<i>To WJR-1</i>	<i>To WJR-2</i>
		<i>1,500</i>	<i>600</i>	<i>2,500</i>	<i>2,200</i>	<i>1,800</i>
Pipeline Detail	Pipe Diameter(Inch)	36	36	42	30	30
		36	36	24		
		24	24			
	Space between pipe(Inch)	24	24	24		
		24	24			
	Insulation thickness(Inch)	3	3	3	3	3
		3	3	3		
		3	3			
Total(Inch)	153	153	96	33	33	
Convert into meter	3.9	3.9	2.5	0.9	0.9	
Regulated clearance	6.0	6.0	6.0	6.0	6.0	
Shoulder one side	1.0	1.0	1.0	1.0	1.0	
Shoulder other side	0.5	0.5	0.5	0.5	0.5	
Ditch(both total)	2.0	2.0	2.0	2.0	2.0	
Road width	5.0	5.0	5.0	4.0	6.0	
Total ROW(m) at least	18.4	18.4	17.0	14.4	16.4	

Table II-6 Approximate Water Pipe length

<i>Location</i>	<i>m</i>
Hamilton Bridge to WJR-2(m)	1,700
WJR-2 to WJR-1(m)	2,200
WJR-2 to NIL-3(m)	1,800
NIL-3 to NIL-1(m)	1,500
NIL-3 to NIL-2(m)	600
NIL-3 to WJP-1(m)	2,500

2.5 *PROJECT LAND ACQUISITION*

Land required for the Project will be procured on a negotiated settlement basis. It will be undertaken in stages as the construction of the geothermal field progresses. The process will be conducted using direct negotiations and agreements between land owners and SOL. A total of 127 ha of land located in the districts of Pahae Jae and Pahae Julu, North Tapanuli Regency will be needed for the land use plan for the development at SIL and NIL is shown in Table II-7. To date, SOL has acquired approximately 4.3 ha of land in SIL for Brine Injection Line and it will be used for the Well test activity. The remaining estimated required land (as listed in the Table below) is still being acquired; this is expected to be completed by the end of 2013.

Table II-7 Land Use Plan and Area Required for SIL and NIL

No	Project Component	Estimated Area Required (in m ²)			Current Land Use (in m ²)		
		Government Land	Private Land	Total	Government Land	Private Land	Total
NIL							
1	Main Access Road (Road 1 & 1A)	8,857	22,378	36,235	6,577	15,801	22,378
2	Well Pad NIL 2n & Access Road	-	57,231	57,231	-	57,231	57,231
3	Disposal 1 & 2 & Access Road	-	176,050	176,050	-	176,050	176,050
4	Borrow Area	-	93,923	93,923	-	87,900	87,900
5	WJR 1n & Access Road	-	35,513	35,513	-	35,295	35,295
6	Power Plant & Access Road	-	228,113	228,113	-	228,113	228,113
7	Laydown	-	80,000	80,000	-	-	-
8	Road 5	120,000	-	120,000	-	-	-
9	WJP 1	80,000	-	80,000	-	-	-
10	NIL1 Exp & Access Road	-	80,000	80,000	-	-	-
11	WJR 2n & Access Road	-	40,000	40,000	-	-	-
	<i>Subtotal m² and hectares</i>	208,857	813,208	1,027,065	6,577	600,390	606,967
SIL							
1	Disposal For Power Plant	-	12,340	12,340	-	12,340	12,340
2	Borrow Area	-	20,880	20,880	-	20,880	20,880
3	Well Pad SIL 1	-	13,344	13,344	-	13,344	13,344
4	Power Plant	-	65,465	65,465	-	65,465	65,465
5	SIL 2 Expansion & Access Road	-	30,000	30,000	-	-	-
6	Laydown 1	-	28,000	28,000	-	-	-
7	Laydown 2	-	20,000	20,000	-	-	-
	<i>Subtotal (m²)</i>	-	190,029	190,029	-	112,029	112,029
	GRANDTOTAL	208,857	1,003,237	1,217,094	6,577	712,419	718,996

Source: SOL Data, 2013

Figure II-2 Silangkitang (SIL) Area Map

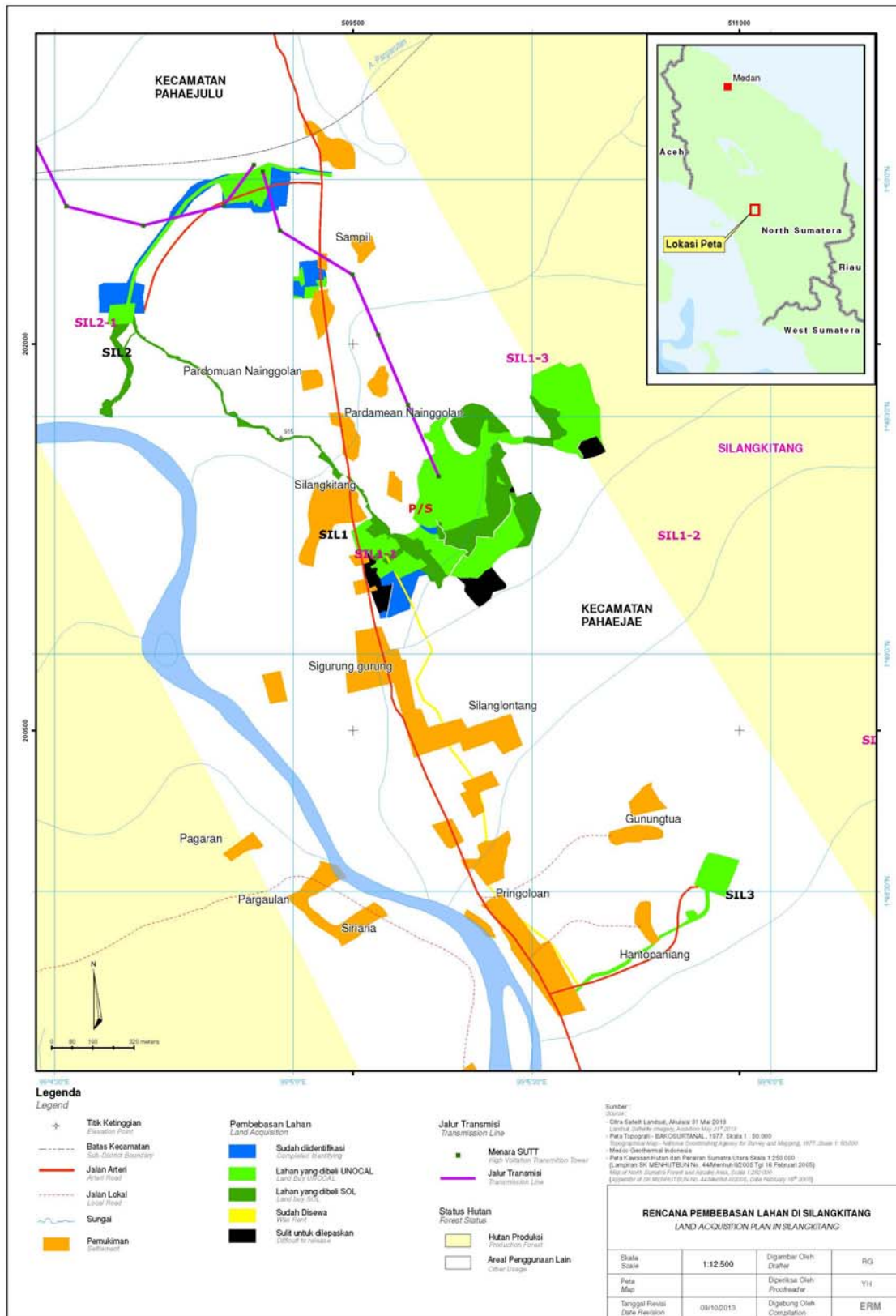
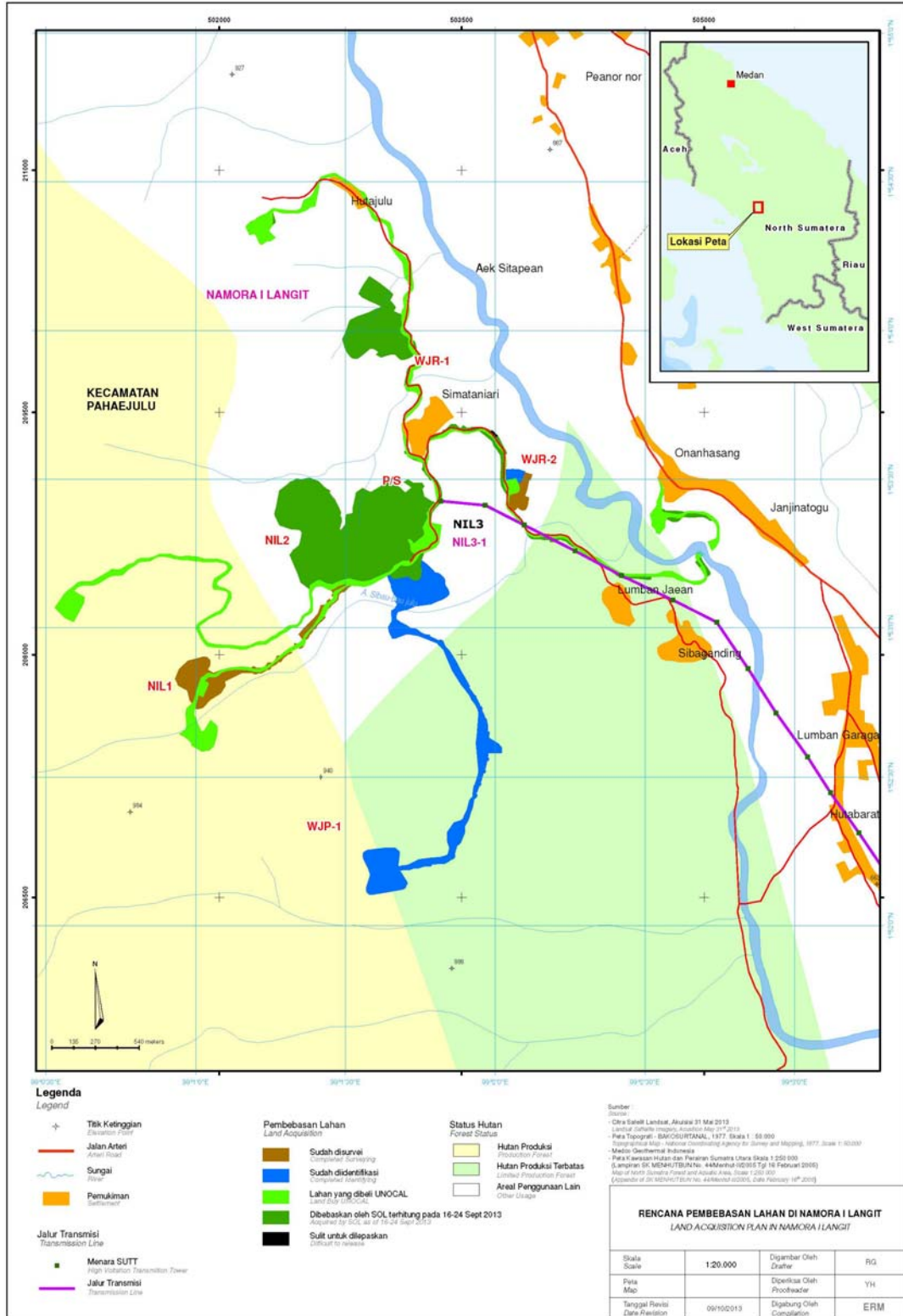


Figure II-3

Namora I Langit (NIL) Area Map



2.5.1 *Project Socialization*

The following consultation activities were conducted to socialize the development of Sarulla geothermal field and 330 MW power plant:

- Project socialization at Silangkitang on 5th February 2008;
- Public consultation in relation to AMDAL preparation in Pahae Julu on 28th March 2008;
- Project socialization with government institutions in Tarutung on 6th May 2008;
- Project socialization regarding land acquisition process for reinjection route on 6th June 2008;
- Socialization/Seminar of Sarulla project to local NGOs groups, local communities and local Governments representatives, 25th June 2008;
- Socialization of well work over activity in Silangkitang on 15th July 2008;
- Well work over ceremony in Silangkitang on 15th August 2008;
- Dialogue forum with local communities and local NGO - IMARUPA & IARRP on 11th Jan 2011;
- Discussion/Meeting with local communities, representatives of North Tapanuli Local Government and IMARUPA/ IARRP on 24th March 2011;
- Project and AMDAL socialization/explanation in 11 villages on 23 March 2011, 15 -18 April 2011;
- Project and AMDAL socialization to land owners in Pahae Jae & Pahae Julu on 6th -7th May 2013.
- While for socialization activities related land with land acquisition, SOL has conducted the following activities:
- Socialization on land acquisition to brine Injection line land owners on 25th November 2009;
- Negotiation meetings for Brine Injection line on 9th December 2010, 19th January 2011, and 24th March 2011;
- Socialization meeting for land acquisition to land owners in Pahae Jae and Pahae Julu on 30th April 2013, 1-2 May 2013 and 6-7th May 2013.

2.5.2 *Land Acquisition*

SOL will construct, operate and maintain a power plant at 330 MW total installed capacity. To fulfil the capacity, three unit power plants will be constructed where each will generate approximately 110 MW. The first unit will be built at SIL and another two units at NIL.

2.5.2.1 *Power Plant*

The land required for the power plant construction is already taken into account in the land acquisition process for the development of geothermal field and construction of access roads. In the construction plan, one power plant unit will be built at SIL and two units will be built at NIL where each will have a capacity of 110 MW (a total of 330 MW). The amount of land required for the power plants is approximately 6.5 ha for SIL and 22.6 ha for NIL.

2.5.2.2 *Transmission Line Construction Between SIL and NIL*

The land required to build the transmission towers is not yet purchased. The plan is not to use productive land, cemetery or residential areas. The process will be conducted using direct negotiations and agreements between land owners and SOL, facilitated by the government of North Tapanuli Regency.

The purchased land will be used as platforms for transmission towers. Land under the transmission lines will not be purchased instead an easement fee of 10% of the value of land for the towers will be paid. Measures will be taken to avoid displacement of housing within the transmission line corridor of impact. Approximately 47 towers will be built with an estimated distance of approximately 300 meters between each of the towers. It is estimated that each transmission tower will require 900 m², and therefore the total of land required for 47 towers is 4 ha.

Figures II-3 and II-4 illustrate the land acquisition status to date. The green boundary shows that process is complete at SIL 2, SIL 4 and SIL D and at NIL 1, 2, 3 and 4 (undertaken by UNOCAL).

3 SCOPE, METHODOLOGY AND EXECUTION OF AUDIT

3.1 USE OF THIS REPORT

The SSCAR is a requirement by ADB to determine whether SOL's actions were in accordance with ADB's safeguard principles and requirements for borrowers/clients and to address outstanding compliance issues and identify and plan appropriate measures. The report content includes:

- A review of Indonesian (for UNOCAL lands) and international regulations (for SOL lands) regarding land acquisition;
- A description of the land acquisition process undertaken by UNOCAL and SOL;
- A socio-economic profile of the SOL affected households surveyed during fieldwork;
- A summary of key findings during the survey and audit; and
- A set of recommendations or corrective action plan.

The SSCAR describes both land acquisition processes that have been undertaken by the Project, first by UNOCAL in the mid 1990's and then more recently by SOL (which is still on-going). This scope of the SCAR assesses the compliance status of the land acquisition process undertaken by SOL against the requirements of ADB Safeguards Policy Statement 2009, JBIC social expectations and IFC Performance Standard 5.

3.2 APPLICABLE STANDARDS GOVERNING LAND ACQUISITION

3.2.1 Indonesian Laws/Regulations

In Indonesia there are two mechanisms used in land procurement. Those two mechanisms are differentiated by the implementer of land procurement. The first mechanism is through "*Penetapan Lokasi*", or location designation, which is regulated in law No.2 year 2012 on land procurement for development of public interest projects and its implementing regulation, Presidential regulation No. 71 year 2012. These regulations replace the previous regulation, presidential regulation No. 36 year 2005 which was the legal basis for implementation of land acquisition through the *Penetapan Lokasi* mechanism. *Penetapan Lokasi* regulates the process of land procurement for development in the public's interest (which means projects undertaken and initiated by governmental institutions or entities using the state or local government budget) and stipulates the establishment of land procurement committee ("LPC") as the implementer of land acquisition. This committee is appointed by a local government (provincial or regency) in which the project is located. The LPC Procurement team, as the representative of the state, conducts the land acquisition process and directly negotiates compensation for the land with land owners. SOL, as a private entity, is not entitled to utilise this *Penetapan Lokasi* mechanism.

The second mechanism is called “Izin Lokasi”, or location permit mechanism. The legal basis for this mechanism is stipulated in the Head of National Land Agency Regulation No. 2/1999 which sets out the location permit procedure for private business entities in acquiring land. This regulation states that land procurement for projects executed by private entities may be undertaken by the private entities directly and private business entities must first obtain location permit from the local government governing project location. Under the location permit mechanism, private business entities may implement land procurement through a direct negotiated settlement basis. The entire process of land acquisition is conducted by private business entity (in this project, SOL) while the local government’s role is to facilitate and to monitor the process.

For land acquisition, the Project utilise the second mechanism of “Izin Lokasi”, or location permit mechanism because the Project is executed by a project entity funded by private financing. Under this *Izin Lokasi* mechanism, the Project holds no right to expropriate land owners from their land. Land acquisition is to be done based on negotiation and agreed price with land owners.

3.2.2 *International Processes and Standards*

This SSCAR is intended to meet the requirements for documenting the Project’s land negotiation and settlement processes and identifying past or present concerns related to potential impacts from involuntary resettlement.

The following International standards apply to land acquisition and involuntary resettlement (economic/physical).

3.2.2.1 *Asian Development Bank (ADB) Safeguard Policies*

ADB’s Safeguard Policy Statement (SPS) 2009², governs the environmental and social safeguards of ADB’s operations and articulates the safeguard policy principles for three key safeguard areas:

- Environmental safeguards (SPS, Appendix 1);
- Involuntary resettlement safeguards (SPS, Appendix 2); and
- Indigenous Peoples safeguards (SPS, Appendix 3).

The SPS 2009 applies to all ADB-supported projects reviewed by ADB’s management after 20 January 2010. The objective of the SPS is to ensure the environmental and social soundness and sustainability of projects and to support the integration of those considerations into the project decision-making process.

The overarching SPS statement on ADB’s Commitment and Policy Principles

² <http://www.adb.org/documents/safeguard-policy-statement?ref=site/safeguards/publications>

states that the ADB's safeguards have the following objectives:

- Avoid adverse impacts of projects on the environment and affected people, where possible;
- Minimise, mitigate, and/or compensate for adverse project impacts on the environment and affected people when avoidance is not possible; and
- Help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks.

The SPS uses a categorisation system to reflect the significance of a project's potential environmental impacts. A project's category is determined by the category of its most environmentally and socially sensitive component, including direct, indirect, cumulative, and induced impacts in the project's area of influence.

The involuntary resettlement social safeguard categories for proposed projects are as follows:

- Category A: Project is likely to have significant involuntary resettlement impacts. A resettlement plan, which includes assessment of social impacts, is required.
- Category B: Project includes involuntary resettlement impacts that are not deemed significant. A resettlement plan, which includes assessment of social impacts, is required.
- Category C: Project has no involuntary resettlement impacts. No further action is required.

In 2008, ADB's Chief Compliance Officer approved a Category B/C for the involuntary resettlement safeguard category ranking for the Sarulla Geothermal and Power Plant Development Project. Stating there was no associated involuntary resettlement; however considering that the project requires the acquisition of land currently used for livelihood and other purposes by the local people, a resettlement plan is required.

In May 2013, an ADB Safeguards Specialist team visited the proposed Project location. Following an extensive site visit and meetings with the local community, ADB elevated the category rating to a Category A due to:

- People losing 10% or more of productive assets;
- Potential feeling of other landowners that they may have no choice but to sell because the surrounding areas have been bought by the Project (UNOCAL, SOL);
- Potential feeling that remaining land at the project site is no longer viable; and
- Potential for economic displacement of ethnic minorities.

3.2.2.2 *Japan Bank for International Cooperation (JBIC) Guidelines for Confirmation of Environmental and Social Considerations*

JBIC's Guidelines state the following of relevance for consideration for the Project:

- Involuntary resettlement and loss of means of livelihood are to be avoided where feasible, exploring all viable alternatives. When, after such examination, it is proved unfeasible, effective measures to minimize impact and to compensate for losses must be agreed upon with the people who will be affected;
- People to be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported by the project proponents, etc. in a timely manner. Prior compensation, at full replacement cost, must be provided as much as possible.
- The project proponents must make efforts to enable the people affected by the project, to improve their standard of living, income opportunities and production levels, or at least to restore them to pre-project levels; and
- Appropriate participation by the people affected and their communities must be promoted in planning, implementation and monitoring of involuntary resettlement plans and measures against the loss of their means of livelihood. In addition, appropriate and accessible grievance mechanisms must be established for the people affected and their communities.

In addition JBIC assess whether the Project meets the requirements of the IFC, as discussed below.

3.2.2.3 *The International Finance Corporation (IFC) Performance Standards*

IFC Performance Standard (PS) 5 refers to Land Acquisition and Involuntary Resettlement. Under PS 5, physical and/or economic displacement resulting from land-related transactions are defined as resulting from the following transactions:

- Land rights or land use rights acquired through expropriation or other compulsory procedures in accordance with the legal system of the host country;
- Land rights or land use rights acquired through negotiated settlements with property owners or those with legal rights to the land if failure to reach settlement would have resulted in expropriation or other compulsory procedures;
- Project situations where involuntary restrictions on land use and access to natural resources cause a community or groups within a community to lose access to resource usage where they have traditional or recognizable usage rights;
- Certain project situations requiring evictions of people occupying land without formal, traditional, or recognizable usage rights; or
- Restriction on access to land or use of other resources including communal property and natural resources such as marine and aquatic resources, timber and non-timber forest products, freshwater, medicinal plants, hunting and gathering grounds and grazing and cropping areas.

PS 5 states that where project impacts on land, assets, or access to assets become significantly adverse at any stage of the project IFC advises on the application of the standard. There is no physical resettlement associated with the Project but land acquisition due to the Project may result in the economic displacement (loss of access to resources necessary for income generation or as means of livelihood) of individuals or communities, including those considered of vulnerable status. The IFC requires the avoidance of economic displacement or to minimise impacts on individuals or communities through appropriate measures such as fair compensation and improving livelihoods and living conditions.

3.3 ***METHODOLOGY OF AUDIT***

ERM was commissioned to conduct a land acquisition process and regulatory review to develop a Social Compliance Audit Report (this Report). The reference framework and standards by which land acquisition is being assessed is different between the land acquired by SOL and PERTAMINA/ UNOCAL.

Prior land acquisition process by PERTAMINA/ UNOCAL was reviewed against national requirements at the time of the acquisition (prior to 1994). Due to the absence of UNOCAL socio-economic baseline data of the affected land owners, an assessment on legacy issues or people who have been made

poor or vulnerable because of the land acquisition cannot be conducted.

The land acquisition process conducted by SOL has been reviewed against the ADB Safeguard Policy Statements (SPS) 2009 requirements and the IFC Performance Standards (namely PS 5). It is intended to meet the requirements for documenting the negotiation and settlement processes and identifying past or present concerns related to impacts on involuntary resettlement. An assessment has been conducted to identify how those whose lands were acquired were affected by the project land acquisition, whether the process has resulted in any land owners becoming vulnerable, and whether there are any non-compliances which require corrective action. The task was also undertaken to close out any identified outstanding issues and to help improve the public consultation and grievance mechanism. Any corrective measures will be incorporated into the SOL Integrated Social Program (ISP).

3.3.1 *Desktop Review of Documents*

ERM collected and reviewed relevant documentation on the land acquisition process, compensation framework, grievance mechanism and public consultation undertaken to-date. Relevant international, national, provincial and regional regulations were also reviewed.

3.3.2 *Field Investigations*

3.3.2.1 *Land Owner Interview*

ERM conducted interviews with the aim of reaching 100% of the land owners involved in the acquisition process. This was undertaken using a questionnaire which identified the land owners and facilitated the audit of the land acquisition process done by SOL. The questions aimed to characterize the socio-economic profile of the land owners prior to and after the land acquisition. The questionnaire provided information on the identity of the land owner, the quantity and character of the lost assets and whether the displacement was physical and/or economic. It also identified and quantified the outcome of the land acquisition, based on the living conditions and livelihood of the affected people, to evaluate whether they had been significantly impacted.

3.3.2.2 *Village Head and Clan Leader Interviews*

ERM also conducted in-depth interviews with village heads and clan leaders to understand the history of land ownership in the village as well as community livelihoods in villages surrounding the SOL Project activities.

3.3.3 *Limitations*

A number of general limitations were identified during the undertaking of this study:

1. **Data Quality:** There was limited available socio-economic baseline data on the land acquisition affected people (land owners) to inform the study.
2. **Timeframe:** Time limitations when conducting the primary research (due to the Project deliverable deadline) impacted the depth of the report.
3. **Limited access to the adequate land acquisition related documentation and information,** in particular in relation to the acquisition process undertaken by UNOCAL. As a result a complete review of the land acquisition process could not be conducted.
4. **Limited access to UNOCAL's asset loss inventory, value calculations and compensation prices.** Therefore quantification of asset loss considering the socio-economic conditions of claimants could not be conducted properly.
5. **The team was unable to survey 100% of the land owners.** Some land owners refused to participate in the study survey due to concerns around privacy issues. Other land owners had moved away from the Project area with no known forwarding address.

Given the above issues, ERM has presented the results of the study undertaken to-date, recognising that some gaps in the analysis remain to be completed. ERM has also provided recommendations on how to address these gaps as part of the corrective action plan.

3.4 *EXECUTION OF AUDIT*

The audit was carried out between June and August 2013. The work was conducted by ERM with support from the University of North Sumatera Utara (Universitas Sumatera Utara/USU) Team. The schedule of the audit is presented in Table III-1.

Table III-1 Schedule of Execution of Audit

No	Date	Action	ERM/USU Team	SOL Team
1	24 June – 6 July 2013	Land census for 80% of land owners involved in SOL's LAQ Process	Adis N R Prima Dewi Mery Purnamasarie USU Team	Muhammad Rum Marlan Sitompul Alden Sitompul Industan Sitompul
2	24 June – 6 July 2013	In-depth interviews with village heads and clan/community leaders	Mery Purnamasarie USU Team	Muhammad Rum Marlan Sitompul Alden Sitompul Industan Sitompul
3	August 2013	In-depth interviews with SOL's LAQ Team	Adis N R Prima Dewi	Petrus Gunawan Muhammad Rum Marlan Sitompul Alden Sitompul Industan Sitompul
4	August 2013	Document Review	Adis N R Prima Dewi	Melva Samosir

4 FINDINGS OF THE AUDIT

4.1 OVERVIEW

This section of the Social Compliance Audit Report (SCAR) provides the compliance status of the land acquisition process undertaken by SOL against the requirements of ADB Safeguards Policy Statement 2009, JBIC social expectations and IFC Performance Standard 5.

The audit includes reviewing the methodology adopted in order to acquire the land and considers the approach for setting compensation rates for land and plants.

4.2 PROJECT LAND ACQUISITION STATUS

4.2.1 Prior Land Acquisition by UNOCAL

UNOCAL conducted a land acquisition process between 1994 and 1995. The land now belongs to Pertamina Geothermal Energy (PGE) whereby SOL is leasing the land for the Project activities over the next 30 years. Table IV-1 presents the chronology of UNOCAL's land acquisition process. Table IV-2 summarises the UNOCAL land owners.

Table IV-1 UNOCAL Land Acquisition Chronology

<i>Date</i>	<i>Land Acquisition Process</i>
July - August 1994	Land acquisition application process by Pertamina- UNOCAL to North Tapanuli Government
December 1994	Land measurement and plantation inventory by BPN (Land agency) of North Tapanuli together with Pertamina - UNOCAL, Head of Villages and land owners
January 1995	First land price negotiation - no agreement reached
February 1995	Second land price negotiation - no agreement reached
March 1995	Third land price negotiation - agreement reached
April 1995	Land payment to all owners

Source: SOL Primary Data, 2013

Table IV-2 UNOCAL Land Owners

Project Component	UNOCAL Acquired Land			Note
	Location	Land Parcel	Land Area (m ²)	
NIL				
NILs A	Onan Hasang	32	173,593	This includes area NILs A Batang Toru where the Batang Toru bridge will be built
	Sibaganding	38		
	Lumban Jaean	58		
	Simataniari	39		
NILs B	Lumban Jaean	36	83,200	
NILs C	Lumban Jaean	11	24,456	
NILn A	Simataniari	79	78,959	
SIL				
SIL 1	Silangkitang	9	9,850	
SIL 2C	Silangkitang	13	18,405	
	Sigurung-gurung	14		
SIL 3	Pardomuan Naenggolan	26	30,527	
SIL 4	Silangkitang	7	15,620	
SIL 5	Pardomuan Naenggolan	8	11,998	
SIL X	Silangkitang	9	28,675	There are 26 land parcels which were previously planned to be acquired by UNOCAL and have been compensated by SOL
C. Others				
SIA A	Rina Bolak	33	66,549	These areas, located in Tapanuli Selatan, aren't in the scope of SOL Project area
	Sialaman Julu	50		
	Labuan Rasoki	8		
SIA B	Sialaman Julu	40	41,872	
SBE 1	Aek Horsik	21	31,546	
	Pringgongan	1		
SBE 2	Padang Bujur	29	48,036	
SIP 2	Purbatua	6	10,509	
	Paranjulu	8		
TOTAL				
Total UNOCAL acquired land		575	673,795	
Total UNOCAL acquired land within SOL Project Area		379	475,283	

4.2.2 *Land Acquisition Completed by SOL*

SOL has largely completed the land acquisition process in SIL and NIL areas with payment to land owners done by SOL including compensation for land and plants (there are a total of 216 land owners). Table IV-3 shows the chronology SOL's land acquisition to date.

Table IV-3 SOL Land Acquisition Chronology

<i>Date</i>	<i>Land Acquisition Process</i>
Jan - April 2009	Preparation for location permit document application and Location permit application process to North Tapanuli Government
May 2009	Location permit issued by North Tapanuli Government
June - July 2009	Land survey and staking by SOL/BPN (National Land Agency)
November 2009	Socialization to all land owners conducted by SOL & BPN
May 2010	Location permit was expired, new location permit was re-applied to North Tapanuli
November 2010	New location permit was issued by Bupati of North Tapanuli
December 2010	First land price negotiation with land owners - no agreement reached
January 2011	Second negotiation with land owners; no agreement reached
March 2011	Third negotiation with land owners - Land price agreed by both Land owners and SOL
February 2012-ongoing	Land Payment to Land owners

Source: SOL Primary Data, 2013

SOL also obtained government owned lands, namely forestry land. It consists of production and convertible forest production in the NIL area ~ 295 Ha. Some landowners have owned land within the forestry area passed down through heritage (this was confirmed by the clans and villages leaders). The list of land owners in the forestry area (30 in total) is provided in Annex A.

4.3 *SOL'S ACQUISITION PROCESS*

The key stages in SOL's land acquisition process for the SIL and NIL areas are based on the Sarulla Geothermal Project Land Acquisition Manual (Figure IV-1).

Figure IV-1 LAQ undertaken by SOL

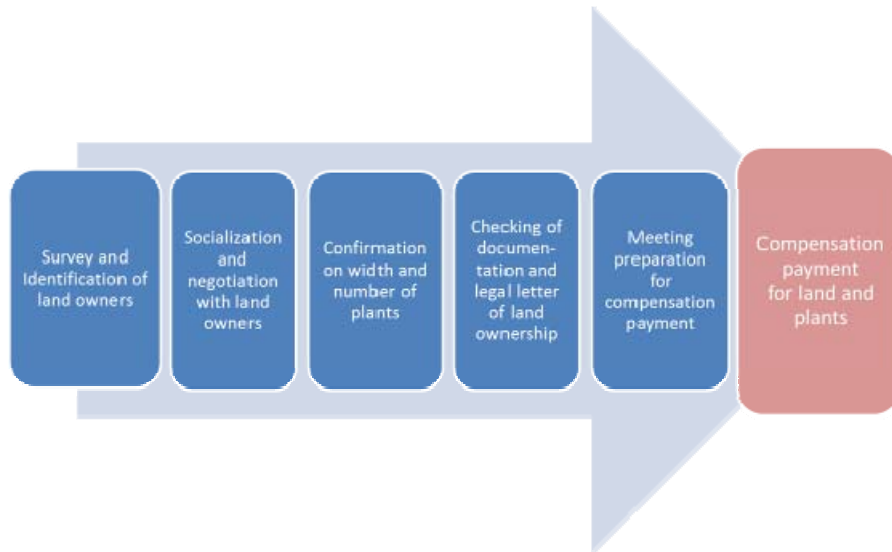


Table IV-4 summaries the SOL’s Land Acquisition at the time of the SSCAR audit. SOL will acquire a total of 326 land parcels involving 216 land owners. There are 26 female landowners and 190 male landowners who have land acquired by SOL. Of the 216 landowners, 148 are in the NIL area and 68 are in the SIL area.

Out of 114.53ha of land required by the project and for which location permits have been obtained, 72.52ha were acquired as of October 2013 and 216 landowners have been compensated. Compensation payments are on-going for the remaining landowners. Land and right of way are also required for the transmission line tower footings, transmission line corridor of impact, NIL area Laydown, Road 5, WJP 1N, NIL 1N and 4A Expansion, WJR 2N and Access Road but location permits have not been obtained and these are covered in the RP.

Table IV-4 SOL's Land Acquisition Process

No.	Area Name	Total Land/ROW Required/Acquired (in sq.m)		Date/Month Compensation Paid	Total Land Parcels	Total Landowners			Current Status
		Required	Acquired			Male	Female	Total	
NIL									
1	Main Access Road (Road 1 & 1A)	36,235	22,378	16-19 Sept 13	107	72	11	83	
2	Well Pad NIL 2n & Access Road	57,231	57,231	16-19 Sept 13	12	10		10	
3	Disposal 1 & 2 & Access Road	176,050	176,050	16-19 Sept 13	33	12	2	14	
4	Borrow Area	93,923	87,900	16-19 Sept 13	31	20	2	22	
5	WJR 1n & Access Road	35,513	35,295	16-19 Sept 13	34	5	1	6	
6	Power Plant & Access Road	228,113	228,113	16-19 Sept 13	26	12	1	13	
	Subtotal On-going Acquisition	627,065	606,967						
7	Laydown	80,000	80,000						Land owners to be confirmed
8	Road 5	120,000	120,000						Land owners to be confirmed
9	WJP 1	80,000	80,000						Land owners to be confirmed
10	NIL1 Exp & Access Road	80,000	80,000						Land owners to be confirmed
11	WJR 2n & Access Road	40,000	40,000						Land owners to be confirmed
	TOTAL				243	131	17	148	
SIL									
1	Brine Injection Line (SIL 1-SIL 2)	18,498	18,498	28 Feb 13	46	30	5	35	
2	Borrow Area	20,880	20,880	30-Jul-13	13	11	1	12	
3	Well Pad SIL 1	13,344	13,344	30-Jul-13	1		1	1	
4	Power Plant	65,465	65,465	30-Jul-13	5	4	1	5	
	Subtotal On-going Acquisition	118,187	118,187						
5	SIL 2 Expansion & Access Road	30,000	30,000						Land owners to be confirmed
6	Laydown 1	28,000	28,000						Land owners to be confirmed
7	Laydown 2	20,000	20,000						Land owners to be confirmed
	TOTAL	196,187	196,187		83	59	9	68	
	Grand Total	1,145,252	1,125,154		326	190	26	216	

Source: SOL Data, 2013

A summary of the steps undertaken in the land acquisition process conducted by SOL is provided in the subsequent sections of this Chapter.

- Step 1 - Survey and identification of land owners

SOL's surveyor conducted an initial survey using a theodolite to mark the land that will be acquired by SOL with precision. After completing the initial survey, SOL's land acquisition team met with the village heads and clan/community leaders to understand the land ownership in the area. This enabled the team to properly identify the correct land owners. (Only clan members utilise these lands; the audit indicated that no squatters or agricultural workers used the land with or without permission from the landowners). After the land owners were identified the team conducted a survey with the land owners, sub-district and village officers and the agriculture agency officer to measure the land and clearly identify the land boundaries and number of plants.

Figure IV-2 Initial Land Acquisition Socialisation Activities



- Step 2 - Socialization and negotiation with land owners

After the survey was completed the land acquisition team invited the land owners to attend a socialisation and negotiation meeting. Prior to this meeting, SOL released the initial entitlements matrix which detailed the total land size, boundaries and number of plants for each plot of land. During the socialisation and negotiation meeting SOL offered compensation prices as follows:

- a) Plant prices were based on age and productivity and referred to prices set by the agriculture agency in the North Tapanuli Regency for 2009/2010 (these are updated annually)(Annex B) and are considered above current market prices; and

- b) Land prices were based on current market values for similar land in the Pahae Jae Sub-District.

Figure IV-3 Socialization and Negotiation with Land Owners



- Step 3 - Confirmation on land width and number of plants

During step 3 SOL released the situation map and plant inventory for each plot of land to the land owners. This was then reviewed and approved by the land owners who checked the land size, number of plants lost, and the compensation price offered by SOL. The land owners were free to decide whether to agree or reject the compensation price offered. If they agreed with the compensation price for land and plants, each land owner signed a letter of statement as confirmation of agreement. No third party validation was involved to oversee transactions were on a willing basis however the signing of the letter of statement was legalised by the village head and SOL's land acquisition team.

Figure IV-4 Signing of the Letter of Statement



- Step 4 - Checking of documentation and legality of letter of land ownership

After receiving the signed letter of statement, every land owner was required to submit land ownership documentation along with a legal letter confirming land ownership i.e. an agreement letter from family members or letter of statement from the village head, etc. The team then reviewed the documents provided.

- Step 5 - Meeting preparation for compensation payment

In order to compensate the land owners SOL's land acquisition team invited them to attend a meeting where they explained the technical process of how the land and plant compensation would be paid. The team also circulated the invitation letter to each land owner to inform them of the compensation payment dates.

- Step 6 - Compensation payment for land and plants

SOL's land acquisition team conducted the compensation payment meeting on the dates agreed. These meetings were attended by the land owners and their family, SOL's land acquisition team, the sub-district and village heads, the sector police head, the danramil (military) head, the PLN head at the provincial level, the attorney and bank officer. In sequence, the land owners received their compensation and signed a release letter in front of the attorney. They then received the money from SOL; BNI was the representative bank paying the compensation.

Figure IV-5 Evidence of Compensation Payment



4.3.1 *On-going Land Acquisition by SOL up to August 2013*

SOL's on-going land acquisition is related to project components located in the NIL area. The remaining NIL areas to be acquired are shown in Table IV-5.

Table IV-5 On-going Land Acquisition Activities

No	Area name	Date/Month Action	Total Land Owners	Current Status
1	Transmission Line ROW	August 2013	30	The initial survey for the tower footprint has been identified and undertaken. The remaining potential land owners for the T/L ROW still need to be identified and surveyed, once PLN agree.
2	Laydown	August 2013	10	Identified and initial survey undertaken.
3	Road 5	August 2013	16	Identified and initial survey undertaken.
4	WJP 1N	August 2013	3	Identified and initial survey undertaken.
5	Road 4 Expansion	September 2013	NA	To be identified and surveyed.
6	NIL 1N and 4A Expansion	September 2013	NA	To be identified and surveyed.
7	WJR 2N and Access Road	September 2013	NA	To be identified and surveyed.

Source: SOL Primary Data, 2013

4.4 **METHODOLOGY FOR ACQUIRING LAND AND APPROACH FOR ARRIVING AT COMPENSATION RATES**

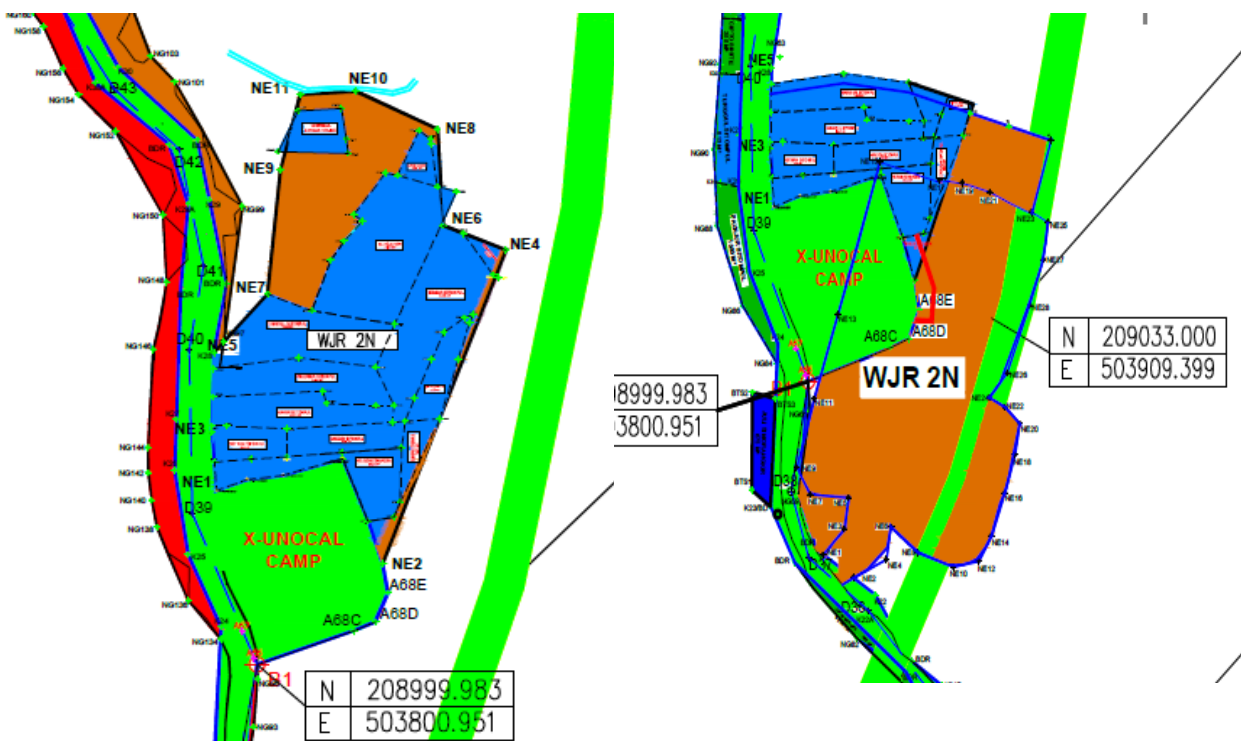
4.4.1 *Validation of acquisition of land is through negotiated settlement*

SOL's land acquisition team conducted the negotiation process through holding several socialization and negotiation meetings with all the land owners. During these sessions the negotiated settlement concept was adopted by SOL to ensure no pressure was placed on the land owners to accept the offered compensation land price of IDR 65,000 per m². If the land owners did not agree to sell the land, the Project sought to re-route (see Figure IV-6).

Disagreements were largely related to the following:

1. Uncertainties regarding the land boundaries and ownership such as in the WJR 2 area;
2. Internal problems among family members around who has ownership of the land will be acquired by SOL:
 - one family member does not agree about the compensation price, and hence bargained a higher price (this occurred in the area of Access Road 1 and 1A).
 - conflict related to the division of land compensation amongst the household (this also happened in the area of the Access Road 1 and 1A).

Figure IV-6 Project Design Re-Routing



4.4.2 Valuation methodology of compensation for land, structures, crops and trees

The valuation methodology for the land compensation (IDR 65,000 per m²) was based on the sub-district office reference for PLN (IDR 50,000 per m²) in 2010 and also current land market prices (with no crops or plants) in the Pahae Julu (IDR 35,000 per m²). The compensation for land was not based on its productivity or type of land. The price of IDR 65,000 per m² was for all land types. This was at the request of the land owners in order to not create jealousy.

As per discussions with the village and sub district heads, there was no increase in the compensation price offered for land between 2010 and 2013. This was because the sale and purchase of land is very rare in the Pahae Jae

and Pahae Julu Sub Districts. However, the compensation price offered by SOL is still higher than that paid in the village or sub district (23% from sub district office reference and 46% at village level).

Consultations with the village leaders indicate that the current average price for paddy land and rice is 73,000 per m². Therefore given that 1 m² of rice paddy equals 20 clumps and SOL are offering 1,500 per clump (unproductive plants as the majority of land acquired by SOL was immature paddy) the total compensation price for paddy land (considered the highest quality) is:

$$2 \text{ harvests} \times 20 \text{ clumps} \times 1,500 \text{ IDR} + 65,000 \text{ IDR} = 125,000 \text{ IDR/m}^2$$

This is 52,000IDR/m² above the current selling price of 73,000IDR.

Only one temporary structure (Figure IV-7) has been acquired and the compensation price was agreed through negotiations with the land owner who received IDR 1,000,000.00. The compensation made on 30 July 2013 for Ibu Roma Sihombing. The purpose for acquiring the land was for the Power Plant Area.

Figure IV-7 Temporary Structure Acquired



The Indonesian Regulations (KepMen ESDM No. 975 K Year 1999& Permen ESDM No.01) provide the following compensation rates for structures: for an old house 700,000IDR per m² and for a new house 1,300,000IDR per m². ADB SPS SR2 and IFC PS require that structures are compensated at replacement cost and without deduction for depreciation. SOL will calculate the cost of replacing a structure at current rates for labour and materials.

The valuation for plants was undertaken by the Agriculture Agency in the North Tapanuli Regency. Table IV-6 presents the list of compensation prices for plants by three types: (i) Seeds, (ii) Unproductive plants, and (iii)

Productive plants. The compensation rate offered for plants is considered reasonable as the Agriculture Agency based the rate on the current market price. The rate was released on 10 August 2009 by the Agricultural Agency values. Based on the current market, the cost of rubber seeds is 5,000.00IDR³; hence SOL is offering compensation at double the value despite using 2009 values.

Table IV-6 List of Compensation Price for Plants (2009/2010)

No	Type of Plant	Age Plant - less than 6 months/Seeds (IDR)	Unproductive Plant (IDR)	Productive Plant (IDR)
1	Karet/Rubber	10,000.00	37,200.00	750,000.00
2	Kelapa/Coconut	25,000.00	32,000.00	350,000.00
3	Durian	35,000.00	295,000.00	750,000.00
4	Rambutan	7,500.00	20,000.00	75,000.00
5	Mangga/Mango	12,500.00	25,000.00	65,000.00
6	Nangka/Jackfruit	12,500.00	25,000.00	65,000.00
7	Jeruk/Orange	12,500.00	25,000.00	65,000.00
8	Padi/Rice paddy	0.00	1,500.00	2,500.00
9	Pisang/Banana	11,500.00	15,000.00	25,000.00
10	Pinang	7,000.00	20,000.00	75,000.00
11	Kopi Robusta/Robusta Coffee	7,000.00	13,000.00	100,000.00
12	Cokelat/Cacao	8,000.00	25,000.00	220,000.00
13	Cengkeh/Clove	17,500.00	25,000.00	250,000.00
14	Jengköl	5,000.00	20,000.00	50,000.00
15	Aren/Arenga/Sugar Palm	25,000.00	35,000.00	135,000.00
16	Asam/Tamarind	5,000.00	8,000.00	25,000.00
17	Langsat/Lansim Domesticum	12,500.00	35,000.00	125,000.00
18	Rambai/Baccaurea Motleyana	12,500.00	35,000.00	125,000.00
19	Manggis	12,500.00	35,000.00	125,000.00
20	Petai	7,500.00	20,000.00	75,000.00
21	Kayu sembarangan	25,000.00	50,000.00	250,000.00
22	Ubi kayu/Cassava	3,500.00	8,000.00	25,000.00
23	Salak	6,500.00	25,000.00	150,000.00
24	Jambu Air	6,000.00	15,000.00	75,000.00
25	Nenas/Pineapple	7,500.00	15,000.00	35,000.00
26	Kemenyan/Benzoin	12,000.00	15,000.00	450,000.00
27	Rumbia/Nipah	25,000.00	35,000.00	100,000.00
28	Bambu/Bamboo	7,500.00	15,000.00	75,000.00
29	Bambu Lemang	7,500.00	15,000.00	75,000.00
30	Sinim/Mallo	8,500.00	25,000.00	125,000.00
31	Alpukat/Avocado	10,000.00	40,000.00	250,000.00

³ <http://bibitkaret.com/kenapa-bibitkaret-com>

No	Type of Plant	Age Plant - less than 6 months/Seeds (IDR)	Unproductive Plant (IDR)	Productive Plant (IDR)
32	Kulit Manis	7,500.00	12,000.00	200,000.00
33	Kemiri	25,000.00	50,000.00	250,000.00
34	Kopi Arabika/ Arabica Coffee	10,000.00	75,000.00	350,000.00
35	Sirsak	8,000.00	25,000.00	50,000.00
36	Kincung	1,500.00	20,000.00	50,000.00
37	Duku	12,000.00	35,000.00	150,000.00
38	Pepaya/Papaya	10,000.00	25,000.00	30,000.00
39	Kueni	12,500.00	55,000.00	100,000.00
40	Tiung	12,500.00	25,000.00	125,000.00
41	Rimbang	5,000.00	7,500.00	10,000.00
<i>Total</i>		469,000.00	1,334,200.00	6,377,500.00

Source: Agriculture Agency North Tapanuli Regency, 10 August 2009

Note: 1 m² rice paddy = 20 clumps

The replacement costs were paid to the land owners for land, temporary structures, crops and trees. People who also rented the land were compensated for their lost crops. SOL confirmed that no administration costs were deducted, and all taxes and registration fees were paid by SOL.

4.5 **CONSULTATION, GOOD FAITH NEGOTIATION AND PARTICIPATION ACTIVITIES**

4.5.1 **Process Documentation**

SOL conducted consultation with the land owners at the beginning of the land acquisition process. The socialization was recorded in the form of meeting minutes, attendance lists and photographs. (The UNOCAL land acquisition process was not covered in the audit due to a lack of data available).

It was identified during the audit that SOL had already conducted the initial survey, inventory, confirmation, negotiation and payment using culturally sensitive consultation methods i. e. the use of the Batak language and involvement of Bataks as facilitators. During the consultation, the Batak facilitators played an important role communicating with the Batak land owners to ensure they understood the process.

SOL has engaged and hired staff to act as field coordinators for Project affected people (PAP). The field coordinators have been appointed for each sub-district, one coordinator for Pahae Jae Sub District and one for Pahae Julu Sub District. The contact information provided by SOL is as follows:

PLTP Sarulla Project

Office: Ex PLN - UNOCAL Office, Silangkitang Village
Pahae Jae Sub District, North Tapanuli Regency,
North Sumatera Province

Mobile Phone : +62 821 6197 8146

Contact Person : Industan Sitompul who is supported by two external
relation officers

Area	Officer's Name	Mobile Phone #
Pahae Julu (NIL)	Marlan Sitompul	+62 853 0633 0238
Pahae Jae (SIL)	Alden Sitompul	+62 812 6398 7846

The public consultation activities undertaken are summarised in the Table IV-7. SOL has conducted socialisation and negotiation as evidence to demonstrate the implementation of good faith negotiations and fully participative activities.

Table IV-7

Public Consultations Activities undertaken for LAQ Process

<i>Activities</i>	<i>Date</i>	<i>Stakeholders/attendees</i>	<i>Description</i>
Project socialization regarding land acquisition process for re-injection route	6 th June 2008	Local communities, Head of villages, Head of Sub-District	Explanation and discussion on land acquisition process and plan for re-injection line route
Socialization on land acquisition to brine injection line land owners	25 th November 2009	Land owners, Head of Villages, Head of Sub district, BPN (Land Agency Office), Agricultural Office	Explanation and discussion on project's land acquisition plan/activities for brine injection line route
1 st negotiation meeting for Brine Injection line - land owners	9 th December 2010	Land owners, Head of Villages, Head of Sub district	Meeting/negotiation on land price
2 nd negotiation meeting for Brine Injection line - land owners	19 th January 2011	Land owners, Head of Villages, Head of Sub district	Meeting/negotiation on land price
3 rd negotiation meeting for Brine Injection line - land owners	24 th March 2011	Land owners, Head of Villages, Head of Sub district	Meeting/negotiation on final agreement on land price
Socialization on land acquisition/confirmation of land measurement and number of plants, project activities and impact to land owners in Namor I Langit (NIL) Area			
1 st group	29 th April 2013	Land owners, Head of Villages, Head of Sub districts	Explanation on Project plan and activities and its impacts and confirmation of land measurement and number of plants
2 nd group	30 th April 2013	Land owners, Head of Villages, Head of Sub districts	Explanation on Project plan and activities and its impacts and confirmation of land measurement and number of plants
3 rd group	1 st May 2013	Land owners, Head of Villages, Head of Sub districts	Explanation on Project plan and activities and its impacts and confirmation of land measurement & number of plants
4 th group	2 nd May 2013	Land owners, Head of Villages, Head of Sub districts	Explanation on Project plan and activities and its impacts and confirmation of land measurement and number of plants
5 th group	6 th May 2013	Land owners, Head of Villages, Head of Sub districts	Explanation on Project plan and activities and its impacts and confirmation of land measurement and number of plants
Socialization on land	7 th May 2013	Land owners, Head of	Explanation on Project plan

<i>Activities</i>	<i>Date</i>	<i>Stakeholders/attendees</i>	<i>Description</i>
acquisition/ confirmation of land measurement and number of plants, project activities and impact to land owners in Silangkitang (SIL) Area – Silangkitang and Sigurung- gurung		Villages, Head of Sub districts	and activities and its impacts and confirmation of land measurement and number of plants

Source: SOL Primary Data, 2013

4.5.2 *Good Faith Negotiations to Resolve Major Disagreement*

The land owners initially raised concerns and complaints during the public consultation activities undertaken for the land acquisition process. Table IV-8 summarises the comments and queries from the land owners during these consultation sessions. Overall, there were no major disagreements raised by the land owners regarding SOL's land acquisition process.

SOL has indicated that there are no unresolved or legacy issues remaining regarding compensation payments for UNOCAL or SOL activities undertaken to date and no PAPs have withdrawn from the LAQ process.

The land owner has the right to submit concerns or disagreements via SOL's external relations department (three people in total). Figure IV-8 shows a land owner inquiring if remaining land can be acquired by SOL, because it is considered unviable as farmland for rice paddy cultivation (with total size less than 100 m²). In cases where unviable land (i.e. equal to or below 400m²) was identified, SOL acquired the remaining land; approximately 92 landowners to date. Seven land owners have had 100% of their land acquired.

During public consultation for the AMDAL which was done in 28 March 2008, in Pahae Julu, North Tapanuli, it was identified that there were no negative perceptions. Participants included camat, village head and community. The communities' concerns focussed on the impacts from SOL activities in the villages surrounding site.

Figure IV-8 A Land Owner Raising a Concern during Consultations



SOL engaged in an extended process of negotiation (Figure IV-9). At the start of the socialization process there were negative community perceptions regarding the compensation price for land with many land owners not willing to accept the compensation price offered. However, SOL ensured adequate time was left for the land owners to decide if they wanted to accept this price or withdraw from the land acquisition process.

Figure IV-9 SOL’s Negotiation Process Schedule



Table IV-8 Summary of Comments and Queries from Land Owners during Land Acquisition Socialization

<i>Domicile</i>	<i>Comments/Queries</i>	<i>SOL's Responses</i>
Simataniari Village	EIA (AMDAL) needs to be explained to villagers in Simataniari.	Socialization on AMDAL document had been conducted in 2011. The project is fully committed to disseminate the AMDAL document throughout the project area.
	During UNOCAL era, some community members claim activities caused damage to their water line. They are requesting SOL fix it.	SOL noted this issue and will further investigate the location because this is from UNOCAL era. Best solution will be sought by SOL's team.
Sibaganding Village	When the project operates, will the water from Aek Acimun river keeps running to Sibaganding village?	Yes, water will still run from Aek Acimun to Sibaganding Village.
Sibaganding Village	The local recruitment process should involve candidates from Sibaganding and Simataniari Village. The process should be fair and positions should not only be temporary but permanent	The project will recruit local man power based on their skills and information from the Jakarta office, within the near future; the project will have socialization on recruitment of workers in the Sarulla area
Simataniari Village	Results of the plantation inventory, calculations and the situation map should be shared with the village after the price is agreed and payments made.	SOL noted this and it will be shared after the price is agreed and payments are made to all land owners.
Sibaganding Village	Access road to the village needs to be improved	SOL noted the concerns and will further study the condition of the access road and the waterline. The presence of the project in this area will not cause any harms to the local communities.
	Waterline to the rice field needs to be improved	
	Local people to be recruited in accordance with their skill	
-	Propose that his land located on the right side is not to be wholly acquired by the project	This request had been addressed and responded as per request as this was discussed during the land survey and measurement
-	A situation map for each land to be acquired to be prepared.	SOL has prepared and made situation maps for all land to be acquired
	Invitation for land negotiation to be prepared at least a week before the event so that owners residing outside of Sarulla area may have time to prepare and attend the meeting	SOL noted this and all activities will be informed well in advance and ensure that land owners residing outside of Sarulla attend the negotiation.
	AMDAL document should be available at the village	It will be shared with the Head of Village and available at the

<i>Domicile</i>	<i>Comments/Queries</i>	<i>SOL's Responses</i>
		village office
-	What if the land doesn't belong to me?	As long as there is power of attorney letter from the land owner, then it will not be an issue.
-	Representative from one land owner asked SOL to also acquire the remaining land that he has including one grave area	SOL could not acquire the grave area, but will check the location for the remaining land.
-	Requested SOL to acquire their remaining land	SOL will first check and study the location of the remaining land
-	After signing the situation map and plantation inventory today, do we lose our right on the land?	No, because no payment is made and after the signing of situation map and plantation inventory, land owners still have full rights to their land.

Source: SOL Primary Data, 2013

4.5.3 *Sensitivity of the Grievance Mechanism to Local Culture*

It was identified during the audit that a timely and effective Grievance Mechanism was already being implemented by SOL; with responsibility lying with the external relations department. Grievances were raised to the department by land owners through verbal and written channels. SOL has two main contact points for grievances; one for the SIL area, the other for the NIL area.

SOL's external relations department also received grievances via the village head offices in the nine villages surrounding the SOL Project Site. These villages were Silangkitang, Sigurung-gurung, Pardomuan Nainggolan and Pardamaean Nainggolan (Pahae Jae Sub-District) and Janji Natogu, Onan Hasang, Sibaganding, Lumban Jaean and Simataniari (Pahae Julu Sub-District). The grievance form was submitted by the land owners through the village heads or external relations officer. Figure IV-10 shows the grievance form provided by SOL.

External relations prioritised the land issues and complaints as follows:


- **First Priority:** Grievances directly affecting the Project development i.e. grievances concerning land plots within the Project site;
- **Second Priority:** Grievances related to significant impacts on the community;
- **Third Priority:** Grievances with insufficient or unclear evidence or documentation that require clarification and further investigation; and
- **Fourth Priority:** Grievances with no supporting evidence or documentation.

To date the majority of grievances have been handled verbally by SOL's external relations team with little documentation available. Therefore it is unclear how many grievances in total have been submitted or addressed to date. Table IV-9 summarises the current grievance status.

Table IV-9 Current Grievance Status (as of October 2013)

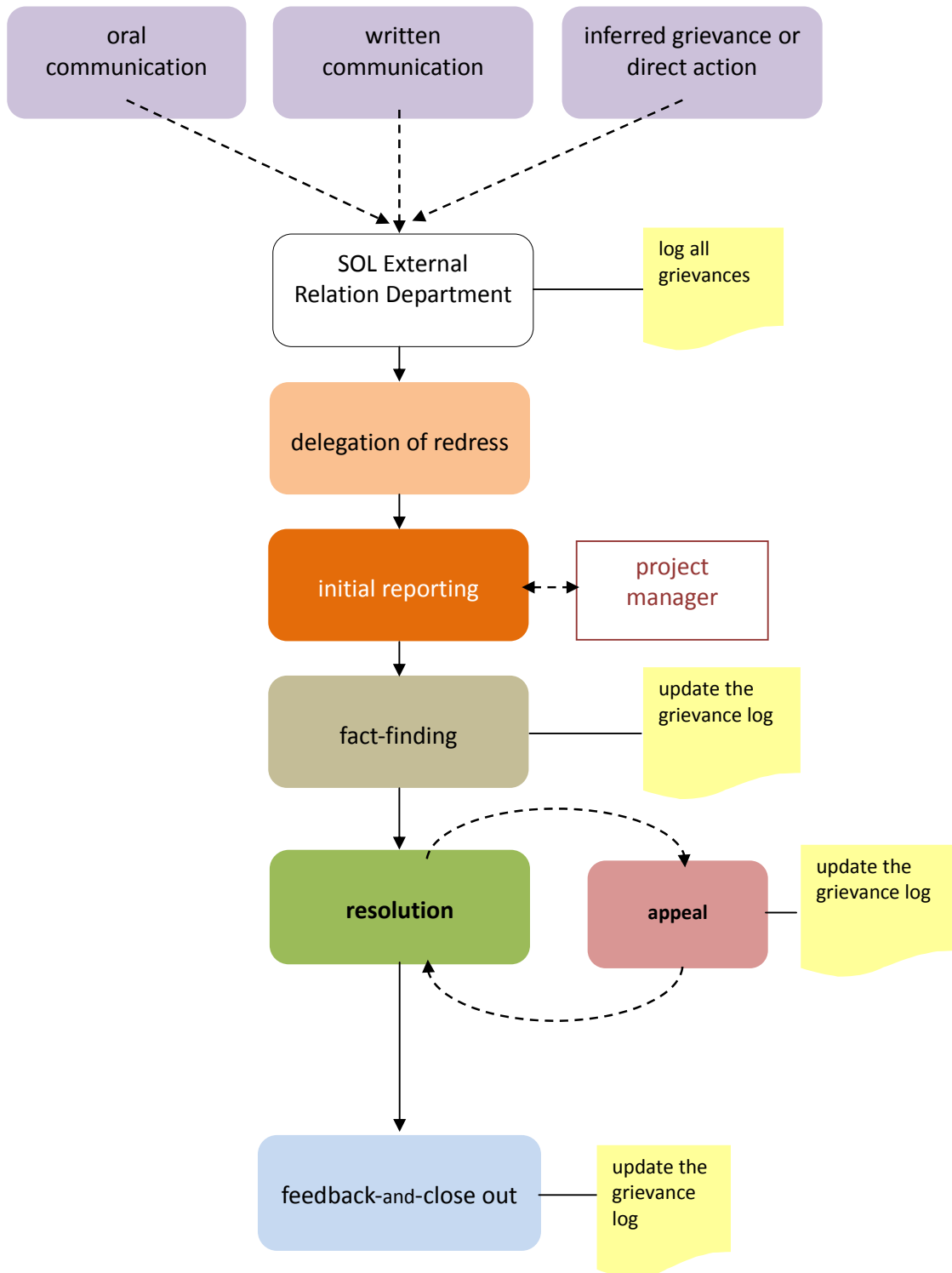
<i>Total #</i>	<i>Resolved</i>	<i>How has SOL addressed?</i>	<i>Outstanding</i>
	1. Damage of irrigation channel due to the process of Brine Injection Line installation at SIL	1. SOL checked the location and after having discussions with local communities built an alternative irrigation channel during the installation of pipe line and also drainage. SOL will put the irrigation channel back to its track after the pipe line installation work completed.	Status: Done
	2. Damage on the irrigation channel in Hutajulu village (NIL) but this was from UNOCAL period not because SOL's activities because so far SOL doesn't have any activities in the area. The recent damage was due to the landslide caused by rain.	2. SOL team conducted checking to the field and decided that SOL will help to improve the irrigation through its CSR program. SOL will further coordinate and cooperate with the local communities for the implementation	Status: Checking - Done and the coordination & cooperation with local community will be conducted during CSR program implementation
	3. Damage (partly) on an irrigation pipe in a small village in Pardomuan Nainggolan Village not because of SOL's activity but due to the aging and vehicles usage.	3. SOL team conducted checking to the field and decided that SOL will help to improve the irrigation through its CSR program. SOL will further coordinate and cooperate with the local communities for the implementation	Status: Checking - Done and the coordination & cooperation with local community will be conducted during CSR program implementation
	4. Landslides on the access road to SIL 2 due to the rain thus it's difficult for local communities' vehicles to access their farm land area.	4. SOL checked the location and cleaned up the access road together with local communities since it's not only used by SOL but also local communities.	Status: Done

Figure IV-10 SOL's Grievance Form

	
Grievance Form Date:	
<i>Reference Number</i>	
<i>Full Name</i>	
<i>Contact information</i>	<i>Address:</i> <i>Telephone</i> <i>Email:</i>
Description of Incident or Grievance (What happened? When did it happen? Where did it happen? Who did it happen to? What is the result of the problem?) :	
<i>What would be your suggestion/recommendation to resolve the problem?</i>	
Consent to disclose grievance-related information to the third parties I am aware that this grievance of mine is submitted to PLTP Sarulla, but it may refer to actions of third parties, (for example, contractors of PLTP Sarulla). I understand that in order to efficiently resolve my grievance PLTP Sarulla will have to contact these third parties so as to check into the facts stated in the grievance and work out a solution. I hereby agree that PLTP Sarulla can disclose this grievance (as well as additional information related to this grievance) to third parties.	
Signature	
Received by : Signature : Date :	

SOL's Grievance Mechanism is illustrated in Figure IV-11.

Figure IV-11 Quick Reference Guide to Grievance Mechanism



4.6 STATUS OF LAND ACQUISITION AND COMPENSATION PAYMENTS

4.6.1 Status of Payments

At the time of the audit a total of 47 landowners had been compensated. The total compensation paid to date is IDR 5,700,563,100 for 28,872m² of land (Tables IV-10 to IV-13).

There are a total 35 land owners (5 females) who have had their land acquired by SOL for the Brine Injection Line from SIL 1 to SIL 2, and 12 land owners (2 females) who their land acquired by SOL for the Brine Injection Line from SIL 2 to the Batang Toru River. A total of 34 land owners were paid by SOL on 28 February 2012, 1 land owner was paid on 3 April 2012 due to living outside of the village and 12 land owners were paid on 3 October 2012. The total compensation paid to date is IDR 5,700,563,100 (Table IV-10).

At the time of the audit (June/July 2013) there were 21 landowners for the SIL Area that had not been compensated (out of a total of 68 land owners).

As of October 2013 148 NIL land owners have been compensated for their land and plants (on 16-19th September 2013). SOL acquired land for Main Access Road (Road 1 & 1A), Well Pad NIL 2N and Access Road, Disposal 1 & 2 and Access Road, Borrow Area, WJR 1N and Access Road, Power Plant and Access Road.

Table IV-10 All Landowners and Compensation Received Commencing in 2012 (as of October 2013)

No	Name *		Domicile	Land area acquired (m ²)	Total Compensation for Land	Total Compensation for Crops/ Trees acquired	Total Compensation (IDR)	Date Paid
	Male	Female						
1			Sigurung-gurung	658	42,770,000	67,315,500	110,085,600.00	28 Feb 2012
2			Sigurung-gurung	1,156			167,037,000.00	3 April 2012
3			Sigurung-gurung	196	12,740,000	31,917,400	44,657,400.00	28 Feb 2012
4			Sigurung-gurung	365	23,725,000	23,205,600	46,930,600.00	28 Feb 2012
5			Sigurung-gurung	495	32,175,000	12,250,000	44,425,000.00	28 Feb 2012
6			Sigurung-gurung	173	11,245,000	20,760,000	674,105,000.00	28 Feb 2012
				1,877	122,005,000	552,100,000	706,110,000.00	
7			Sigurung-gurung	296	19,240,000	44,426,000	63,666,000.00	28 Feb 2012
8			Sigurung-gurung	609	39,585,000	21,574,400	61,159,400.00	28 Feb 2012
9			Sigurung-gurung	474	30,810,000	55,747,400	86,557,400.00	28 Feb 2012
10			Sigurung-gurung	90	5,850,000	4,518,400	10,368,400.00	28 Feb 2012
11			Sigurung-gurung	407	26,455,000	43,457,500	69,912,500.00	28 Feb 2012
				72	4,680,000	17,199,900	21,879,900.00	
12			Sigurung-gurung	81	5,265,000	2,984,400	8,249,400.00	28 Feb 2012
13			Sigurung-gurung	270	17,550,000	25,715,200	43,265,200.00	28 Feb 2012
14			Sigurung-gurung	1,286	82,420,000	166,326,700	248,746,700.00	28 Feb 2012
15			Sigurung-gurung	103	6,695,000	12,120,000	18,815,000.00	28 Feb 2012
16			Sigurung-gurung	30			5,550,000.00	28 Feb 2012
				25	10,140,000	19,200,000	4,625,000.00	
				156	10,140,000	19,200,000	29,340,000.00	
				734	47,710,000	158,749,300	206,459,300.00	
17			Sigurung-gurung	196	17,940,000	36,067,000	54,007,000.00	28 Feb 2012
				276	12,740,000	29,435,000	42,175,000.00	
18			Sigurung-gurung	1,138	73,970,000	151,622,100	225,592,100.00	28 Feb 2012

No	Name *		Domicile	Land area acquired (m ²)	Total Compensation for Land	Total Compensation for Crops/ Trees acquired	Total Compensation (IDR)	Date Paid
	Male	Female						
19			Sigurung-gurung	76	4,940,000	18,974,000	23,914,000.00	28 Feb 2012
			Sigurung-gurung	248	16,120,000	30,940,000	47,060,000.00	
			Sigurung-gurung	693	45,045,000	134,250,700	179,295,700.00	
20			Sigurung-gurung	357	23,205,000	58,970,900	82,175,900.00	28 Feb 2012
21			Sigurung-gurung	426	27,690,000	62,227,500	89,917,500.00	28 Feb 2012
22			Sigurung-gurung	132	8,580,000	15,905,000	24,485,000.00	28 Feb 2012
				66	4,290,000	7,200,000	11,490,000.00	
23			Sigurung-gurung	97	6,305,000	11,640,000	17,945,000.00	28 Feb 2012
24			Sigurung-gurung	128	8,320,000	15,600,000	23,920,000.00	28 Feb 2012
25			Sigurung-gurung	38	2,470,000	4,800,000	7,270,000.00	28 Feb 2012
26			Silangkitang	348	22,620,000	14,130,000	36,750,600.00	28 Feb 2012
27			Silangkitang	613	39,845,000	37,422,000	77,267,000.00	28 Feb 2012
28			Silangkitang	382	24,830,000	21,348,400	46,178,400.00	28 Feb 2012
29			Silangkitang	105	6,825,000	13,201,800	20,026,800.00	28 Feb 2012
30			Silangkitang	258	16,770,000	6,188,800	22,958,800.00	28 Feb 2012
31			Silangkitang	299	19,435,000	35,428,000	54,863,000.00	28 Feb 2012
32			Silangkitang	417	27,105,000	24,647,500	51,752,500.00	28 Feb 2012
33			Silangkitang	139	9,035,000	24,647,500	33,682,500.00	28 Feb 2012
				132	8,580,000	25,538,900	34,118,900.00	
				845	54,925,000	24,647,500	79,572,500.00	
34			Silangkitang	1,001	65,065,000	147,592,700	212,657,700.00	28 Feb 2012
35			Silangkitang	535	34,775,000	-	34,775,000.00	28 Feb 2012
Total				18,498			4,205,795,700	
SIL 2 to Batang Toru River								
1			Sigurung-gurung	1,563	101,595,000	155,660,000	257,255,000.00	3 Oct 2012
2			Sigurung-gurung	1,024	66,560,000	160,630,200	227,190,200.00	3 Oct 2012
3			Sigurung-gurung	1,534	99,710,000	44,295,000	144,005,000.00	3 Oct 2012

No	Name *		Domicile	Land area acquired (m ²)	Total Compensation for Land	Total Compensation for Crops/ Trees acquired	Total Compensation (IDR)	Date Paid
	Male	Female						
4			Sigurung-gurung	81	5,265,000	9,000,000	14,265,000.00	3 Oct 2012
				24	1,560,000	2,415,000	3,975,000.00	
5			Sigurung-gurung	1,530	99,450,000	18,000,000	117,450,000.00	3 Oct 2012
6			Sigurung-gurung	586	38,090,000	74,640,000	112,730,000.00	3 Oct 2012
7			Sigurung-gurung	1,424	92,560,000	100,131,200	192,691,200.00	3 Oct 2012
8			Sigurung-gurung	334	21,710,000	40,500,000	62,210,000.00	3 Oct 2012
9			Sigurung-gurung	215	8,320,000	15,600,000	40,975,000.00	3 Oct 2012
10			Sigurung-gurung	1,331	86,515,000	60,000,000	146,515,000.00	3 Oct 2012
11			Sigurung-gurung	647	2,470,000	4,800,000	122,236,000.00	3 Oct 2012
12			Sigurung-gurung	81			53,270,000.00	3 Oct 2012
Total				10,374			1,494,767,400.00	
Grand Total				28,872			5,700,563,100.00	

*This information has been removed as it falls within the exceptions to disclosure specified in paragraph 97 (x) of ADB's Public Communications Policy (2011).

Source: SOL Primary Data, 2013

Table IV-11 Total Number of Project Affected Households

<i>No</i>	<i>Area Name</i>	<i>Date/Month Compensation Paid</i>	<i>Total Land Owners</i>	<i>Current Status</i>
1	Brine Injection Line (SIL 1 to SIL 2)	February 2012	35	Completed
2	Brine Injection Line (SIL 2 to Batang Toru River)	3 October 2012	12	Completed
3	SIL 1 Expansion (Power Plant, Borrow and Disposal Area)	30 July 2013	21	20 are completed 1 is still on-going.
4	Remaining NIL Area (Road 1 and 1A Expansion, NIL 2N and Road 3B, Disposal 1-2 and Road 3A Expansion, WJR1, Road 6 and 6B Expansion, Road 2 and Road 3 Expansion)	16 September 2013	148	On-going. Payment of compensation for land and plants completed on 16 September 2013

SOL Project Data 2013

Table IV-12 shows 68 land owners come from the Pahae Jae Sub District, and 148 land owners come from Pahae Julu Sub District. Of the 216 land owners, the survey identified 326 land parcels.

Of the 216 land owners the survey gathered data from 151 landowners; 65 land owners could not be interviewed. This was either because they refused to participate in the survey or because they were not able to be contacted due to residing outside the village (Table IV-13). There are 17 landowners who did not want to be interviewed, 24 residing outside the village and 24 land owners who were unavailable due to other commitments such as working, going to the market or harvesting/ rice paddy field/plantation.

Table IV-12 Project Affected Households (as of October 2013)

<i>Sub-District</i>	<i>Number of Land Owner based on Status of Payment</i>		<i>Total</i>
	<i>Fully Paid</i>	<i>Has not been paid</i>	
Pahae Jae	47	21	68
Pahae Julu	0	148	148
Total	47	169	216*

Source: SOL and ERM Primary Data, June 2013

*This includes landowners in forestry areas

Table IV-13 Project Affected Households Surveyed

<i>Sub-District</i>	<i>Total Land Owner based on Land Persil</i>	<i>Total Land Owners based on PAH</i>	<i>PAH were interviewed</i>	<i>PAH were not interviewed</i>
Pahae Jae	83	68	61	6
Pahae Julu	243	148	90	59
Total	326	216	151	65

Source: ERM Primary Data, June 2013

4.6.1.1 *Establishing the Cut-off Date for Entitlements*

The land owners were informed by SOL of the legal cut-off date during step 3 when the land owners confirm the land size and number of plants were evaluated. Based on information from LAQ Team, Table IV-14 presents the cut –off dates for each of the Project components.

For the landowners compensated on 28 February 2012 and 3 October 2012, the landowners we notified to move from their land which was acquired by SOL on 23 May 2013. In the announcement letter (Annex C), the land owners were asked to take the following actions by the latest 1 June 2013:

- Not allow cultivation or other activities in the rice paddy fields or in the yards that had already been compensated and acquired by SOL; and
- To harvest or take any wood or crops from the land acquired by the Project in the proposed time.

Table IV-14 Cut-off date for each Project Component Area

No	Area Name	Date Compensation Paid	Cut-off Date
1	Main Access Road (Road 1 & 1A)	16-19 September 2013	1-7 May 2013
2	Well Pad NIL 2N and Access Road	16-19 September 2013	1-7 May 2013
3	Disposal 1 & 2 and Access Road	16-19 September 2013	1-7 May 2013
4	Borrow Area	16-19 September 2013	1-7 May 2013
5	WJR 1N and Access Road	16-19 September 2013	1-7 May 2013
6	Brine Injection Line (SIL 2 to SIL 2)	28 February 2012	28 February 2012
7	SIL 2 to Batang Toru River	3 October 2012	15 August 2012
8	Disposal for Power Plant	30 July 2013	29 April – 6 May 2013
9	Borrow Area	30 July 2013	29 April – 6 May 2013
10	Well Pad SIL 1	30 July 2013	29 April – 6 May 2013
11	Power Plant	30 July 2013	29 April – 6 May 2013

SSOL Data, 2013

4.7 SOCIO-ECONOMIC SURVEY OF ALL LANDOWNERS COVERED BY SOL

4.7.1 Demographic Profile

Based on information provided by SOL, there are a total of 216 land owners or people affected by the Project.

4.7.1.1 Age Distribution

Five age categories have been used (under 14 years, 15-24 years, 25-54 years, 55-64 years, and over 65 years), set by the Central Statistics Bureau (BPS) standards. Productive working age is defined as 15-64 years, while ages below 14 and over 65 years are classified as unproductive working age groups.

The PAHs are 15 to 24 years, only 1 person in Sigurung-gurung village and 1 in Simataniari village (Table IV-15) There is a high percentage of age distribution amongst the PAHs in Simataniari with 14% (21 people) between 25-54 years. There is also a high percentage of young people in Simataniari Village compare with the other Project villages. The lowest percentage of this age bracket was in Sarulla (only 1 person or 0.67 %). Besides that, there are no PAHs below 14 years, and only a small number above 65 years. This demonstrates the majority of PAHs are at a productive age (25-54 years), and should be considered by SOL for livelihood assistance to improve their livelihood opportunities, skills and capabilities post the land acquisition process.

Table IV-15 Age Distribution of Project Affected People (PAPs)

Affected Villages	Age (Years)										PAH	
	≤ 14		15 - 24		25 - 54		55 - 64		≥ 65		n	%
	n	%	n	%	n	%	n	%	N	%		
Pahae Jae												
Sarulla	0	0.00	0	0.00	1	0.67	0	0.00	0	0.00	1	0.67
Silangkitang	0	0.00	0	0.00	8	5.33	5	3.33	5	3.33	18	12.00
Sigurung-gurung	0	0.00	1	0.67	12	8.00	9	6.00	5	3.33	27	18.00
Total	0	0.00	1	0.67	21	14.00	14	9.33	10	6.66	46	30.67
Pahae Julu												
Sibaganding	0	0.00	0	0.00	12	8.00	6	4.00	2	1.33	20	13.33
Lumban Jaean	0	0.00	0	0.00	16	10.67	7	4.67	6	4.00	29	19.33
Simataniari	0	0.00	1	0.67	21	14.00	12	8.00	5	3.33	39	26.00
Onan Hasang	0	0.00	0	0.00	4	2.67	2	1.33	2	1.33	9	6.00
Janji Natogu	0	0.00	0	0.00	3	2.00	5	3.33	0	0.00	8	5.33
Total	0	0.00	1	0.67	56	37.34	32	21.33	15	9.99	105	69.99

Source: ERM Primary Data, June 2013

4.7.1.2 Gender Distribution

Table IV-16 shows the number of PAHs; the majority are male and come from Simataniari village (21.33 % or 32 HHs). There are 7.33% or 18 PAHs or 11 PAH that are headed by females in Lumban Jaean. There is 1 land owner who

resides in Sarulla and 8 in Janji Natogu (the Project does not require land in either of these villages) and a total of 34 across the Project villages (22.67%).

Table IV-16 Gender of Project Affected Household Heads and People

<i>Affected Villages</i>	<i>Household Heads (HH)</i>				<i>Total HH</i>
	<i>Male</i>		<i>Female</i>		
	<i>n</i>	<i>% of Total</i>	<i>N</i>	<i>% of Total</i>	
Pahae Jae					
Sarulla	1	0.67	0	0.00	1
Silangkitang	10	6.67	8	5.33	18
Sigurung-gurung	23	15.33	4	2.67	27
Total	34		12		46
Pahae Julu					
Sibaganding	19	12.67	1	0.67	20
Lumban Jaean	18	12.00	11	7.33	29
Simataniari	32	21.33	7	4.67	39
Onan Hasang	6	3.33	3	2.00	9
Janji Natogu	8	5.33	0	0.00	8
Total	83		22		105

Source: ERM Primary Data, June 2013

4.7.1.3 Education

In Sigurung-gurung the PAHs are educated to a junior high school level (8.67%) (Table IV-17). In Simataniari the highest education level was elementary school (13.33%) whereas in Lumban Jaean 11.11% were educated to a university level; no PAHs in in Sarulla or Silangkitang are educated to this level.

Table IV-17 Education Level of Project Affected Households (PAHs)

Affected Villages	PAP (n)	Education Level											
		Not completed Elementary School		Elementary School		Junior High School		Senior High School		University		Did not attend school	
		n	%	n	%	n	%	n	%	n	%	n	%
Pahae Jae													
Sarulla	1	0	0.00	0	0.00	0	0.00	1	0.67	0.00	0.00	0	0.00
Silangkitang	18	1	0.67	4	2.67	4	2.67	8	5.33	0.00	0.00	1	0.67
Sigurung-gurung	27	0	0.00	2	1.33	13	8.67	9	6.00	2.00	1.33	1	0.67
Total	46	1	0.67	6	4.00	17	11.34	18	12	2	1.33	2	1.34
Pahae Julu													
Sibaganding	20	1	0.67	3	2.00	8	5.33	6	4.00	2	1.33	0	0.00
Lumban Jaean	29	0	0.00	10	6.67	7	4.67	10	6.67	1	0.67	1	0.67
Simataniari	39	2	1.33	20	13.33	11	7.33	5	3.33	0	0.00	1	0.67
Onan Hasang	8	0	0.00	1	0.67	3	2.00	3	2.00	1	0.67	0	0.00
Janji Natogu	8	0	0.00	0	0.00	2	1.33	5	3.33	1	0.67	0	0.00
Total	105	3	2.00	34	22.67	31	20.66	29	19.33	5	3.34	2	1.34

Source: ERM Primary Data, June 2013

4.7.1.4 Religion

Of the PAHs the majority are Christian (Protestant) (Table IV-18) with only a very small per cent of Muslims in Onan Hasang and Janji Natogu (1.33% and 0.67% respectively).

Table IV-18 Religion of Project Affected Household Heads

Affected Villages	PAP (n)	Religion Level									
		Muslim		Christian Protestant		Christian Catholic		Hindu		Buddhist	
		n	%	n	%	n	%	n	%	n	%
Pahae Jae											
Sarulla	1	0	0.00	1	0.67	0	0.00	0	0.00	0	0.00
Silangkitang	18	0	0.00	18	12.00	0	0.00	0	0.00	0	0.00
Sigurung-gurung	27	0	0.00	27	18.00	0	0.00	0	0.00	0	0.00
Total	46	0	0.00	46	30.67	0	0.00	0	0.00	0	0.00
Pahae Julu											
Sibaganding	20	0	0.00	20	13.33	0	0.00	0	0.00	0	0.00
Lumban Jaean	29	0	0.00	29	19.33	0	0.00	0	0.00	0	0.00
Simataniari	39	0	0.00	39	26.00	0	0.00	0	0.00	0	0.00
Onan Hasang	8	2	1.33	6	4.00	0	0.00	0	0.00	0	0.00
Janji Natogu	8	1	0.67	7	4.67	0	0.00	0	0.00	0	0.00
Total	105	3	2.00	101	67.33	0	0.00	0	0.00	0	0.00

Source: ERM Primary Data, June 2013

4.7.1.5 Household Characteristics

Amongst the PAHs in Sigurung-gurung and Lumban Jaean villages the most common number of people per household is 3. Whereas in Sibaganding and Simantaniari 4 persons per household is more common (Table IV-19). Silangkitang and Onan Hasang PAHs have the least number of family members per house.

Table IV-19 Number of Family Members per Household

Affected Villages	Project Affected Households (n)	Family Members in One Household													
		2		3		4		5		6		7		8	
		N	%	n	%	n	%	n	%	n	%	n	%	n	%
Pahae Jae															
Sarulla	1	0	0.00	0	0.00	0	0.00	1	0.67	0	0.00	0	0.00	0	0.00
Silangkitang	17	5	3.33	4	2.67	4	2.67	1	0.67	1	0.67	2	1.33	1	0.67
Sigurung-gurung	27	1	0.67	7	4.67	6	4.00	6	4.00	5	3.33	1	0.67	1	0.67
Total	45	6	4.00	11	7.34	10	6.67	8	5.34	6	4.00	3	2.00	2	1.34
Pahae Julu															
Sibaganding	20	3	2.00	1	0.67	6	4.00	3	2.00	5	3.33	1	0.67	1	0.67
Lumban Jaean	29	8	5.33	10	6.67	7	4.67	2	1.33	1	0.67	0	0.00	1	0.67
Simataniari	39	9	6.00	5	3.33	9	6.00	3	2.00	5	3.33	3	2.00	5	3.33
Onan Hasang	8	4	2.67	3	2.00	0	0.00	1	0.67	0	0.00	0	0.00	0	0.00
Janji Natogu	1	1	0.67	1	0.67	1	0.67	2	1.33	1	0.67	2	1.33	0	0.00
Total	106	25	16.67	20	13.34	23	15.34	11	7.33	12	8.00	6	4.00	7	4.67

Source: ERM Primary Data, June 2013

4.7.1.6 Duration of Residence in the Project Affected Villages

Most of residents have been living in their village since birth (105 households); with many residing in their villages for more than 10 years (34 household) (Table IV-20). Only 4 households have lived in their villages for less than 5 years meaning the level of migration (in and out) is very low in the Project Affected Villages.

Table IV-20 Duration of Residence in Project Affected Villages

Affected Villages	Project Affected Households (n)	Duration of Residence													
		1 – 5 years						> 5 years						Since Birth	
		Family		Livelihood		Other		Family		Livelihood		Other			
		N	%	n	%	n	%	n	%	n	%	n	%	n	%
Pahae Julu															
Sarulla	1	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.67
Silangkitang	18	0	0.00	0	0.00	0	0.00	8	5.33	0	0.00	0	0.00	10	6.67
Sigurung-gurung	27	1	0.67	0	0.00	0	0.00	12	8.00	0	0.00	0	0.00	14	9.33
Total	46	1	0.67	0	0.00	0	0.00	20	13.33	0	0.00	0	0.00	25	16.67
Pahae Julu															
Sibaganding	20	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	20	13.33
Lumban Jaean	29	2	1.33	0	0.00	0	0.00	6	4.00	0	0.00	0	0.00	21	14.00
Simataniari	39	0	0.00	0	0.00	0	0.00	7	4.67	0	0.00	0	0.00	32	21.33
Onan Hasang	8	0	0.00	0	0.00	0	0.00	7	4.67	0	0.00	0	0.00	1	0.67
Janji Natogu	8	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	8	5.33
Total	105	2	1.33	0	0.00	0	0.00	20	13.34	0	0.00	0	0.00	82	54.66

Source: ERM Primary Data, June 2013

4.7.2 Environmental Health Profile

4.7.2.1 Source of Clean Water

The majority households use natural water sources as a clean water source (107), especially in Lumban Jaean village where all the households use natural water sources. In Simataniari only 1 household uses the river water. In addition to natural water sources many households utilise self-owned wells (21) especially in Sibaganding; this may indicate households in this village are more affluent than other villagers using natural water sources (Table IV-21).

Table IV-21 Clean Water Sources of Project Affected Households

Affected Villages	Project Affected Households (n)	Source of Clean Water (%)			
		Self-Owned Well	Public Well	Mountain	River
Pahae Jae					
Silangkitang	18	0.67	0.00	6.67	4.67
Sigurung-gurung	28	1.33	0.00	10.00	7.33
Total	46	2.00	0.00	16.67	13.00
Pahae Julu					
Sibaganding	21	11.33	0.00	0.67	2.00
Lumban Jaean	29	0.00	0.00	0.00	19.33
Simataniari	41	0.00	0.00	0.67	26.67
Onan Hasang	12	0.67	0.67	0.00	6.67
Total	105	12.00	0.67	1.34	54.67

Source: ERM Primary Data, June 2013

4.7.2.2 Sanitation Facilities

The majority of the PAH households generally use pit latrines or public toilets although some are still utilising the river to dispose of human waste. Thirty five PAHs use goose neck pit latrines in the 5 Project villages. However in Onan Hasang and Silangkitang villages the PAHs use pit latrines and the river.

Table IV-22 Sanitation Facility for Personal Disposal of Project Affected Households

Affected Villages	Project Affected Households (n)	Personal Disposal (%)			
		Self-Owned Pit Latrine	Public Toilet	River	Other
Pahae Jae					
Silangkitang	18	6.67	0.00	4.67	0.67
Sigurung-gurung	28	8.00	2.00	8.67	0.00
Total	46	14.67	2.00	13.34	0.67
Pahae Julu					
Sibaganding	21	4.00	2.67	1.33	6.00
Lumban Jaean	29	2.00	17.33	0.00	0.00
Simataniari	41	7.33	13.33	0.67	6.00
Onan Hasang	13	7.33	0.00	1.33	0.00
Total	105	20.66	33.33	36.66	12.00

Source: ERM Primary Data, June 2013

4.7.2.3 Sanitation Facility for Garbage Disposal

The majority of PAHs burn their garbage; in particular in Simataniari village (24%) (Table IV-23). Garbage collection only occurs in Silangkitang, Simataniari and Onan Hasang villages with a small percentage of households participating. The villages of Sigurung-gurung and Lumban Jaean still use the river to dispose some of their garbage. During consultations with the PAHs indicated they have limited awareness of environmental and sanitation hygiene.

Table IV-23 Sanitation Facility for Garbage Disposal of Project Affected Households

Affected Villages	Project Affected Households (n)	Garbage Disposal (%)			
		Collective Disposal	Burnt	River	Other
Pahae Jae					
Silangkitang	18	0.67	10.67	0.00	0.67
Sigurung-gurung	28	0.00	14.67	2.00	2.00
Total	46	0.67	25.34	2.00	2.67
Pahae Julu					
Sibaganding	21	0.00	14.00	0.00	0.00
Lumban Jaean	29	0.00	16.67	2.67	0.00
Simataniari	41	0.67	24.00	0.00	2.67
Onan Hasang	13	1.33	4.00	0.00	3.33
Total	105	2.00	58.67	2.67	6.00

Source: ERM Primary Data, June 2013

4.7.2.4 Accessibility of Affected Households

Table IV-24 indicates that none of the PAHs have lost access to water sources, agricultural land, fishing areas or community services etc. The affected land area is approximately 1km from the villagers housing and majority of project affected households are living near by the public road access so it makes them easier to reach the public facilities.

Figure IV-12 Public Market in Onan Hasang Village



Vulnerability of the Area

In Pahae Jae the villages were most exposed to tornadoes and gales whereas in Pahae Julu the villages were most vulnerable to tsunamis (Table IV-24).

Table IV-24 Vulnerability of the Area

Affected Village	Households Surveyed (n)	Household Surveyed Experienced with Vulnerability of Area					
		Flooding	Drought	Avalanche	Tornado / Gale	Disease Outbreaks	Tsunami
		n	n	n	n	n	n
Pahae Jae							
Sarulla	1	0	0	0	1	0	0
Silangkitang	18	0	0	0	18	0	0
Sigurung-gurung	27	0	0	1	26	0	0
Total	46	0	0	1	45	0	0
Pahae Julu							
Sibaganding	20	0	0	0	0	0	20
Lumban Jaean	29	0	0	0	0	0	29
Simataniari	39	0	0	0	3	0	36
Onan Hasang	8	0	0	0	0	0	8
Janji Natogu	8	0	0	0	0	0	8
Total	105	0	0	0	3	0	101

Source: ERM Primary Data, June 2013

4.7.3 Economic Profile

4.7.3.1 Livelihoods of the Project Affected Households

The majority of the PAHs are farmers (Table IV-25), followed by government officials and other. There are a few PAHs employed by the private sector, acting as entrepreneurs or employed by the army or police.

As the majority are farmers they have a high reliance on their land for income and subsistence. Should their land be lost or reduced their income may also be affected.

Table IV-25 Livelihoods of Project Affected Households

Affected Villages	Project Affected Households (n)	Livelihood of Project Affected Households					
		Farmer	Government Official	Private Employee	Entrepreneur	Army/Police	Others
Pahae Jae							
Silangkitang	18	17	0	0	1	0	0
Sigurung-gurung	28	26	1	0	0	0	1
Total	46	43	1	0	1	0	1
Pahae Julu							
Sibaganding	21	18	2	0	1	0	0
Lumban Jaean	29	20	1	1	0	1	6
Simataniari	41	39	0	0	1	0	1
Onan Hasang	13	9	3	0	0	1	0
Total	105	86	6	1	2	2	7

Source: ERM Primary Data, June 2013

4.7.3.2 Skills Mapping of Project Affected Households

The social survey undertook a skill mapping exercise in the villages (Table IV-26). The findings indicate there are three type of skills; catering/cooking, automotive workshops and cleaning services.

Table IV-26 Skills mapping of Project Affected Households

Affected Villages	Project Affected Households (n)	Skills Mapping of Land Owner and Family Member									
		None		Catering		Workshop		Cleaning Service		Others	
		n	%	n	%	n	%	n	%	n	%
Pahae Jae											
Sarulla	1	1	0.67	0	0.00	0	0.00	0	0.00	0	0.00
Silangkitang	18	13	8.67	0	0.00	1	0.67	4	2.67	0	0.00
Sigurung-gurung	26	18	12.00	1	0.67	3	2.00	4	2.67	0	0.00
Total	45	32	21.34	1	0.67	4	2.67	8	5.34	0	0.00
Pahae Julu											
Sibaganding	20	7	4.67	5	3.33	0	0.00	8	5.33	0	0.00
Lumban Jaean	29	17	11.33	4	2.67	1	0.67	6	4.00	1	0.67
Simataniari	39	21	14.00	7	4.67	2	1.33	8	5.33	1	0.67
Onan Hasang	9	4	2.67	2	1.33	1	0.67	2	1.33	0	0.00
Janji Natogu	8	6	4.00	0	0.00	0	0.00	1	0.67	1	0.67
Total	106	55	36.67	18	12.00	4	2.67	25	16.66	3	2.01

Source: ERM Primary Data, June 2013

4.7.3.3 *Income of Project Affected Households*

The average income of the 151 surveyed PAHs is between IDR 359,064.81 and IDR 2,028,609.00 (Table IV-27). The highest income is amongst those employed by the private sector in Lumban Jaean Village (IDR 6,053,833.33).

Table IV-27 Monthly Average Income of Project Affected Households by Occupation

Affected Villages	PAHs (n)	Monthly Average Income (IDR)	Monthly Average Income by Occupation (IDR)					
			Farmer	Government Official	Private Employee	Entrepreneur	Army/Police	Others
Pahae Jae								
Silangkitang	17	358,064	583,173	0	0	490,000	0	0
Sigurung-gurung	28	524,642	435,208	399,166	0	0	0	490,000
Pahae Julu								
Sibaganding	20	939,646	669,781	2,587,666	0	490,000		
Lumban Jaean	27	758,209	596,614	2,000,000	6,053,833	0	1,600,000	320,277
Simataniari	40	556,183	676,423	0	0	530,833	0	745,000
Onan Hasang	12	2,028,609	916,406	3,247,500	0	0	4,600,000	0

Source: ERM Primary Data, June 2013

The BPS's (statistic centre agency) poverty line is identified from household monthly expenses per person. The assumption being, that anyone who earns less than this per month will not be able to purchase basic goods and therefore is classified as poor. In 2012 the Sumatera Utara Province poverty line was IDR 262,102. For areas categorized as city in Sumatera Utara the poverty line was IDR 286,649 and for areas categorized as villages the poverty line was IDR 238,368.

Based on an average household of 4 people the household poverty line in the project area is estimated at 956,000IDR/month.

BPS data identified only 10.67% of the total province population were poor (i.e. monthly expenses below IDR 262,102 per person). Table IV-28 presents poverty levels per project affected village (based on the 151 households interviewed); 11 (4%) were considered under the poverty line in Pahae Jae and 26 (17%) in Pahae Julu. The highest percent of households surveyed under the poverty line was in Simataniari (9%). The table clearly shows that the majority of those surveyed live just above the poverty line (earning between 956,000IDR and 2,000,000IDR per month).

Table IV-28 Household Income and Poverty Levels

Village	Number of Households													
	Below Village Poverty Line (IDR 238,368 per capita)		956,000-2,000,000		2,000,001-4,000,000		4,000,001-6,000,000		6,000,001-8,000,000		>8,000,000		Total	
A. Pahae Jae	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Silangkitang	5	0.31	10	6.62	2	1.32	1	0.66	0	0	0	0	18	11.92
Sigurung-gurung	6	3.97	13	8.61	7	4.64	0	0.00	1	0.66	1	0.66	28	18.54
Subtotal	11	4.30	23	15.23	9	5.96	1.00	0.66	1	0.66	1	0.66	46	30.46
B. Pahae Julu Sub District														
Sibaganding	2	1.32	8	5.30	7	4.64	0	0	0	0	4	2.65	21	13.91
Lumban Jaean	9	5.96	9	5.96	5	3.31	3	2.0	2	1.32	1	0.66	29	19.21
Simataniari	13	8.61	14	9.27	9	5.96	3	2.0	0	0	2	1.32	41	27.15
Onan Hasang	2	1.32	3	1.99	3	1.99	2	1.3	0	0	4	2.65	14	9.27
Subtotal	26	17.22	34	22.52	24	15.89	8	5.30	2	1.32	11	7.28	105	69.54
Grand Total	37	24.50	57	37.75	33	21.85	9	6.0	3	1.99	12	7.95	151	100

4.7.3.4 Housing Conditions of Project Affected Households

Only three villages have PAHs residing in brick-wall houses; Sigurung-gurung (2%), Lumban Jaean (2%) and Onan Hasang (4%). The remaining PAHs reside in hard or soft walled houses or an alternative. Despite the average income being higher in Sibaganding no houses are constructed of brick walls. Based information from the village head, houses made from hardwood are considered traditional Batak houses. In addition as the area is prone to earthquakes wood is considered a more reliable material for houses.

Table IV-29 Housing Condition of Project Affected Households

Affected Villages	Average Income of PAPs	Housing Physical Type of Wall (%)			
		Brick-wall	Hardwood-Wall	Soft board- Wall	Other
Pahae Jae					
Silangkitang	358,064.81	0.00	3.33	0.00	8.67
Sigurung-gurung	524,642.86	2.00	0.67	0.00	16.00
Total	4,104,707.67	2.00	4.00	0.00	24.67
Pahae Julu					
Sibaganding	939,646.83	0.00	4.00	0.67	9.33
Lumban Jaean	758,209.77	2.00	14.00	0.00	3.33
Simataniari	556,183.94	0.00	20.00	0.00	7.33
Onan Hasang	2,028,609.00	4.00	0.00	0.00	4.67
Total	22,540,049.54	6.00	38.00	0.67	24.66

Source: ERM Primary Data, June 2013

4.7.4 Ethnic Profile

4.7.4.1 Ethnic Distribution

The social survey identified two ethnic groups in the Project villages; Batak and Javanese. However only Lumban Jaean and Simataniari villages have PAH villagers of a Javanese ethnicity (Table IV-30).

Table IV-30 Ethnic Distribution of Project Affected Households

Village	Ethnicity	Parent's Origin			
		Father		Mother	
		n	%	n	%
Pahae Jae					
Silangkitang	Batak	16	10.67	2	1.33
Sigurung-gurung	Batak	25	16.67	2	1.33
Sarulla	Batak	1	0.67	0	0.00
Sibaganding	Batak	19	12.67	1	0.67
Pahae Julu					
Lumban Jaean	Batak	24	16.00	4	2.67
	Javanese	1	0.67	0	0.00
Simataniari	Batak	31	20.67	6	4.00
	Javanese	1	0.67	0	0.00
Onan Hasang	Batak	6	4.00	3	2.00
Janji Natogu	Batak	8	5.33	0	0.00
Total Project Affected Household Heads		150			

Source: ERM Primary Data, June 2013

4.7.4.2 *Clan Structure and Customary System of each affected Village*

4.7.4.2.1 *Pahae Julu Sub District*

Clan or marga in the villages located in the Pahae Julu District identity as the Batak Toba tribe, which considers that all Toba clans have family trees related to family ties. The term is known as “tarombo”, which is based on a group of large clans that became Raja Huta (the first come to village) in each village. Historically the three villages of Sibaganding, Lumban Jaean, Simataniari allegedly used to be states led by one state head who led three villages. Because of this, it has become common for citizens from these three villages to be considered as one unity. The dominant clan in Pahae Julu Sub District stated in Table IV-31.

Table IV-31 Dominant Clan in Pahae Julu Sub District

No.	Name of Village	Clan or Marga (Pamungka Huta/Sisuan Bulu)
1	Simataniari	Sitompul
2	Sibaganding	Sitompul
3	Lumban Jaean	Sitompul
4	Onan Hasang	Siregar

Source: SOL Data, 2013

4.7.4.2.2 *Sibaganding Village*

The majority of the Batak Toba tribe reside in Sibaganding Village, which is made up of 3 hamlets (Hamlet I, II, III each led by a hamlet head). There are 5 core clans; Sitompul (Raja Huta), Tobing, Pasaribu, Hutabarat, Sihombing with a number of smaller clans (Simamora and Gultom). Several other clans in the village (Jawa and Nias) are as a result of people migrating from other regions based on marital ties.

4.7.4.2.3 *Lumban Jaean Village*

As the village is close to Sibaganding the tribal identity of this village is similar; the majority being from the Batak Toba tribe. Although there are several tribes that reside in this area, their existence and origin does not appear to be comparable with the Toba tribe. Lumban Jaean has 3 core clans; Sitompul (Raja Huta), Pasaribu, Hutabarat, and 5 immigrant clans (Siahaan, Situmeang, Sihombing, Siregar and Lumban Tobing).

4.7.4.2.4 *Onan Hasang Village*

The majority of Onan Hasang village come from the Batak Toba tribe composed of the Siregar (Raja Huta), Pasaribu, Sitompul, Sinaga, Tambunan and Silalahi clans. These six clans are tied in one kinship based on the “tarombo” clan line.

Similar to the previous village, acculturation in Onan Hasang Village is not visible. Self-involvement in cultural traditions is an obligation through their adaptation with the majority tribe.

4.7.4.2.5 *Simataniari Village*

The majority of the Batak Toba tribe reside in Simataniari composed of the Sitompul (Raja Huta), Pakpahan, Tambunan, Silitonga, Sarumpaet, Lumban Tobing, Bakkara and Simatupang clans. Social tensions between the clans is generally resolved through relationships within the brotherhood. This sense of brotherhood is strengthened through marital ties that is still considered sacred and associated with traditional nuances. Therefore the “tarombo” clan can be a catalyst in alleviating conflicts.

4.7.4.2.6 *Pahae Jae Sub District*

The unification of the Batak Toba tribe in the Pahae Jae Sub-district is already apparent from the name of the area “Pangaloan”, which means a socio-cultural attachment of the 4 villages (Pardomuan Nainggolan, Pardamean Nainggolan, Sigurung-gurung and Silangkitang). This attachment is more apparent in the genealogical inheritance system based on clans or villages that identify with the Batak Toba tribe. The tribe considers all Toba clans to be bound in this bond of brotherhood and are familiar with “tarombo”. The dominant clan in Pahae Jae Sub District stated in Table IV-32.

Table IV-32 Dominant Clan in Pahae Jae Sub District

No.	Name of Village	Clan or Marga (Pamungka Huta/Sisuan Bulu)
1	Silangkitang	Sihombing, Sibarani, Simorangkir and Hutabarat
2	Sigurung-gurung	Sitompul
3	Pardomuan Nainggolan	Nainggolan
4	Pardamaean Nainggolan	Simatupang and Pakpahan

Source: SOL Data, 2013

4.7.4.2.7 Sigurung-gurung

The majority of the citizens from the Batak Toba tribe live in 6 hamlets with social groupings based on clans that are the raja huta (village opener). There are 7 clans recorded as residents of this village (Sitompul (Raja Huta), Panjaitan, Panggabean, Parapat, Sihombing, Tambunan and Simanungkalit). Raja Obaja or commonly called by the term Raja Huta in Sigurung-gurung plays a large role in determining social dynamics in this village. Thus, social relations of the clans depends on the opinions formulated by the Sitompul clan - descendants of the village.

4.7.4.2.8 Silangkitang

The socio-cultural ties of the citizens can be seen from the equal identity of the Batak Toba Tribe, of which the relatives are not only from blood and marital ties, but also based on clan genealogies. There are 3 large clans in the village; Sihombing Nababan (Raja Huta), Simorangkir, and Hutabarat. In addition there are smaller migrant clans including Silaban, Lumban Toruan and Hutasoit. Some of these clans have close social relations with the clan "tarombo" kinship system that is customarily themed. Similarities are obvious when the two villages hold traditional parties involving citizens from both villages as advisors (matua-tua) in the traditional party. Table IV-33 presents the dominant clan (*marga*) in villages surrounding the Project area.

Table IV-33 Dominant Clan/Family (Marga)

Affected Villages	Dominant clan/marga
Pahae Jae	
Silangkitang	Sihombing, Sibarani, Simorangkir and Hutabarat
Sigurung-gurung	Sitompul
Pardamaean Nainggolan	Simatupang and Pakpahan
Pardomuan Nainggolan	Nainggolan
Pahae Julu	
Sibaganding	Sitompul
Lumban Jaean	Sitompul
Simataniari	Sitompul
Onan Hasang	Siregar
Janji Natogu	Siregar

Source: SOL Data, 2013

4.7.5 *Cultural Practices*

The customs practiced in the villages surrounding the Project area are similar with other customs practiced in both sub-districts. Customary activities include practices in three life transition periods; marriage, death and ancestral bone excavation. Ceremonies are often held associated with harvesting, weddings, births etc.

4.7.5.1 *Cultural Heritage in the Affected Villages*

Based on the social survey results, there is no cultural heritage affected by the Project in villages surrounding the Project.

4.7.5.2 *Community Leader and Expectations*

The majority of the Pahae Jae Sub District view religious figures as community leaders; 30% of PAHs in Silangkitang and (30%) and 43% in Sigurung-gurung (Table IV-34).

The survey findings also suggest the PAHs believe their villages will develop positively in the next 5 years and hence have expectations that SOL will enables them to benefits from Project opportunities such as employment.

Table IV-34 Community Leaders and Expectations by Project Affected Households in Pahae Jae Sub District

<i>Aspects</i>	<i>Villages</i>		
	<i>Sarulla</i>	<i>Silangkitang</i>	<i>Sigurung-gurung</i>
Community leaders:			
- Religious figure	2%	30%	43%
- Traditional figure	0%	2%	0%
- Village heads	0%	7%	15%
- Education figure	0%	0%	0%
Change of the village in 5 years			
- Positive	0%	22%	26%
- Negative	2%	17%	33%
Expectation/hope toward Sarulla Geothermal Power Plant regarding :			
- Employment			
- To run and operate the Power Plant in the near future (as soon as possible)	2%	33%	48%
- Economy	0%	4%	7%
	0%	2%	4%

Source: ERM Primary Data, June 2013

In the Pahae Julu Sub District the majority of PAHs in Sibaganding, Lumban Jaean and Janji Natogu consider the village heads as their community leader. Only PAHs in Simataniari Village consider their religious figure as the community leader. As in Pahae Jae Sub-District the PAHs believe their villages will develop positively in the next 5 years and hence have expectations that SOL will enables them to benefits from Project opportunities such as employment and infrastructure development.

Table IV-35 Community Leader and Expectation by Project Affected Households in Pahae Julu Sub District

<i>Aspects</i>	<i>Villages</i>				
	<i>Sibaganding</i>	<i>Lumban Jaean</i>	<i>Simataniari</i>	<i>Onan Hasang</i>	<i>Janji Natogu</i>
<i>Community leaders:</i>					
- Religious figure	6%	7%	36%	7%	1%
- Traditional figure	3%	4%	1%	2%	2%
- Village heads	11%	15%	1%	0%	5%
- Education figure	0%	1%	0%	0%	0%
<i>Change of the village in 5 years</i>					
- Positive	19%	20%	34%	4%	8%
- Negative	0%	8%	4%	4%	0%
<i>Expectation/hope toward Sarulla Geothermal Power Plant regarding:</i>					
- Employment					
- To run and operate the Power Plant in the near future (as soon as possible)	10%	24%	14%	6%	8%
- Economy	2%	0%	0%	2%	0%
- Infrastructure					
	5%	4%	7%	0%	0%
	3%	0%	16%	0%	0%

Source: ERM Primary Data, June 2013

4.7.6 *Vulnerability Profile*

4.7.6.1 *Identification of Vulnerable Groups*

The social survey identified a number of vulnerability categories as per the ADB SPS 2009 and IFC Performance Standards: (i) female households; (ii) land owners who have an income below the regional minimum wage (<IDR 1,375,000.00) and (iii) elderly people (> 55 years old). The survey identified that the majority of land owners are of Batak ethnicity that are considered vulnerable by the ADB (due to their current poor living conditions). However given the land acquisition process was directly negotiated with individual households, based on a negotiated settlement process and no communal lands were acquired the land acquisition process undertaken to date is not considered to cause this group to become more vulnerable.

4.7.7 *Remaining Landholding in the Project area and Surroundings*

4.7.7.1 *Individual/Household Land*

Based on the survey of affected people covering 151 landowners, 133 PAH (39 PAHs in Pahae Jae and 94 PAH in Pahae Julu) are significantly affected or losing 10% **or more of their productive or income-generating assets. have been acquired.** From among those significantly affected, there are a total of 82 PAHs (20PAHs in Pahae Jae and 62 PAH in Pahae Julu) who lost more than

50% of their total landholding. Of these PAHs 15 owners had remaining land classified as unviable (i.e. equal to or less than 400 sq.m.) in Pahae Jae and 54 in Pahae Julu. Of those landowners (50-100%) with only remaining unviable land 3 were female in Pahae Jae and 7 in Pahae Julu (Tables IV-36 and IV-37). No households will require physical displacement of housing or commercial assets.

Table IV-36 Categories of Project Affected People in Pahae Jae Sub District

<i>Significance of Impact</i>	<i>Female</i>		<i>Male</i>		<i>Grand Total</i>	
	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>
Not Significant						
Loss of Less than 10% of land	1	2.17	6	13.04	7	15.22
Significant						
10-49% Land Loss	3	6.52	16	34.78	19	41.30
50-100% Land Loss	6	13.04	14	30.43	20	43.48
Grand Total	10	21.74	36	78.26	46	100.00
Remaining Land Unviable (equal or less than 400 sq.m.)	4		22		26	

Source: ERM Primary Data, June 2013

Table IV-37 Categories of Project Affected People in Pahae Julu Sub District

<i>Significance of Impact</i>	<i>Female</i>		<i>Male</i>		<i>Grand Total</i>	
	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>
Not Significant						
Loss of Less than 10% of land	3	27.3	8	72.7	11	10.5
Significant						
10-49% Land Loss	4	13.8	25	86.2	29	27.6
50-100% Land Loss	7	15.6	38	84.4	45	42.9
Remaining Land Unviable (equal of less than 400 sq.m.)	5	25	15	75.0	20	19.0
Grand Total	19	18.1	86	81.9	105	100.0

Source: ERM Primary Data, June 2013

Table IV-38 Remaining Landholding of Project Affected People in Pahae Jae Sub District

No	Name*		Total Landholding (m ²)	Land Acquired by Project		Remaining Landholding	
	Male	Female		(m ²)	%	(m ²)	%
1			21,138	1,138	5	20,000	95
2			1,345	945	70	400	30
3			881	81	9	800	91
4			491	91	19	400	81
5			782	382	49	400	51
6			2,841	2,441	86	400	14
7			673	273	41	400	59
8			699	299	43	400	57
9			879	479	54	400	46
10			1,633	833	51	800	49
11			734	334	46	400	54
12			757	357	47	400	53
13			2,843	343	12	2,500	88
14			6,024	1,024	17	5,000	83
15			826	426	52	400	48
16			596	196	33	400	67
17			4,391	1,391	32	3,000	68
18			635	365	57	270	43
19			670	270	40	400	60
20			10,609	609	6	10,000	94
21			544	544	100	0	0
22			618	118	19	500	81
23			481	81	17	400	83
24			10,685	685	6	10,000	94
25			1,272	872	69	400	31
26			2,317	2,317	100	0	0
27			5,258	258	5	5,000	95
28			3,525	2,525	72	1,000	28
29			8,160	7,760	95	400	5
30			33,564	33,164	99	400	1
31			782	382	49	400	51
32			22,978	21,678	94	1,300	6
33			1,401	1,001	71	400	29
34			5,763	2,873	50	2,890	50
35			1,516	1,116	74	400	26
36			22,786	2,786	12	20,000	88
37			15,613	5,613	36	10,000	64
38			5,441	2,941	54	2,500	46
39			1,391	991	71	400	29
40			817	417	51	400	49
41			33,039	3,039	9	30,000	91

No	Name*		Total Landholding (m ²)	Land Acquired by Project		Remaining Landholding	
	Male	Female		(m ²)	%	(m ²)	%
42			328	178	54	150	46
43			507	107	21	400	79
44			1,296	546	42	750	58
45			5,169	169	3	5,000	97
46			10,404	10,004	96	400	4

* This information has been removed as it falls within the exceptions to disclosure specified in paragraph 97 (x) of ADB's Public Communications Policy (2011).

Source: ERM Primary Data, June 2013

Table IV-39 Remaining Landholding of Project Affected People in Pahae Julu Sub District

No	Name*		Total Landholding (m ²)	Land Acquired by Project		Remaining Landholding	
	Male	Female		(m ²)	%	(m ²)	%
1			949	549	58	400	42
2			471	71	15	400	85
3			614	214	35	400	65
4			691	291	42	400	58
5			475	75	16	400	84
6			28,424	8,424	30	20,000	70
7			375	275	73	100	27
8			1,965	1,565	80	400	20
9			1,300	900	69	400	31
10			812	812	100	0	0
11			2,537	2,137	84	400	16
12			1,938	1,538	79	400	21
13			630	230	37	400	63
14			8,641	8,641	100	0	0
15			26,267	20,267	77	6,000	23
16			19,538	9,038	46	10,500	54
17			3,504	3,104	89	400	11
18			408	8	2	400	98
19			1,132	732	65	400	35
20			7,288	6,888	95	400	5
21			65,194	194	0	65,000	100

No	Name*		Total Landholding (m ²)	Land Acquired by Project		Remaining Landholding	
	Male	Female		(m ²)	%	(m ²)	%
22			7,906	7,506	95	400	5
23			3,319	2,919	88	400	12
24			104	101	97	3	3
25			13,452	3,452	26	10,000	74
26			1,277	577	45	700	55
27			1,030	30	3	1,000	97
28			9,513	2,513	26	7,000	74
29			2,185	1,985	91	200	9
30			10,120	120	1	10,000	99
31			2,439	2,039	84	400	16
32			11,190	5,190	46	6,000	54
33			1,179	279	24	900	76
34			68	63	93	5	7
35			10,400	10,000	96	400	4
36			2,943	2,543	86	400	14
37			494	94	19	400	81
38			13,796	3,796	28	10,000	72
39			493	93	19	400	81
40			1,491	1,091	73	400	27
41			3,308	2,908	88	400	12
42			73,542	73,042	99	500	1
43			898	398	44	500	56
44			2,334	1,334	57	1,000	43
45			4,306	3,906	91	400	9
46			1,566	1,166	74	400	26
47			17,093	16,693	98	400	2
48			5,922	5,522	93	400	7
49			1,657	1,257	76	400	24
50			10,482	482	5	10,000	95
51			10,515	5,515	52	5,000	48

No	Name*		Total Landholding (m ²)	Land Acquired by Project		Remaining Landholding	
	Male	Female		(m ²)	%	(m ²)	%
52			12,045	11,645	97	400	3
53			219	219	100	0	0
54			1,162	762	66	400	34
55			438	338	77	100	23
56			344	144	42	200	58
57			461	61	13	400	87
58			15,112	112	1	15,000	99
59			4,031	31	1	4,000	99
60			1,143	543	48	600	52
61			5,162	4,762	92	400	8
62			1,208	208	17	1,000	83
63			4,967	4,567	92	400	8
64			443	43	10	400	90
65			7,565	7,565	100	0	0
66			1,915	415	22	1,500	78
67			9,931	9,531	96	400	4
68			9,608	8,608	90	1,000	10
69			300	200	67	100	33
70			826	426	52	400	48
71			178	78	44	100	56
72			2,066	66	3	2,000	97
73			2,001	701	35	1,300	65
74			20,402	20,002	98	400	2
75			453	353	78	100	22
76			427	27	6	400	94
77			461	61	13	400	87
78			1,458	1,058	73	400	27
79			1,205	805	67	400	33
80			440	40	9	400	91
81			2,356	1,466	62	890	38

No	Name*		Total Landholding (m ²)	Land Acquired by Project		Remaining Landholding	
	Male	Female		(m ²)	%	(m ²)	%
82			309	109	35	200	65
83			497	97	20	400	80
84			739	339	46	400	54
85			372	272	73	100	27
86			1,259	259	21	1,000	79
87			1,222	822	67	400	33
88			463	263	57	200	43
89			2,812	812	29	2,000	71
90			1,633	133	8	1,500	92
91			1,450	1,050	72	400	28
92			4,308	308	7	4,000	93
93			1,577	1,177	75	400	25
94			12,253	12,153	99	100	1
95			470	270	57	200	43
96			12,066	11,666	97	400	3
97			2,439	2,039	84	400	16
98			6,252	5,732	92	520	8
99			447	47	11	400	89
100			4,400	4,000	91	400	9
101			22	12	55	10	45
102			1,300	900	69	400	31
103			3,912	3,412	87	500	13
104			800	400	50	400	50
105			1,363	1,363	100	0	0

* This information has been removed as it falls within the exceptions to disclosure specified in paragraph 97 (x) of ADB's Public Communications Policy (2011).

Source: ERM Primary Data, June 2013

Based on in-depth interviews with the village heads and clan/sub clan leaders, it was identified there are no communal lands owned by any of the villages, clans or sub clans. The land ownership is therefore purely based on individual families, the majority of whom have the right of land ownership from heritage.

4.8 INVOLUNTARY RESETTLEMENT AND INDIGENOUS PEOPLES IMPACTS

4.8.1 Extent of Economic and Physical Displacement

4.8.1.1 Structure Ownership

Information provided by SOL's LAQ Team indicates there are no permanent or temporary structures affected by the Project for payment on 28 February 2012, 3 April 2013 and 3 October 2012. This is supported by the social survey findings.

4.8.1.2 Land Asset Ownership

PAHs have lost between 8 m² and 50,000m² (Table IV-40) of land which includes rice paddy fields and rubber and cacao plantations etc.

Table IV-40 Summary of SOL Project Affected Lands

Affected Village	Number and Size of Project Affected Land			
	Agricultural			
	Land Owner Household (n)	Min (m ²)	Average (m ²)	Max (m ²)
Pahae Jae				
Sarulla	1	107.00	107	107.00
Silangkitang	18	97.00	4,175.33	33,164.00
Sigurug-gurung	27	38.00	822.41	10,004.00
Total	46	242.00	5,104.74	43275.00
Pahae Julu				
Sibaganding	20	12.00	1,739.95	8,641.00
Lumban Jaean	29	27.00	4,734.90	73,042.00
Simataniari	39	8.00	3,334.90	20,267.00
Onan Hasang	9	208.00	6,622.00	50,000.00
Janji Natogu	8	71.00	453.13	1,177.00
Total	105	326.00	16,884.88	810,127.00

Source: ERM Primary Data, June 2013

PAHs with remaining land are summarised in Table IV-41. The Project does not affect residential, business/commercial or pasture land.

Table IV-41 Summary of Lands Not Acquired by SOL

Affected Village	Number and Size of Project Affected Land			
	Agricultural			
	Land Owner Household (n)	Min (m ²)	Average (m ²)	Max (m ²)
Pahae Jae				
Sarulla	1	50,000.00	50,000.00	50,000.00
Silangkitang	18	0	31,269.11	30,000.40
Sigurug-gurung	27	0	9,778.52	55,000.00
Total	46	50,000.000	91,047.63	135,000.40
Pahae Julu				
Sibaganding	20	0	8,965.50	55,000.00
Lumban Jaean	29	0	25,858.28	50,000.00
Simataniari	39	3	17,374.56	55,000.00
Onan Hasang	9	0	19,555.56	55,000.00
Janji Natogu	8	5,000.00	33,750.00	55,000.00
Total	105	5,000.03	105,503.9	270,000.00

Source: ERM Primary Data, June 2013

4.8.2 *Project Impacts on Forest*

Law No. 19 of 2004 provides permits to lease and use State's Forests areas that are regulated by the Regulation of the Minister of Forestry No.P.14/Menhut-II/2013 regarding Guidelines for Lease and Use of Forest Areas. This regulation contains obligations that the company as the applicant to borrow and use State forest must adhere to, namely:

- The company must make payment of compensation to owners for trees and other vegetation to be harvested/ cleared;
- Reclamation, planting and fertilizing activities must be conducted in the borrow-use areas that have been exploited, every year. The company must maintain forest security, avoid and mitigate fire risks, forest degradation, erosion and landslides in and around the forest areas that are leased;
- The company is prohibited to conduct activities in areas designated as protected areas, such as watersheds, beaches, areas around lakes, reservoirs and around spring water sources.

Applications for the borrow and use of forest areas are to be equipped with:

- A work plan of the forest areas attached with a location map in scale 1:50,000 or the largest scale for the areas, with information about the total forest areas to be applied for, and with the latest satellite imagery in detailed resolution of fifteen (15) meters or more in digital and hard copy. This is to be signed by the applicant and accompanied by a reference of the satellite image source;
- Recommendations by the Regent for licensing relating to the lease and use of the forest area, as issued by the Governor;
- Recommendations by the Governor for licensing relating to the lease and use of the forest area, as issued by the Regent;
- EIA (AMDAL) that has been approved by a competent authority, except in cases when the proposed activities are not required to prepare an EIA, as in accordance with applicable regulations;
- In the case where the areas applied for are in *Perusahaan Hutan Negara Indonesia "Perum Perhutani"* (Indonesian State Forestry Company) work areas, a technical consideration from the Director of *Perum Perhutani* is required;
- Permission or agreement from the related non-forestry sector(s), except in cases where activities are not required to have such a permit/agreement;
- A Statement of Commitment to fulfil all obligations and bear all expenses in connection with such application;
- In the case where mining activities are issued by the appropriate Governor or Regent authority, a consideration from the General Director of Minerals, Coal and Geothermal and the Ministry of Energy and Mineral Resources is required.

A copy of the application for the lease and use of forest areas proposed by the applicant must be submitted to:

- General Secretary of the Ministry of Forestry;
- Head of the Forestry Planning Agency;
- General Director for Forestry Production;
- General Director for Forest Protection and Nature Conservation;
- General Director for Land Rehabilitation and Social Forestry; and
- Head of the Forest Area Consolidation.

Companies that have obtained principle approval for the 'borrow and use' of forest areas from the Ministry of Forestry are obliged to:

- Bear all expenses for works contained within the lease and use of forest areas boundaries;
- Bear all expenses for conducting inventories;
- Carry out reclamation and reforestation activities in the retired forest areas without waiting for the completion of the lease and use period;
- Organize and conduct forest protection activities;
- Enable and allow both central and regional forestry staff and authorities to conduct monitoring and evaluation activities in the field;
- Bear all expenses resulting from the lease and use of the forest areas; and
- If obligations above have been fulfilled and implemented after the permit for the lease and use of the forest areas was published, the applicant has to prepare and submit a statement to the Notary.

Based on information from SOL's LAQ Team, the Principle Approval for use of forest area for the development of the geothermal power plant No. S.508/Menhut-VII/2013 was issued on 30 August 2013 (as the Project will have an impact on production and convertible forest production in the NIL area ~ 295 Ha). However, the land owners have already been compensated by SOL. They released the right of land ownership to SOL without an attorney signature -the letter signed by the land owner, village head and sub district head.

4.8.3 Use of Compensation

The land survey identified 91 land owners who were unclear how they would spend their compensation. Only 38 land owners said the compensation would be used for primary needs i.e. meals and health costs; 12 land owners indicated they would buy new land (Table IV-42).

Table IV-42 Use of Compensation by PAHs

Use of Compensation	Affected Village								Total Affected Households	IDR (000,000)
	Sarulla	Silangkitang	Sigurung-gurung	Sibaganding	Lumban Jaeen	Simataniari	Onan Hasang	Janji Natogu		
Do not know	1	11	7	15	7	35	7	8	91	-
Obtain a new house	0	0	3	0	1	0	0	0	4	50,000,000
Purchase land for a new house	0	0	0	0	1	0	0	0	1	150,000,000
Purchase land for new agricultural field	0	2	1	3	2	4	0	0	12	415,000,000
Relocation Cost	0	0	0	0	0	0	0	0	0	-
Primary Need	0	3	16	2	13	0	0	0	38	0
Secondary Need	0	0	0	0	0	0	0	0	0	0
Saving	0	1	0	0	2	0	1	0	4	-
Capital for Business Purposes	0	0	0	0	1	0	1	0	2	200,000,000
Transport Cost	0	0	0	0	0	0	0	0	0	-
Others	0	1	0	0	2	0	0	0	3	11,000,000
Total	1	18	27	20	29	39	9	8	155	826,000,000

Source: ERM Primary Data, June 2013

4.9 ANALYSIS ON PHYSICAL AND ECONOMIC DISPLACEMENT SIGNIFICANCE

4.9.1 Loss of Land Assets

Table IV-40 summarises the number of PAHs who have lost < 10%, 11-20%, 21-30%, 31-50% or >50% of their total landholdings/land usage due to the Project land acquisition process. The majority of land is used for agricultural income-generating process hence it is important to understand the extent of land loss.

Of the 151 households surveyed:

- 82 households have lost more than 50% of their land;
- 51 households have lost 10-49% of their land; and
- 8 land owners have lost less than 10% of their land.

Therefore the majority of PAHs lost a significant portion (>10%) of the land that use for income for income generating purposes.

4.9.2 Loss of Structural Assets

It is identified only one temporary structural asset was compensated. There are no permanent structures affected by the Project.

4.9.3 Loss of Income

No robust data was available on the change to household income or loss of income. This was largely as the majority of land owners were still being compensated by SOL at the time of the survey and therefore were still cultivating and utilising their land. The cut-off date had not been applied to those land owners.

4.9.4 Income below the Poverty Regional Minimum Wage

The regional minimum wage in North Tapanuli Regency is IDR 1,325,000.00; the survey indicated there are 93 land owners with an income below IDR 500,000.00 (Table IV-43).

Table IV-43 Income below the Regional Minimum Wage

Affected Villages	Project Affected Households (No.)		Income Bracket (IDR)											
			<500,000		500,000 - 2,000,000		2,000,000 - 4,000,000		4,000,000 - 6,000,000		6,000,000 - 10,000,000		>10,000,000	
			n	%	N	%	n	%	n	%	N	%	n	%
Pahae Jae														
Sarulla	1	1	0.007	0	0	0	0	0	0	0	0	0	0	
Silangkitang	18	15	0.100	3	0.020	0	0	0	0	0	0	0	0	
Sigurung-gurung	27	22	0.147	3	0.020	2	0.013	0	0	0	0	0	0	
Total	46	38	0.254	6	0.040	2	0.013	0	0	0	0	0	0	
Pahae Julu														
Sibaganding	20	7	0.048	9	0.060	3	0.020	0	0	1	0.007	0	0	
Lumban Jaean	29	18	0.120	8	0.050	2	0.013	0	0	1	0.007	0	0	
Simataniari	39	27	0.180	10	0.067	0	0	2	0.013	0	0	0	0	
Onan Hasang	9	0	0	1	0.007	2	0.013	2	0.013	3	0.020	0	0	
Janji Natogu	8	3	0.020	5	0.033	0	0	0	0	0	0	0	0	
Total	105	55	0.368	33	0.217	7	0.046	4	0.026	5	0.03	0	0	

Source: ERM Primary Data, June 2013

However as stated previously the household poverty line (assuming an average household of 4 people) in the project area is around 956,000IDR/month. Table IV-28 presented poverty levels per project affected village; a total of 37 out of 151 (25%) were considered under the poverty line. These households will therefore require particular attention to ensure they are not made more vulnerable due to the loss of land or assets.

4.9.5 Loss of Business (Sustainability of Business)

There were no identified PAH businesses impacted by the Project.

4.9.6 Source of Income: None (Livelihood)

There were no PAHs identified without a source of livelihood.

4.9.7 Vulnerable Affected Household

There were 24 land owners over the age of 55 years old and 71 land owners who were female households.

Table IV-44 Vulnerable Groups as Affected Household

Affected Villages	Project Affected Households (n)	Number		Percentage (%)	
		Age >55	Female Household	Age >55	Female Household
Pahae Jae					
Sarulla	1	0	0	0	0
Silangkitang	18	6	9	0.063	0.095
Sigurung-gurung	27	2	14	0.021	0.147
Total	46	8	23	0.084	0.242
Pahae Julu					
Sibaganding	20	1	8	0.011	0.084
Lumban Jaean	29	8	13	0.084	0.137
Simataniari	39	5	17	0.053	0.179
Onan Hasang	9	2	5	0.021	0.053
Janji Natogu	8	0	5	0	0.053
Total	105	16	48	0.169	0.506

Source: ERM Primary Data, June 2013

4.10 FINDINGS FROM SURVEY QUESTIONNAIRE

The Land Acquisition (LAQ) Audit Census was undertaken to understand the socio-economic profile of the Project affected land owners. A total of 151 people participated in the audit. At the time of reporting compensation had been provided for 22 land parcels in Pahae Jae; 7 parcels were still in the payment process and no land parcels in Pahae Julu had been compensated for i.e. a total of 35 land owners.

The majority of those surveyed indicated they understood the Project however concerns regarding land issues were raised in all villages (Table IV-45). Furthermore the majority indicated they understood how the land price was calculated by SOL and that they were satisfied. Volume III: Indigenous Peoples Plan (IPP) details the findings of this survey in more detail.

The majority of the PAHs indicated a high reliance on farming as a form of income and subsistence. Therefore it will be important for SOL to assess whether any PAHs have become more vulnerable as a result of the land acquisition process. At the time of the survey only 47 PAHs had been compensated and all were still cultivating on their land. Therefore no change in income had occurred at that time.

Table IV-45 Summary of Survey Questionnaire Findings

Villages	Date & Place FGD	Situation after FGD	Land Issues Raised During FGD			Understand Land Value Calculation		Satisfied with Method of Land value calculating	
			Yes	No	NA	Yes	No	Yes	No
Sigurung-gurung	26 June 2013 (05.25 p.m for Female) 28 June 2013 (07.05 p.m for Male; and 05.05 pm for Youth)	Most understand SOL Project. Positive and negative perceptions are balanced.	X			X		X	
Silangkitang	29 June 2013 (05.15 pm for Female) 30 June 2013 (19.25 pm for Male).	Most understand SOL Project. More negative perceptions compare with positive. FGD for Youth was cancelled.	X			X		X	
Pardomuan Nainggolan	29 June 2013 (05.15 pm for Youth; 07.10 pm for Male)	Most understand SOL Project. Positive and negative perception is balance even though FGD for Females was cancelled	X			X		X	
Pardamean Nainggolan	2 June 2013 06.40 PM until 09.25 PM for Female. started at 07.40 PM until 09.25 PM – Male	Most understand SOL Project. Positive and negative perception is balanced.	X			X		X	
Sibaganding	3 July 2013 (06.10 pm for Youth) 4 July 2013 (06.10 pm for Female; 06.30 pm	Most understand SOL Project. More positive perceptions compare negative	X			X		X	

Villages	Date & Place FGD	Situation after FGD	Land Issues Raised During FGD			Understand Land Value Calculation		Satisfied with Method of Land value calculating	
			Yes	No	NA	Yes	No	Yes	No
	for Male)								
Lumban Jaean	3 July 2013 (06.10 for Youth; 06.30 for Male, and 06.10 pm also for Female).	Most understand SOL Project. Positive and negative perception is balanced	X			X		X	
Onan Hasang	5 July 2013 (06.10 pm for Female, 06.10 pm for Youth and 06.30 pm for Male)	Most understand SOL Project. Positive and negative perception is balanced	X			X		X	
Simataniari	6 July 2013 (07.20 pm for Female; 07.30 pm for Male and 06.10 pm for Youth)	Most understand SOL Project. More negative perception compare with positive	X			X		X	

5 STATUS OF UNOCAL COMPLIANCE

5.1 OVERVIEW

This section reviews the land acquisition process undertaken by Pertamina/ UNOCAL; providing the status of compliance against the national requirements at the time of acquisition.

The audit includes a review of the methodology adopted in order to acquire the land as well as the approach used for setting compensation rates for land and plants, consultation process, and grievance mechanism.

5.2 PERMIT LOCATION

Regulation of the Minister for Agrarian Affairs No. 2 Year 1993 stipulates procedures to obtain location permits and land rights specifically for a private project. The location permit is granted in accordance to Regional Planning for the project to be able to acquire land. It was identified that the regional planning of Tapanuli Utara has determined Pahae Jae and Pahae Julu as a geothermal area. This is as defined in the Regional Regulation of Tapanuli Utara No. 19 Year 1994 and 21 Year 2001.

To obtain the location permit, the company is required to propose a permit application to the Head of Land Office at the regency level. The audit identified that Pertamina/ UNOCAL has followed this process by proposing an application letter for the location permit to the Head of Tapanuli Utara Land Office.

The location permit for SIL and NIL area has been granted to Pertamina Sumatera Utara through the following decree letters issued by the Tapanuli Utara Regent:

1. Decree Letter of Tapanuli Utara Regent No. 413A Year 1995 concerning Project location for NILS-A, NILS-B, and NILN-A; and
2. Decree Letter of Tapanuli Utara Regent No. 334 Year 1997 concerning Project location for SIL-1 and SIL-2C.

These permits were used by the Project as a basis for permission to conduct the transfer of land rights.

5.3 METHODOLOGY FOR ACQUIRING LAND AND APPROACH FOR ARRIVING AT COMPENSATION RATES

The SOL Geothermal Project, which was previously managed by Pertamina, was considered a development project for public interest. The provision on land procurement for this interest is stipulated through the President Decree No. 55 Year 1993 which includes the following process:

1. Establishment of Land Procurement Committee (LPC/PPT) at the regency level, led by the regency with Head of Land Office as Deputy Head, and involves related government institutions e.g. Regional Agricultural Agency, Head of Sub-District, and Head of Village.

The LPC/PPT is responsible for the following tasks:

- research and inventory of all affected assets (land, plants, structure, and other asset attached to the land);
- research and inventory on land ownership status;
- estimation/ calculation of compensation;
- disclosure of information to land owners;
- consultation on asset value for compensation;
- acknowledge the payment of compensation; and
- developing the minutes of the compensation payments and the transfer of right process.

2. Framework of compensation includes the following provision:
 - compensation is provided for affected assets, i.e. land, structure, plants, and any other objects attached to land;
 - compensation can be provided in the form of cash money, replacement land, housing resettlement, or combination of money and replacement asset;
 - when any customary asset is affected, compensation can be provided in the form of replacement asset through the development of public facilities.
 - the final decision to determine the form and value of compensation should be obtained through consultation process, which then is legalized through a Decree Letter issued by the LPC/PPT.
3. Compensation value is estimated as follows:
 - basis for land value is uses the real value, by considering selling value of the taxable object (i.e. government tax value);
 - basis for plants value uses the selling value estimated by the government agency responsible for this issue, i.e. Forestry Agency or Agricultural Agency;
 - estimation basis for structure uses the selling value estimated by the government agency responsible for this issue.

These process of land procurement has been followed by Pertamina/ UNOCAL (Table V-1).

Table V-1 Pertamina/ UNOCAL Land Compensation Framework

<i>No</i>	<i>Document</i>	<i>Subject</i>	<i>Letter Number</i>	<i>Date</i>
A. SIL				
1	Letter from Pertamina to Head of Land Office	Proposing assistance for land procurement for SIL area and road (access) development	373/C1100/01-SO	6 August 1994
2	Letter from Land Office to LPC/PPT	Land and plants measurement and inventory on 19 December 1994	500-2955/13/1994	14 December 1994
3	Minutes of Meeting	Estimation of compensation value and LPC operational cost (for affected asset in Silangkitang and Sigurung-gurung)	-	25 August 1994
4	Minutes of Meeting	Estimation of compensation value for land/ plants in Pardomuan Nainggolan and Silangkitang	-	6 March 1995
B. NIL				
1	Invitation from Land Office to LPC/PPT and land owner	Inventory of land and plants on 6 November 1995, in which the Head of Villages responsible to invite all land owners to witness the measurement, show land boundaries, and calculate plants	005.580/2905/10/95	31 October 1995
2	Letter from LPC/PPT to Head of Sub-district, Head of Villages, Staff of Agriculture Agency Tapanuli Utara, and Staff of Land Office Tapanuli Utara	Re-inventory of land and plants on 13 May 1996, in which the Head of Villages responsible to invite all land owners to witness the measurement, show land boundaries, and calculate plants	593/4897/96	9 May 1996
3	Letter from LPC/PPT to Head of Sub-district, Head of Villages, Staff of Agriculture Agency Tapanuli Utara, and Staff of Land Office Tapanuli Utara	Re-inventory of land and plants on 20 June 1996, in which the Head of Villages responsible to invite all land owners to witness the measurement, show land boundaries, and calculate plants	591/6548/96	17 June 1996
4	Letter Decree of Head of Agriculture Agency	Plants compensation value	251.23/902/HOR TI/XII/95	27 December 1995
5	Letter Decree of Head of Agriculture Agency	Plants compensation value	521.23/87/HORT I/1/96	22 January 1996

Source: SOL, 2013 S

It is identified that the LPC/PPT was established to respond the letter of application from Pertamina to the Land Office, with the following structure:

1. Regent of Tapanuli Utara as the Head of LPC/PPT
2. Head of Land Office as Deputy Head
3. Member
 - Head of Agricultural Agency
 - Head of Public Works Agency
 - Head of Tax Office
 - Head of Sub-district Pahae Jae and Pahae Julu
 - Head of (affected) Villages
4. Secretary
 - Head of Order of Regent Office
 - Head of Land Rights of Land Office

Land measurement and inventory were conducted by LPC/PPT, in which the Head of Villages were given responsibility to invite all land owners to witness the measurement, show land boundaries, and calculate plants attached to the land.

The process to estimate the compensation value was conducted by the LPC/PPT, as shown in the Minutes of Meeting. It identified the following compensation value were offered:

1. the affected plantation land will be compensated at IDR 5,500/m²;
2. paddy field will be compensated at IDR 8,500/m²;
3. for the plantation value, it was stipulated through a decree letter issued by the Head of Agricultural Agency; a different value was applied for various plants and also between the producing plants and immature plants.

This estimation was used as basis for the land price consultation with the affected land owners. Documents related to the consultation are discussed in the following section.

5.4 CONSULTATION, GOOD FAITH NEGOTIATION AND PARTICIPATION ACTIVITIES

A number of provisions related to consultation, good faith negotiation, and participation activities are also regulated by the President Decree No. 55 Year 1993. These include:

1. the final decision to determine the form and value of compensation should be obtained through consultation process, which then is legalized

through a Decree Letter issued by the LPC/PPT; and

2. if agreement through consultation cannot be reached, LPC/PPT will issue a Decree Letter which will consider the opinions, demands, and suggestions recorded during the consultation.

Table V-2 summarises the following consultation activities were recorded during the Pertamina/UNOCAL land acquisition process.

Table V-2 Pertamina/ UNOCAL Land Consultation

<i>No</i>	<i>Document</i>	<i>Subject</i>	<i>Letter Number</i>	<i>Date</i>
A. SIL				
1	Invitation from Regent to LPC/PPT	Land price consultation with affected land owner on 25 January 1995	593/20/TIBAN/95	18 January 1995
2	Invitation from Head of land office to LPC/PPT, Pertamina/Unocal, and land owners	2 nd round consultation (9 February 1995)	500.580-315/1/1995	31 January 1995
3	Invitation from Head of land office to LPC/PPT, Pertamina/Unocal, and land owners (in Silangkitang and Pardomuan Nainggolan)	3 rd round consultation (23 February 1995)	515.581-451/2/95	17 February 1995
B. NIL				
1	Invitation from LPC/PPT	Invitation for socialization to owner of the land in the location that will be affected by the Project on 28 September 1995	-	September 1995
2	Invitation from LPC/PPT	Inventory of land and plants on 6 November 1995	005.580/2905/10/95	31 October 1995
3	Letter of Announcement	Announcing the land/ plants located within the proposed Pertamina project area, and the list of owner (objection to be submitted within 1 month)	01/PPT/2/1996	28 February 1996
4	Invitation from LPC/PPT	Land price consultation on 26 March 1996	005-580/374/3/96	20 March 1996

Source: SOL, 2013 S

The audit identified that a socialization meeting was conducted by the LPC/PPT to inform the land owners of the project plan for land acquisition. This was followed by a series of consultations for land measurement and inventory. The result of the measurements was also publicly disclosed, as shown in the Letter of Announcement. This process allowed any objections on the measurement and inventory to be raised within a month after the disclosure.

Good faith negotiation principles were used when determining the compensation value; when the first round of consultations did not reach an agreement, additional rounds of consultations were conducted.

In addition, the President Decree No. 55 Year 1993 also regulated a mechanism to address any grievances lodged by the land owner with regards to the compensation, as follows:

1. land owners can file an objection, addressed to the Governor, explaining about background and reason for the objection;
2. the Governor responsible to address the objection by considering all parties;
3. the Governor will issue a decree letter to answer the objection;
4. if the land owner does not accept the governor's resolution the development location will not be relocated, the Governor will propose a relocation on the land right for the interest of public development to the Minister of Agrarian Affairs acting as Head of National Land Agency.

The audit identified that a number of grievances were recorded concerning the land compensation process (Table V-3).

Table V-3 Pertamina/ UNOCAL Grievance Record

<i>No</i>	<i>Document</i>	<i>Subject</i>	<i>Letter Number</i>	<i>Date</i>
A. SIL				
1	Grievance letter to PT Rekayasa	Grievance letter from owner of plants which were affected by the Project road development in Sigurung-gurung	-	1 November 1994
2	Minutes of Meeting	Payment for plants compensation affected by the Project road development (in Sigurung-gurung and Silangkitang)	-	16 January 1995
3	Grievance letter to PT Rekayasa	Grievance letter from owner of plants which were affected by the Project road development in Silangkitang	-	2 February 1995
4	Grievance letter to UNOCAL	Grievance letter from 6 owner of plants which were affected by the Project road development in Silangkitang	-	10 April 1995
5	Minutes of Field Inspection		-	13 April 1995
6	Minutes of Meeting	Payment for plants compensation affected by the Project road development	-	19 May 1995
7	Statement letter from the affected owner of plants	Statement receiving the compensation	-	19 May 1995
B. NIL				
1	Letter from Land Office to LPC	Re-check land owned by Pahala Pakpahan in Simataniari	600-3560/10/1996	1 October 1996
2	Letter from LPC to Pertamina	Compensation payment for Pahala Pakpahan	580-4090/12/1996	24 December 1996

Source: SOL, 2013 S

The available documents did not identify whether there were any outstanding grievances not addressed by Pertamina/UNOCAL. However data shows that a number of grievances were addressed together with the LPC/PPT. Those who did not accept the value of compensation remained unpaid until the project transferred to SOL.

5.5 COMPENSATION PAYMENTS

As regulated by the President Decree No. 55 Year 1993, compensation should be paid directly to the land owners or their legitimate heirs. The implementation of this provision is as shown in Table V-4.

Table V-4 Pertamina/ UNOCAL Compensation Payment

<i>Project Area</i>	<i>Document</i>	<i>Subject</i>	<i>No</i>	<i>Date</i>
SIL	Invitation from head of land office to LPC/ PPT, Pertamina/ UNOCAL, land owner in Silangkitang and Pardomuan Nainggolan	Payment of compensation for land in Silangkitang (7 April 1995)	005.590-780/4/1995	3 April 1995
NIL	Invitation from Land Procurement Committee	Payment of compensation for affected land in Onan Hasang, Sibaganding, Lumban Jaean, Simataniari (4-6 September 1996)	005.580-2282/8/96	30 August 1996
Document of each compensation payment				
1	Land Certification	Certificate of reference from Head of Village and acknowledge by Head of Sub-district, presents the land area and its boundaries		
2	Letter of Statement	Statement of ownership from land owner		
3	Letter of Land Recognition	Statement of recognition from owner of neighbourhood land		
4	Asset inventory	List of affected asset (land, plants, and other assets attached to the land), used as basis for compensation calculation		
5	Land Situation Map			
6	Nominative Data of Compensation Payment (NPGRT)			
7	Waiver Letter	Statement of land owner to release the land right prior to payment of compensation, acknowledge by the LPC/ PPT		

Source: SOL, 2013 Se

5.6 *WORKING PERMIT*

Once the compensation has been paid and the land procurement completed, the project proposed an application letter to the Regent to be able to start working on the acquired land. The Regent of Tapanuli Utara granted Pertamina a working permit which allowed Pertamina to start working on the SIL and NIL area. This is as shown in the following documents:

1. Working Permit Letter No. 593/894/SEKR/94, issued by Tapanuli Utara Regional Secretary dated 15 September 1995; and
2. Working Permit Letter No. 613/959/Tiban/96, issued by Tapanuli Utara Regent dated 19 September 1996.

The awarded working permit indicates that the procurement process has been considered completed by the government. However, the above permit letters issued by considering the following notes:

1. Pertamina should disclose the project plan information to the community;
2. Effort should be given to mitigate disturbance or any impacts to public interest and community activities during the project development; and
3. Continuous consultation with the LPC/PPT for the land parcels which haven't been compensated.

5.7 ***OUTSTANDING ISSUES***

A number of outstanding issues remained after the Project was transferred to SOL, are as follow:

1. There were 26 land parcels in Silangkitang, located in the Project SIL-X area, utilised for Power Plant, Disposal, and Borrow Pit, that have not been compensated by Pertamina/ UNOCAL. This was due to a disagreement on the compensation value. These land parcels have been compensated by SOL (Table V-5).

Table V-5 Land Parcels haven't been Acquired by Pertamina/UNOCAL

<i>No</i>	<i>Name*</i>	<i>Type of Land</i>
1		Plantation
2		Plantation
3		Paddy field
4		Paddy field
5		Paddy field
6		Plantation
7		Paddy field
8		Paddy field
9		Paddy field
10		Paddy field
11		Plantation
12		Paddy field
13		Paddy field
14		Paddy field
15		Paddy field
16		Paddy field
17		Paddy field
18		Plantation
19		Plantation
20		Plantation
21		Plantation
22		Plantation
23		Plantation
24		Plantation
25		Plantation
26		Plantation

* This information has been removed as it falls within the exceptions to disclosure specified in paragraph 97 (x) of ADB's Public Communications Policy (2011).

Source: SOL, 2013

2. It was identified that previous land owners still cultivate the Pertamina/ UNOCAL acquired lands. SOL plans to inform these people about the Project schedule for construction, to allow these people to harvest their crops before the land cleared.
3. The Lenders ESDD found a house built on land which was acquired by Pertamina/UNOCAL; it also operates a kiosk/ shop. This house is currently being compensated by SOL based on GOI structure rates.

Figure V-1 Housing on Pertamina/UNOCAL Acquired Land



Due to the findings discussed in above the audit concludes that the Pertamina/UNOCAL land acquisition process has complied Indonesian regulation on the land procurement for the development of public interest.

6 STATUS OF SOL COMPLIANCE

6.1 OVERVIEW

This Correction Action Plan is time bound to actions to address the gaps identified the Land Acquisition Process undertaken by SOL; this assists SOL in complying with the ADB Safeguard Policy Statement 2009 (SR 2) and IFC Performance Standards of 2012 (specifically IFC PS 5).

Table VI-1 provides a Corrective Action Plan to assist SOL in defining necessary remedial actions, budget for such actions and the time frame for resolution of non-compliance to ADB's Safeguard Policy Statements (2009).

6.1.1 Impact Assessment

This SSCAR has not captured all the Project's land acquisition activities; a Resettlement Plan report (Volume 5) discusses the land to be acquired for the transmission line ROW, Laydown, Road 5, WJP 1N, etc.

Table VI-1 On-going Land Acquisition Activities

No	Area name	Date/Month Action	Total Land Owners	Current Status
1	Transmission Line ROW	August 2013	30	Land owners have been identified and surveyed for the tower footprint. The remaining land owners for the T/L ROW will be identified and surveyed, once PLN agree.
2	Laydown	August 2013	10	Identified and initial survey undertaken
3	Road 5	August 2013	16	Identified and initial survey undertaken
4	WJP 1N	August 2013	3	Identified and initial survey undertaken
5	Road 4 Expansion	September 2013	NA	To be identified and surveyed
6	NIL 1N and 4A Expansion	September 2013	NA	To be identified and surveyed
7	WJR 2N and Access Road	September 2013	NA	To be identified and surveyed

Source: SOL Data, 2013

6.1.2 Public Consultation and Information Disclosure

Public consultation and information disclosure has been conducted well during the land acquisition process for the Project. The consultation activities were conducted in a culturally appropriate manner (using both Bahasa Indonesia and Batak language) with Batak facilitators and inclusive of females. PAHs have been informed of the Project, the acquisition process and SOL's compensation policy prior to the signature of land acquisition agreements. PAHs have also been given alternative resettlement options including cash compensation for land and plants.

Site investigation indicates that PAHs are interested in following information related with the Project:

1. Compensation price for land and plants;
2. Employment; and
3. Project schedule and commencement of activities; specifically around employment and community development programs.

6.1.3 *Livelihood Restoration*

The survey data indicates that the PAHs mostly rely on their land for income and household subsistence. Although there is no clear decline in PAH's income due to the Project's on-going compensation payment, the cash compensation may not be sustained for a long time. The livelihood restoration for some PAHs is challenging especially for those who have lost more than 50% of their farmland.

SOL is planning to establish a program that will be implemented to support livelihood restoration for land owners. The program focuses on agriculture and livelihoods as part of the ISP. Further details of the ISP are presented in Volume 4: Indigenous Peoples Plan (IPP).

A PAH Education and Health Program is to be implemented soon that targets the 9 Project affected villages (Pardomuan Nainggolan, Pardamean Nainggolan, Silangkitang and Sigurung-gurung and Simataniari, Sibaganding, Lumban Jaean, Onan Hasang and Janji Natogu).

The ISP will include a job placement Program, i.e. skills training, such as IT, cooking, automotive, etc. It is recommended SOL undertake a PAH needs assessment in each village that can support the livelihood restoration planning and implementation. This will enable SOL to comprehensively assess if the program has sufficiently restored the PAH's livelihood to an equal or higher standard than before the land acquisition process commenced.

6.1.4 *Grievance Resolution*

There is a Grievance Mechanism in place dealing with resettlement related grievances. Most of the consulted PAHs understand this Grievance Mechanism and are aware of how to access it and lodge a grievance. The mechanism is currently being implemented well in the Project area. Grievances are being addressed in an efficient way and PAHs appear satisfied with the resolutions offered. No serious grievances had been collected at the time of field survey.

6.1.5 *Vulnerable Groups*

Vulnerable groups have been identified during the process of the impact assessment. The Project has provided access to the participation of vulnerable groups. Special assistance should be made to improve the livelihood of affected vulnerable groups, i.e. the significantly affected female headed

households should be given assistance to develop businesses, or made a priority by the Project for employment based on their skill sets.

6.1.6 *Date for Discontinuing Use of the Land*

SOL has provided more time for land owners to continue cultivation on their land after they have been compensated. SOL has given around 1.5 years for the land owners to continue to use the land. It is recommended that SOL notify the PAHs now and remind them again 60 days prior to commencement of the construction work to ensure they have at least 1 month to harvest their land. Currently it is two weeks prior to construction work commencing which is not considered sufficient time to harvest or take the crops from the land.

6.1.7 *Monitoring and Evaluation*

Monitoring and evaluation is indicated as necessary together with the process of project implementation. SOL should prepare a comprehensive monitoring and evaluation plan, especially for those project components, which have not been captured by the Resettlement Plan, i.e. access roads, transmission lines, etc.

Table VI-2 provides the compliance status of the social performance of the Project considering the ADB SPS and JBIC requirements along with the IFC's PS5.

Table IV-2 Social Safeguards Audit Findings

No	ADB/IFC/IBIC Requirements	Issue and Description of Observation	Recommendations
2	Involuntary Resettlement Safeguards		
	<p>The applicability of the ADB SPS SR 2 should be seen in the following context:</p> <ul style="list-style-type: none"> • The Project requires a total of 120 Ha of land which will be allocated for project components such as power generation facilities and access roads. • The acquired land is largely paddy rice fields and a small proportion of plantation land most of which are privately owned by individual families. • The Project has acquired land through a negotiated settlement process where the land owner has the right to refusal. • There are likely to be adverse social impacts on some households, in particular those that have sold 100% of land (or those left with only unviable land) which will need to be mitigated. 		
2.1	Screen the project early on to identify past, present, and future involuntary resettlement impacts and risks. Determine the scope of resettlement planning through a survey and/or census of displaced persons, including a gender analysis, specifically related to resettlement impacts and risks.	<p>In accordance to the requirements of ADB’s SPS SR 2 on Involuntary Resettlement, the project has been categorized as Category A the project will acquire land currently used for livelihood and other purposes by the local people. An ESMP and IPP (inclusive of ISP) has been undertaken to assess the potential social impacts (inclusive of gender) and establish appropriate mitigation and management measures to minimise or enhance them. The current IPP does not include socio-economic data on all future lands to be acquires (only the tower base area).</p> <p>SOL plan to undertake a 100% census of future land owned by the end of November 2013 which will feed into the RP that has been developed.</p>	After the census has been undertaken the IPP/ISP and ESMP should be reviewed to ensure all impacts on these potentially impacted communities are identified and mitigated against.
2.2	Carry out meaningful consultations with affected persons, host communities, and concerned nongovernment organizations. Inform all displaced persons of their entitlements and resettlement options.	Has conducted consultation with land owners since 2008; and consultations have been on going to the present (September 2013). Consultation activities are undertaken in a culturally and gender sensitive manner, have included socialisation on the land acquisition process and project components, land measurements and survey of	SOL will prepare situation maps for each affected village to enable the communities to further visualise the Project footprint and components.

No	ADB/IFC/IBIC Requirements	Issue and Description of Observation	Recommendations
		assets, and good faith negotiations. SOL has also established a well socialised grievance mechanism. Other stakeholders consulted have included NGOs/CSOs, sub district heads and BPN.	
2.3	Establish a grievance redress mechanism to receive and facilitate resolution of the affected persons' concerns.	SOL has developed a Grievance Redressal Mechanism which is currently being implemented by SOL's external relations team in NIL and SIL. The mechanism implemented is addressing grievances lodged in a timely manner and prioritising them in 4 categories. However as many grievances are lodged verbally or to the village leaders a comprehensive database of all grievances lodged, fact finding details and how they were resolved and closed out is not available.	SOL should strengthen the implementation of the grievance process by formalising the recording process so that grievances are lodged through the external relations team who then log all grievances and update how they are being addressed in a SOL Project database. Periodically this process should be internally and externally audited.
2.4	Improve, or at least restore, the livelihoods of all economically displaced persons	Despite land owners selling through a negotiated settlement some will lose all of their land (7 HHs) and 92 will only be left with unviable land (i.e. equal to or less than 400m2) therefore a disruption to livelihoods is likely to occur, if only temporary, whilst new land is purchased and crops are grown. SOL plans to implement a short program focussed on livelihoods as part of its ISP however the plan required further development to ensure its targets the most vulnerable and meets the communities real needs.	Based on the IPP undertaken and this SCCAR SOL should ensure the ISP and ESMP activities prioritise those identified as significantly impacted through the loss of 100% of land (or only left with unviable land). This should be based on the communities' needs; a livelihood restoration plan should be incorporated into the ISP to ensure that lost income is restored.

No	ADB/IFC/JBIC Requirements	Issue and Description of Observation	Recommendations
2.5	Prepare a resettlement plan elaborating on displaced persons' entitlements, the income and livelihood restoration strategy, institutional arrangements, monitoring and reporting framework, budget, and time-bound implementation schedule.	<p>SOL has not undertaken a RP for lands acquired to date. The ISP in the IPP sets out SOL's plans to undertake livelihood restoration including institutional arrangements, monitoring and reporting and tentative budget and duration.</p> <p>An RP has been developed in line with ADB's SPS SR2 on Involuntary Resettlement for future lands to be acquired by the Project e.g. for the transmission line. A census is still to be undertaken for this RP; SOL plan to undertake this by the end of November 2013.</p>	<p>SOL to conduct periodic internal and external audits of their land acquisition process, in particular focussing on those identified as vulnerable (i.e. those who lost 100% of land) to ensure no landowner are made more vulnerable by the Project. As above, SOL to incorporate a targeted livelihood restoration program into their ISP.</p> <p>SOL to undertake a 100% census of landowners for the remaining Project lands to be acquired along with establishing the cut-off date (completion of census). The legal date for land owners to stop using their land should be at least 1 month after compensation is paid.</p> <p>After which the IPP/ISP and ESMP should be reviewed to ensure all impacts on these potentially impacted communities are identified and mitigated against.</p>
2.6	Disclose a draft resettlement plan, including documentation of the consultation process in a timely manner, before project appraisal, in	<p>No RP was prepared for lands already acquired by the Projects. However SOL have prepared an RP in line with ADB's SPS SR2 on Involuntary Resettlement for future lands to be acquired by the</p>	

No	ADB/IFC/IBIC Requirements	Issue and Description of Observation	Recommendations
	an accessible place and a form and language(s) understandable to affected persons and other stakeholders.	Project e.g. for the transmission line that will be disclosed as per the disclosure requirements of the ADB.	
2.7	Pay compensation and provide other resettlement entitlements before physical or economic displacement. Implement the resettlement plan under close supervision throughout project implementation.	<p>SOL has conducted their land acquisition through a negotiated seller process overseen and legalised by the village leader. The right to refusal and the process in general has been socialised widely in a culturally and gender sensitive manner.</p> <p>Land prices were based on a 2010 sub-district reference and recent sales in the village. Land productivity was not considered (at the request of the villagers).</p> <p>Crop/plants prices were based on 2010/2011 Agricultural Agency of North Tapanuli Regency for productive plants, unproductive plants and seeds.</p> <p>Compensation was provided to both land owners and those who legally rented the land. No squatters were identified. All taxes and administrative costs were paid by SOL.</p>	<p>SOL to ensure that a third party is present during the negotiations process for future lands to be acquired by the Project.</p> <p>SOL also to market value for land and crops for new lands to be acquired as well as determining structure rates for those potentially involved in the future land acquisition process.</p> <p>SOL to offer support to those identified as vulnerable in terms of financial management, finding new land and negotiating.</p> <p>SOL to ascertain actual current market value of the paddy lands in the project area to ensure 65,000/m² IDR is sufficient to purchase like for like land. Similarly for crops/plants.</p> <p>SOL to ensure the price paid is sufficient to purchase like for like seeds.</p> <p>SOL to implement a livelihood restoration to support those</p>

No	ADB/IFC/JBIC Requirements	Issue and Description of Observation	Recommendations
2.8	Monitor and assess resettlement outcomes, their impacts on the standards of living of displaced persons, and whether the objectives of the resettlement plan have been achieved by taking into account the baseline conditions and the results of resettlement monitoring. Disclose monitoring reports.	Neither UNOCAL nor SOL has not undertaken internal or external monitoring or evaluation of the land acquisition process to date. This SCCAR is the first report to identify outstanding issues to be resolved. Given the uncertainty regarding landowners involved in the UNOCAL process (due to a lack of socio-economic baseline data) and the likelihood that some households may become more vulnerable monitoring and evaluation is required periodically.	identified as vulnerable. As a part of the RP for lands still to be acquired SOL will undertake internal monitoring, determining monitoring indicators to measure and track quality of life as well as specify resettlement outcomes. Furthermore SOL will conduct external (third party) monitoring to ensure compliance with the RP. As part of these audits SOL should include UNOCAL and previous SOL landowners (e.g. for SIL) to ensure no landowner are made more vulnerable by the Project.

7 CORRECTIVE MEASURES

There are no issues related to the UNOCAL Land Acquisition that require corrective actions. All the land owners whose land was acquired by UNOCAL still cultivate on their land. However before the Project commences, SOL plans to send them an announcement letter 2 weeks prior to the contractor execution in order not to communicate no more use of the land. SOL and village heads consulted have indicated these land owners will comply with the announcement letter instructions.

As a result of this review a number of corrective actions are recommended to be implemented by SOL (Table VII-1). These actions aim to ensure all PAHs livelihoods are restored to an equal or higher level than before the land acquisition process commenced as well as support SOL in adhering to the ADBs SPS and JBIC requirements as well as the IFC's Performance Standard (PS 5).

Table VII-1 Corrective Action Plan for Sarulla Operation Limited

<i>Issues/Topics</i>	<i>Corrective Actions</i>	<i>Deliverable</i>	<i>Timelines</i>
SR 2: Involuntary Resettlement Safeguards			
Insufficient impact assessment	The database of resettlement impacts requires updating. Impacts from other project components i.e. transmission line ROW, Laydown, Road 5, WJP 1N, etc. should be captured in the Resettlement Plan.	iii. Land Census Report iv. Resettlement Plan	November 2013
Currently, the compensation for structures is based on negotiation.	SOL should prepare a list of compensation rates for any potentially affected structures. If there are many land owners with structures e.g. along the transmission line RoW it will be easier if SOL have an initial price for compensation SOL needs to make sure the compensation rate meets market value of the structures	ii. List of compensation rates for structures v. List of compensation records for structures	September 2013
SOL has a short term plan for project affected people to restore their livelihood	It is recommended to SOL undertake a Livelihood Restoration Plan as part of the IPP that should be prepared based on a Needs Assessment in each project affected village. The PAH needs assessment will be undertaken in Q1 of 2014; a detailed livelihood program will be developed and submitted to ADB.	i. Budget for Livelihood Restoration Planning (see Part 3: IPP for details on SOL's ISP)	December 2013
Date for land owners to stop using their land	The legal date for land owners to stop using their land should at least 1 month after the compensation is paid. This will with sufficient time for land owners to harvest their crops.	Management Time	2013

<i>Issues/Topics</i>	<i>Corrective Actions</i>	<i>Deliverable</i>	<i>Timelines</i>
The grievance mechanism is already in place, however there is no written documentation available	SOL should prepare good documentation for all grievances raised by PAHs, in particular if raised by vulnerable groups such as female headed households.	ii. Grievance Records	2013
Monitoring and Evaluation	SOL should prepare internal monitoring (submission of quarterly reports)	ii. Internal Monitoring Report	2014
	External monitoring (submission of semi-annual reports)	ii. External Monitoring Report	2014
	Post-resettlement evaluation (e.g. 6 months, 18 months, 36 months post the land acquisition process.	ii. Evaluation Report	2014

Annex A

List of Forestry Landowners

Table A1 **List of SOL Landowners in Forestry Area**

<i>No</i>	<i>Name</i> *
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* This information has been removed as it falls within the exceptions to disclosure specified in paragraph 97 (x) of ADB's Public Communications Policy (2011).

Annex B

2009 Agricultural Agency Rates & Subdistrict Land Price



PEMERINTAH KABUPATEN TAPANULI UTARA
KECAMATAN PAHAE JAE
SARULLA – KP 22465

Sarulla, Tgl 25 Mei 2009

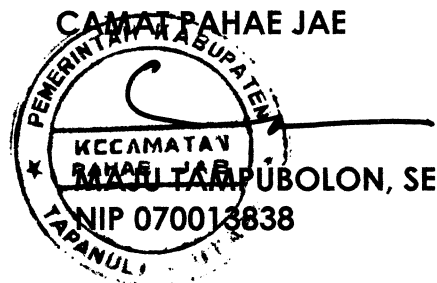
Nomor : 592 / 242V / 2009
Sifat : Penting
Lamp : ----
Perihal : Referensi Harga Tanah
Di Kecamatan Pahae Jae.-

Kepada Yth.
Bapak Direktur MedcoEnergi
D/P. Donny Frengki
Di-
Sarulla

Menindak lanjuti surat Saudara Nomor : MGS-002/LA-ER/2009, tanggal 13 Mei 2009 perihal seperti pada pokok surat.-

Atas hal tersebut dengan pengalaman kami di lapangan selama mengadakan transaksi jual beli oleh masyarakat, harga tanah di Kecamatan Pahae Jae selama 2 (dua) Tahun terakhir harga rata-rata adalah Rp. 50.000,0 per Meter.-

Demikian disampaikan kepada Bapak untuk maklum dan seperlunya,-



T e m b u s a n :

1. Yth. Bpk. Bupati Tapanuli Utara Sebagai Laporan.-
2. P e r t i n g a l . -----



PEMERINTAH KABUPATEN TAPANULI UTARA
DINAS PERTANIAN DAN PERKEBUNAN

JL. S. M. Simanjuntak No. 1 Tarutung 22411
Tapanuli Utara Telp (0633) 20220 Fax (0633) 20495

Web site : <http://www.taputkab.go.id>; E-mail: pertanian@taputkab.go.id

Tarutung, 10 Agustus 2009

Kepada

Yth. Direktur PT Medco Geothermal Sarulla
Cq. LA & ER Medco Geothermal Sarulla

di -

T e m p a t.-

Nomor : 1872 /DPP/I/2009
Sifat : Penting
Lamp : 1 (satu) berkas
Perihal : Harga Dasar Tanaman.

Memenuhi Surat Bapak LA & ER PT Medco Geothermal Sarulla Nomor : MGS – 001 / LA-ER / VII/2009 tanggal 0 Juli 2009 perihal Harga Dasar Tanaman, untuk itu terlampir kami sampaikan daftar harga tanaman yang telah disurvei oleh Staf Dinas Pertanian dan Perkebunan Kab. Tap. Utara.

Demikian disampaikan untuk dapat dipergunakan atas perhatian diucapkan terimakasih.

KEPALA DINAS PERTANIAN DAN PERKEBUNAN
KABUPATEN TAPANULI UTARA



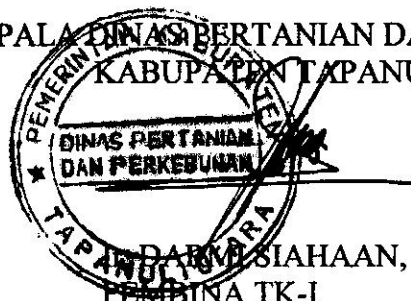
DAHM, STAAHAN, MM.
PEMBINA TK-I
NIP. 19580531198903 2 001

Untuk ganti rugi tanaman.

No.	Jenis Tanaman	Kurang Enam Bulan / Bibit	Belum Menghasilkan	Sudah Menghasilkan	Ket.
		Harga (Rp)	Harga (Rp)	Harga (Rp)	
1.	Karet	10.000	37.200	545.000	
2.	Kelapa	25.000	32.000	350.000	
3.	Durian	12.000	95.000	350.000	
4.	Rambutan	7.500	20.000	75.000	
5.	Mangga	12.500	25.000	65.000	
6.	Nangka	12.500	25.000	65.000	
7.	Jeruk	12.500	25.000	65.000	
8.	Padi		1.500 (rumpun)	2.500 (rumpun)	
9.	Pisang	11.500 (rumpun)	15.000 (rumpun)	25.000 (rumpun)	
10.	Pinang	7.000	20.000	75.000	
11.	Kopi Robusta	7.000	13.000	100.000	
12.	Coklat	8.000	25.000	220.000	
13.	Cengkeh	17.500	25.000	250.000	
14.	Jengkol	5.000	20.000	50.000	
15.	Aren	25.000	35.000	125.000	
16.	Asam	5.000	8.000	25.000	
17.	Langsat	12.500	35.000	125.000	
18.	Rambe	12.500	35.000	125.000	
19.	Manggis	12.000	35.000	125.000	
20.	Petai	7.500	20.000	75.000	
21.	Kayu Sembarangan	25.000	50.000	250.000	
22.	Ubi Kayu	3.500	8.000	25.000	
23.	Salak	6.500 (rumpun)	25.000 (rumpun)	150.000 (rumpun)	
24.	Jambu Air	6.000	15.000	75.000	
25.	Nenas	7.500 (rumpun)	15.000 (rumpun)	35.000 (rumpun)	
26.	Kemenyaan	12.000	15.000	450.000	
27.	Rumbia / Nipah	25.000	35.000	100.000	
28.	Bambu	7.500 (rumpun)	15.000 (rumpun)	75.000 (rumpun)	
29.	Bambu Lemang	7.500 (rumpun)	15.000 (rumpun)	75.000 (rumpun)	
30.	Sinim / Mallo	8.500 (rumpun)	25.000 (rumpun)	125.000 (rumpun)	
31.	Alpukat	10.000	40.000	250.000	
32.	Kulit Manis	7.500	12.000	200.000	
33.	Kemiri	25.000	50.000	250.000	
35.	Kopi Arabika	10.000	75.000	350.000	
36.	Sirsak	8.000	25.000	50.000	
37.	Kincung	1.500	20.000	50.000	
38.	Duku	12.000	35.000	150.000	
39.	Pepaya	10.000	25.000	30.000	
40.	Kueni	12.500	55.000	100.000	
41.	Tiung	12.500	25.000	125.000	
42.	Rimbang	5.000	7.500	10.000	

Tarutung, 10 Agustus 2009

KEPALA DINAS PERTANIAN DAN PERKEBUNAN
KABUPATEN TAPANULI UTARA



DARMA SIAHAAN, MM.
PEMBINA TK-I
NIP. 19580531198903 2 001

Lampiran : Daftar harga tanaman dan jenis tanaman serta tumbuh-tumbuhan
Untuk ganti rugi tanaman.

No.	Jenis Tanaman	Kurang Enam Bulan / Bibit	Belum Menghasilkan	Sudah Menghasilkan	Ket.
		Harga (Rp)	Harga (Rp)	Harga (Rp)	
1.	Karet	10.000	37.200	750.000	
2.	Kelapa	25.000	32.000	350.000	
3.	Durian	35.000	295.000	750.000	
4.	Rambutan	7.500	20.000	75.000	
5.	Mangga	12.500	25.000	65.000	
6.	Nangka	12.500	25.000	65.000	
7.	Jeruk	12.500	25.000	65.000	
8.	Padi		1.500 (rumpun)	2.500 (rumpun)	
9.	Pisang	11.500 (rumpun)	15.000 (rumpun)	25.000 (rumpun)	
10.	Pinang	7.000	20.000	75.000	
11.	Kopi Robusta	7.000	13.000	100.000	
12.	Coklat	8.000	25.000	220.000	
13.	Cengkeh	17.500	25.000	250.000	
14.	Jengkol	5.000	20.000	50.000	
15.	Aren	25.000	35.000	125.000	
16.	Asam	5.000	8.000	25.000	
17.	Langsat	12.500	35.000	125.000	
18.	Rambe	12.500	35.000	125.000	
19.	Manggis	12.000	35.000	125.000	
20.	Petai	7.500	20.000	75.000	
21.	Kayu Sembarangan	25.000	50.000	250.000	
22.	Ubi Kayu	3.500	8.000	25.000	
23.	Salak	6.500 (rumpun)	25.000 (rumpun)	150.000 (rumpun)	
24.	Jambu Air	6.000	15.000	75.000	
25.	Nenas	7.500 (rumpun)	15.000 (rumpun)	35.000 (rumpun)	
26.	Kemenyaaan	12.000	15.000	450.000	
27.	Rumbia / Nipah	25.000	35.000	100.000	
28.	Bambu	7.500 (rumpun)	15.000 (rumpun)	75.000 (rumpun)	
29.	Bambu Lemang	7.500 (rumpun)	15.000 (rumpun)	75.000 (rumpun)	
30.	Sinim / Mallo	8.500 (rumpun)	25.000 (rumpun)	125.000 (rumpun)	
31.	Alpukat	10.000	40.000	250.000	
32.	Kulit Manis	7.500	12.000	200.000	
33.	Kemiri	25.000	50.000	250.000	
35.	Kopi Arabika	10.000	75.000	350.000	
36.	Sirsak	8.000	25.000	50.000	
37.	Kincung	1.500	20.000	50.000	
38.	Duku	12.000	35.000	150.000	
39.	Pepaya	10.000	25.000	30.000	
40.	Kueni	12.500	55.000	100.000	
41.	Tiang	12.500	25.000	125.000	
42.	Rimbang	5.000	7.500	10.000	

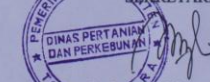
Catt : 1 Meter² Tanaman Padi sebanyak 80 rumpun

Tarutung, 28 Oktober 2010

KEPALA DINAS PERTANIAN DAN PERKEBUNAN

KABUPATEN TAPANULI UTARA

SEKRETARIS,



Ir. Sapri Nainggolan

PEMBINA TK-I

NIP. 19621217 199203 1 006

Annex C

Announcement of Cut-off Date Letter



Sarulla, 23 Mei 2013

No. : 095/SOL/VI/2013

Kepada

Lamp. :-

Bapak/Ibu : Sabar Simorangkir

Perihal : PEMBERITAHUAN

Di - Tempat

Dengan hormat,

Sehubungan akan dimulainya aktifitas fisik Uji Sumur Proyek Pembangkit Listrik Panas Bumi oleh Sarulla Operation Limited (SOL) di kecamatan Pahae Jae, khususnya untuk pekerjaan tanah, pemasangan Pipa, dan pemasangan fasilitas uji sumur di tapak sumur SIL 1, SIL 2, dan SIL 3 dan jalur antara tapak- tapak sumur tersebut, yang akan dimulai awal bulan Juni 2013, maka dengan ini kami meminta kerjasamanya kepada para pemilik lahan yang sudah dibeli/disewa tanahnya agar :

1. Tidak lagi melakukan penanaman apapun atau aktifitas lainnya pada lokasi sawah, kebun dan kolam dll;
2. Secepatnya mengambil kayu/ hal- hal lain yang masih berada di lokasi sawah, kebun, kolam, dan masih dianggap bernilai,

selambat-lambatnya sampai dengan hari Sabtu tanggal 01 Juni 2013

Demikian surat pemberitahuan ini disampaikan agar kita semua bisa selalu melaksanakan komitmen yang telah kita sepakati bersama guna mendukung suksesnya pelaksanaan Proyek Pembangkit Listrik Panas Bumi Sarulla, atas perhatian dan kerjasamanya kami ucapkan banyak terimakasih.

Hormat kami,

Sarulla Operations Limited

Mhd. Rum

LA & External Relation Officer