


# ALFA GEOTECH COMPANY PROFILE



ALFA GEOTECH CO., LTD.

Alfa Geotech Co., Ltd. (formerly MAA Geotechnics Co., Ltd.) was established in 1997 as a local geotechnical consulting firm. Over the last decade, the company has become a well-established geotechnical consulting company. The company has involved in several major infrastructure projects in Thailand, including highway, airport, land reclamation, petrochemical and power plant projects etc. Today, the company has over twenty (20) geotechnical engineers with various testing equipment and facilities, becoming one of the most active geotechnical consulting firms in Thailand.

Scope of Services	Contact:
<p><b>Alfa Geotech Co., Ltd.</b> provides the following consulting services:</p> <ol style="list-style-type: none"> <li>Geotechnical Consultancy <ul style="list-style-type: none"> <li>Ground Improvement</li> <li>Foundation Design</li> <li>Slope Stability and Settlement Analysis</li> <li>Design and Construction Supervision</li> </ul> </li> <li>Geotechnical Investigation</li> <li>In-Situ and Laboratory Tests</li> <li>Topographical Survey</li> <li>Geotechnical Field Tests <ul style="list-style-type: none"> <li>Electric Piezocone Penetration Test (CPT)</li> <li>Dynamic Cone Penetration Test (DCPT)</li> <li>Soil Resistivity Test</li> <li>Pressuremeter Test</li> <li>Downhole Seismic Test</li> </ul> </li> <li>Pile Testing <ul style="list-style-type: none"> <li>Low Strain Integrity Test (Seismic Test)</li> <li>Crosshole Sonic Logging Test (CSL)</li> <li>Static Pile Load Test</li> </ul> </li> <li>Instrumentation and Monitoring <ul style="list-style-type: none"> <li>Vibration monitoring</li> <li>Ground Movement Monitoring (Settlement plate, Inclinator and Extensometer)</li> <li>Piezometer installation and monitoring of piezometric pressure.</li> </ul> </li> <li>Geosynthetics Testing</li> </ol>	<p><b>Address:</b>  17,19 Soi Chokchai 4 Soi 69, Chokchai 4 Road, Latphrao, Bangkok 10230, Thailand  ☎:(+66) 2 931-0721-3  Fax: (+66) 2 931-0724  E-mail:admin@alfageotech.com</p> 

## Soil Investigation

### Soil Boring

Rotary wash boring will be used in the soil drilling to advance the hole. A drilling bit is attached to the end of the drilling with constant injection of mud fluid to lift the cuttings from the borehole. By constant rotation of the drilling bit with mud fluid circulation, the borehole can be advanced to required depth for other testing, such as SPT and undisturbed sampling. This type of drilling is efficient and greater depth of advancement can be achieved through this method.

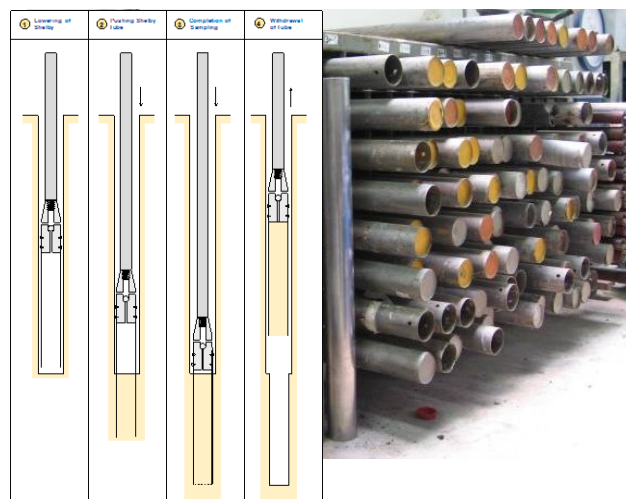


### Standard Penetration Test (SPT)

The Standard Penetration test (SPT) will be performed in the borehole. A split spoon sampler is attached to one end of the drilling rod, and a driving hammer is connected to the upper end of the rod. The weight of the hammer is fixed at 63.5 kg with a drop height of 76 cm. At the required testing depth, the sampler is lowered into the hole, followed by driving through the hammer with fixed drop height. A total of 45 cm of penetration into soil is required, and the SPT N value is taken as the number of blow count for the last 30 cm of penetration. Disturbed samples will be collected from the split spoon sampler, which are normally used for physical property tests and soil classification.

### Undisturbed Sampling

Undisturbed sampling will be collected through thin walled tube (Shelby tube). At required sampling depth, the hole is cleaned through flushing of mud fluid, and the Shelby tube is lowered into the hole with attachment to the drilling rod. Push-in method will be adopted for sample collection. Once the tip of the tube reaches the bottom of the hole, gentle force is applied at the upper end of the drilling rod downward until sufficient soil sample is collected within the tube. The tube is then withdrawn from the hole, and the rod adaptor is removed. Any unsuitable material will be removed from the end of the tube before waxing is done to seal the sample.

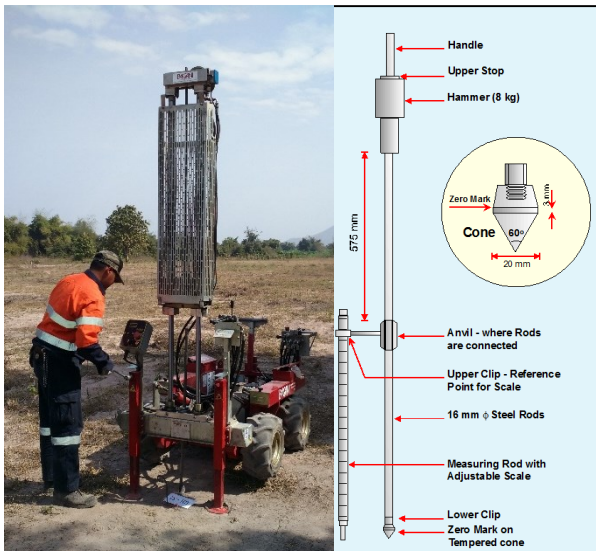


## Field Testing

### Cone Penetration Test (CPT)

The CPT consists of a cone tip attached to the pushing rod with various sensors measuring the cone resistance, sleeve friction and pore pressure. The measurements are automatically recorded by a computer with real time display. Currently, Alfa Geotech is the only company active in electrical CPT testing in Thailand.

Recent CPT works include Nong Saeng Power plant, PTT LNG tank terminal, Akara tailings pond, Wang Noi power plant, Laem Chabang port terminal etc.



### Dynamic Cone Penetration Test (DCPT)

The Dynamic Cone Penetration Test provides the stiffness of the soil resistance to penetration. The DCP equipment consists of a cone tip attached to the driven rod. An 8 kg rammer is used to drive the cone into the ground, and the penetration for each blow is recorded, providing the soil resistance profile. The data from the DCP can be correlated with the SPT N value.

### Soil Resistivity Test

The soil resistivity testing equipment consists of a battery as an energy source, a milli-ammeter, a potentiometer and electrodes. The four-point field electrical soil resistivity method is usually carried out for determining the resistivity of the soil and for use in the control of corrosion of buried structures. The test method is complied with the ASTM G 57.



## ***Pressuremeter Test***

The pressuremeter test is used for determining the in-situ modulus of the soil in the ground. The pressuremeter tests had been done in many large projects, including PTT LNG and second Mekong Bridge in Cambodia, for determining the modulus of the subsoils.



## ***Downhole Seismic Test***

The downhole seismic test determines the velocity of compression (P) and shear (S) seismic waves at the tested locations. A hammer and wooden plank is used as the source to generate the shear and compression waves. The seismic signal is detected by geophones and is recorded by a seismograph. The depth of investigation can be up to 100 m. The Poisson's ratio, constrained and shear modulus can also be determined from the measured shear and compression wave velocities. The test method is performed in accordance with ASTM D 7400.

## ***Field Vane Test (FV)***

Field vane tests perform on soft to medium stiff clay. The Vane Borer is used to obtain the undrained shear strength of the subsoils. The test is usually carried out at 1 m interval in soft to medium clay layer until the vane is unable to penetrate into the ground or limit of 70 kPa of undrained shear strength is reached. The vane shear test will give the peak and residual vane shear strength of the soft to medium clay stratum.



## ***Pile Testing***



### ***Low Strain Integrity Test***

The low strain integrity test determines the integrity of individual pile by measuring and analyzing the velocity response of the pile induced by a handheld hammer applied axially to the pile head. The low strain integrity tests are carried out in accordance with ASTM D 5882-95 by the Pulse Echo Method.

### ***Static Pile Load Test***

The static pile load test determining pile behaviour under vertical compression loading. The static pile load test are carried out in accordance with ASTM D1143-81.



### ***Dynamic Pile Analyzer (PDA) Test***

The dynamic pile load test determining the activated pile capacity which can be divided to skin friction and toe resistance by signals are stored and analyzed by the Pile Driving Analyzer (PDA). The dynamic pile load test are carried out in accordance with ASTM D4945.

## ***Crosshole Sonic Logging Test***

The crosshole sonic logging is introduced for assessing the homogeneity and integrity of the concrete between the access tubes in the bored piles. Cross-hole sonic logging method is adopted to assess the uniformity and relative quality of concrete and to evaluate the effectiveness of crack repairs. There are three sets of CSL equipment using at ALFA.



## ***Instrument installation and monitoring***

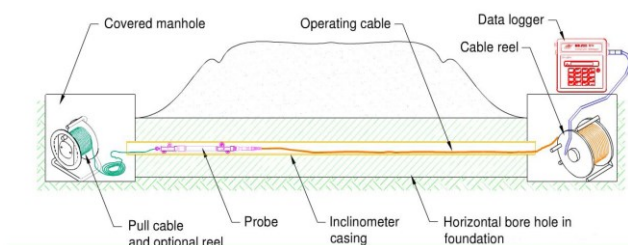


### ***Vibration Monitoring***

The vibration monitoring system consists of a portable computer with associated software for recording, the accelerometers and the transducer connection box. The system measures the acceleration through a set of accelerometers and recorded by a portable computer. The vibration monitoring method and the effects of vibration on structures are evaluated in accordance with German Institute of Standards DIN 4150-3.

### ***Soil Movement Monitoring (Inclinometer)***

The inclinometer is used to measure the inclination of inclinometer tubes measured at 0.5 m interval. The tube can be installed in the ground or in any underground concrete structure. From the inclinations along with the measured intervals, the horizontal movements of the inclinometer tube could be computed.



### ***Horizontal Inclinometer***

The horizontal inclinometer is used to measure the inclination of inclinometer tubes measured at 0.5 m interval. The horizontal inclinometer can provide a settlement profile of direct indication has deflected. From the inclinations along with the measured intervals, the horizontal movements of the inclinometer tube could be computed.

## ***Soil Movement Monitoring (Settlement Plate)***

The settlement plate is used to measure the settlement of ground using the steel rod with reference to the reference benchmark. The settlement of the ground is computed with reference to the initial reading.



## ***Piezometer Installation and Monitoring***

The vibrating wire piezometer is used with an absolute pressure range from 0 to 1 MPa for measuring of the piezometric pressure. The piezometer consists of a pressure recording device which is placed on one side into a stainless steel casing.

## ***Magnetic Extensometer Installation and Monitoring***

The Magnetic Extensometer is designed to measure settlement or heave of soil layer. A probe is lowered inside a guide tube to detect and measure the position of magnetic anchors located around the guide tube at various depths along the borehole.





## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
0402	Geotechnical Investigation for Sam Lae Raw Water Pumping Station	Pathumtani	Feb-2004	Feb-2004	Salcon Engineering Berhad Co., Ltd.	The site investigation was carried out at Sam Lae Raw Water Pumping Station in Pathumtani with the drilling depth of 40 meters to investigate the subsoil condition of the site, ensuring that the installed piles will have sufficient allowable pile capacities.
0405	Pile Load Tests for 2nd Mekong International Bridge Project	Mukdaharn	Feb-2004	Feb-2004	Siam Tone Co., Ltd.	A total of four (4) pile load tests were carried out with 1m diameter of bored piles at 2nd Mekong International Bridge Project in Mukdaharn province.
0407	Geotechnical Investigation for PTT LPG Depot Project	Banglamung, Chonburi	May-2004	May-2004	SK Engineering Construction Co., Ltd.	A total of seven (7) boreholes were drilled to the average depth of 25 meters to determine the subsoil condition and recommend appropriate foundation type for additional 6,000 m3 spherical tank.
0410	Soil Boring and Soil Cement Trial Mix of Fire Rescue & Field Verification	Bangkok	Jun-2004	Jun-2004	Pylon Co., Ltd.	The site investigation was carried out at Fire Rescue Section of Suvarnabhumi Airport, Bangkok to determine the natural soil property determination, trial soil/cement with original soil from different depths, coring of soil/cement column, loading test on column and retrieving installed column by pullout test.
0413	Geotechnical Investigation and Evaluation for Siam GS Battery Factory	Bang Pu, Samuth Prakarn	May-2004	May-2004	Hyat Engineering Co., Ltd.	A total of two (2) boreholes were drilled to the average depth of 30 meters at Siam GS Battery Factory to investigate the subsoil condition of the site as well as to provide recommendations on appropriate pile capacities for repairing of existing foundation to reduce the settlement of the factory.
0414	Additional Soil Investigation for Sam Lae Raw Water Pumping Station	Pathumtani	Feb-2004	Feb-2004	Team Consulting Engineering and Management Co., Ltd.	The additional site investigation was carried out at Sam Lae Raw Water Pumping Station in Pathumtani with the drilling depth of 30 meters to investigate the subsoil condition of the site, ensuring that the soil data obtained are consistent with previous data used for foundation design.



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			From	To		
0415	Soil Investigation for 3rd Runway	Suvarnabhumi Airport, Bangkok	Nov-2004	Nov-2004	Span Company Limited	A total of fifteen (15) boreholes were drilled to the average depth of 25 meters to investigate the subsoil and selected soil parameter for settlement calculation of soft clay layer.
0426	Geotechnical Investigation for ATC FRC Project	Map Ta Phut Industrial Estate	Feb-2005	Feb-2005	SK Engineering Construction Ltd.	The soil investigation was performed to determine the current subsoil condition. The site is located within Thai Aromatic plant compound, surrounded by existing facilities. A total of fifteen (15) boreholes were drilled to the average depth of 25 meters and one (1) electrical soil resistivity test together with three (3) test pits were also performed to determine the subsoil as well as to provide the engineering analysis.
0436	1st Midfield Satellite Aprons and 3rd Runway of the Second Bangkok International Airport	Bangkok, Thailand	Dec-2004	Dec-2004	New Bangkok International Airport Co., Ltd.	Consulting service for design of ground improvement via PVD and vacuum consolidation methods for construction of the 1st Midfield Satellite Aprons and 3rd Runway of the Second Bangkok International Airport.
0506	Unconfined Compression Tests of Soil Cement Column for OBRR Project	Thub Chang, Bangkok	May-2005	May-2005	Siam Tone Co., Ltd.	Unconfined compression tests were carried out for cored samples of soil cement column of OBRR Project to determine the strength of soil cement column.
0514	Geotechnical Investigation for Monaco Housing Estate Project	Bangna, Bangkok	Aug-2005	Aug-2005	Goldenland Property Development Plc.	A total of two (2) boreholes were drilled to the average depth of 25 meters to investigate the subsoil to estimate the settlement rate.
0517	Geotechnical Investigation for 3-Line MRTA Project	Bangkok	Sep-2005	Sep-2005	BMTD Consortium	Planning, Supervision and reporting were carried out for geotechnical investigation work (168 boreholes) for 3-Line MRTA Project



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0518	Subsoil Investigation and Soil Cement Trial Mix Design for Access A&E Project	King Kaew Road, Bangkok	Nov-2005	Nov-2005	Italian-Thai Development Public Co., Ltd.	The site investigation was carried out to determine the natural soil property determination, and trial soil/cement with original soil from different depths were also carried out to determine appropriate mixed ratio.
0520	Vibration Monitoring at Erawan Museum for SOBRR Project	Erawan museum, Samutprakarn	Dec-2005	Dec-2005	Ch. Karnchang Public Co., Ltd.	Vibration monitoring were carried out at Erawan Museum to capture any vibration induced by piling activities in the close vicinity.
0521	Soil Cement Trial Mix Design for Klong Suvarnabhumi Project (section 1)	Bang Plee, Samutprakarn	Dec-2005	Dec-2005	Ch. Karnchang Public Co., Ltd.	Trial soil/cement with original soil from different depths were carried out to determine design mixed ratio.
0601	Static Plate Load Tests for Siam Cement Plant Project	Cambodia	Jan-2006	Jan-2006	Siam Tone Co., Ltd.	A total of seven (7) plate load tests were carried out to determine the bearing capacity of ground.
0603	Soil Investigation and Evaluation for Excavation Pit of SNN New Factory	Bang Bo, Samutprakarn	Feb-2006	Feb-2006	Thai Kajima Co., Ltd.	A total of two (2) boreholes were drilled to the maximum depth of 30 meters to determine the subsoil condition. Based on the soil data obtained, evaluation of braced sheetpiling system was conducted.
0608	Geotechnical Investigation for Sumitomo Rubber Plant Project	Rayong	May-2006	May-2006	Siam Tone Co., Ltd.	A total of three (3) boreholes were carried out to determine the subsoil condition and to evaluate the stability of the fill.



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			From	To		
0609	Maintenance Apron Expansion of the Second Bangkok International Airport Project	Bangkok, Thailand	Jul-2006	Jul-2006	Kampanpetch Vivat Co., Ltd.	Consulting service for design of ground improvement via vacuum consolidation and soil cement column methods for Maintenance Apron Expansion of the Second Bangkok International Airport.
0611	Inclinometer Monitoring for SNN New Plant Project	Bang Bo, Samutprakarn	Jul-2006	Jul-2006	Thai Kajima Co., Ltd.	Monitoring of two (2) inclinometers were carried out to measure the ground lateral movement due to excavation work.
0614	Unconfined Compression Test for Klong Suvarnabhumi Project (section 1)	Bang Plee, Samutprakarn	Sep-2006	Sep-2006	Ch. Karnchang Public Co., Ltd.	Unconfined compression test (with over 400 tests) were carried out to determine the strength of cored samples of soil cement columns.
0616	Static Column Load Tests for Klong Suvarnabhumi Project (section 2)	Bang Plee, Samutprakarn	Nov-2006	Nov-2006	Pylon Co., Ltd.	A total of three (3) static column load tests were carried out for verification of soil cement columns in trial test section.
0621	Geotechnical Investigation for PTT LNG Facilities Project	Mab Ta Phut, Rayong	Nov-2006	Nov-2006	Flour Corporation	A total of fifty (50) onshore boreholes and six (6) offshore boreholes were carried out to determine the subsoil and bedrock condition including engineering recommendation.
0701	Evaluation on Geological Hazards for Chiva-Som International Health Resorts Project	Khao Kho, Petchaboon	Apr-2007	Apr-2007	Chiva-Som International Health Resorts Co., Ltd.	A total of five (5) boreholes along with geological survey were carried out to determine the geological formation, the subsoil condition and the hardness of the rock. The seismic study and engineering analysis were also performed for the evaluation on geological hazards.



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Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
0714	Geotechnical Investigation & Ground Improvement Design for TMT Ban Pho Test Course Project	Wang Noi, Ayutthaya	Aug-2007	Aug-2007	Thai Obayashi Corporation Ltd.	The soil investigation work was performed, gathering the necessary soil data for the ground improvement design via the vacuum consolidation method. A total of four (4) boreholes and two (2) sets of field vane tests were performed for the test course area, and one (1) borehole was drilled for the design of building foundation. Consulting service for design of 60,000 sq.m of ground improvement via vacuum consolidation method for Toyota Test Track.
0715	Inclinometer Monitoring for Klong Suvarnabhumi Project	Bang Plee, Samutprakarn	Aug-2007	Aug-2007	Ch. Karnchang Public Co., Ltd.	Continuous monitoring of six (6) inclinometers were carried out during construction to measure the ground lateral movement due to excavation work.
0716	Geotechnical Investigation and Evaluation for TBSC New PG Construction Project	Wang Noi, Ayutthaya	Aug-2007	Aug-2007	Thai Obayashi Corporation Ltd.	The soil investigation work along with engineering evaluation on the settlement and ground improvement method were performed for this project. A total of six (6) boreholes were drilled along the test course area and one (1) borehole was drilled for the building area to determine the subsoil condition.
0720	The Design of New Runway at Sihanoukville International Airport	Sihanoukville International Airport, Cambodia	Aug-2007	Aug-2007	Société Concessionnaire des Aéroports - SCA	A total of fifteen (15) boreholes were drilled along the existing and new runway axis to investigate the subsoil and selected soil parameter for the design of ground improvement. Consulting service for design of ground modification via soil replacement for construction of new runway of Sihanoukville International Airport.
0721	Geotechnical Investigation for HMC PP Project Line-3 (Early Work)	Map Ta Phut Industrial Estate, Rayong	Sep-2007	Sep-2007	GS Engineering and Construction Corporation	A total of eight (8) boreholes and five (5) test pits were carried out to investigate the subsoil condition and recommend on geotechnical engineering values.
0727	Geotechnical Investigation for HMC PP Project Line-3 (New Area)	Map Ta Phut Industrial Estate, Rayong	Oct-2007	Oct-2007	GS Engineering and Construction Corp.	A total of twenty-six (26) boreholes and ten (10) test pits were carried out to investigate the subsoil condition and recommend on geotechnical engineering values. In addition, five (5) field electrical soil resistivity and two (2) downhole seismic tests were performed to determine the ground resistivity and the dynamic soil properties, respectively.



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Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
0731	Pile Load Test for East West Highway Project	Algeria	Nov-2007	Nov-2007	Siam Tone Co., Ltd.	Fifteen (15) compression pile load tests were conducted at a bridge foundation to determine pile behavior under vertical compression load with maximum load of 1,200 tons.
0733	Geotechnical Investigation for SIPCO Combined Cycle Cogeneration Project	SSP Rayong Industrial Park, Rayong province	Dec-2007	Dec-2007	Hyundai Engineering Co., Ltd.	A total of ten (10) boreholes were conducted along with two (2) test pits, five (5) field electrical resistivity tests, two (2) downhole seismic tests and three (3) plate load tests were also performed at the site to investigate the subsoil conditions of the site, as well as to provide recommendations on the appropriate design parameters and foundation design for the proposed structures.
0801	Geotechnical Investigation for Jetty Development and PTT LNG Receiving Terminal Project	Map Ta Phut, Rayong	Dec-2008	Dec-2008	GS Engineering & Construction Corporation	A total of twenty eight (28) offshore boreholes and thirty three (33) onland boreholes were conducted along with downhole seismic tests, pressuremeter tests, field permeability test in rock layer, field electrical resistivity tests to investigate subsoil conditions of site along with recommendations on appropriate design parameters and foundation design for proposed structures.
0805	Highway No.3116	Samutprakarn	Sep-2008	Sep-2008	Department of Highway	Consulting service on design of geotechnical engineering and ground improvement via soil cement column method for construction of highway no. 3116.
0807	Surveying Team for Jetty Development and LNG Receiving Terminal Project	Map Ta Phut, Rayong	Apr-2008	Apr-2010	GS Engineering & Construction Corporation	Supplied Survey team for construction work.
0808	Soil Resistivity Tests for Design of Cathodic Protection System for Jetty Development and LNG Receiving Terminal Project	Map Ta Phut, Rayong	Nov-2008	Nov-2008	GS Engineering & Construction Corporation	Conducted ninety eight (98) field electrical soil resistivity tests to determine ground resistivity for design of grounding and cathodic protection systems



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			From	To		
0809	Deep Settlement Monument Installation for Land Reclamation Work for PTT LNG Receiving Terminal Project	Map Ta Phut, Rayong	Jun-2008	Jun-2008	Van Oord Thai Ltd.	A total of thirty four (34) drilling and installation of deep settlement monuments were installed to monitor ground settlement after completion of land reclamation work.
0811	Foundation and Structural Design of Slope Road for TMT Project	Ban Pho, Chachoengsao	Oct-2008	Oct-2008	Thai Obayashi Corporation Ltd.	Consulting service on foundation design including pile and transition unit as well as structural design of bridge
0813	Evaluation of Foundation Work on Module Assembly of Woodside Project in Laem Chabang	Laem Chabang, Chonburi	Jun-2008	Jun-2008	Sino-Thai Engineering & Construction Public Company Limited	Consulting service on evaluating existing footing design of critical modules.
0816	Soil Investigation for Nakhonphanom Rajabhat University	Nakhon Phanom	Jul-2008	Jul-2008	Future Engineering Consultants Co., Ltd.	A total of six (6) boreholes were carried out to investigate the subsoil condition and recommend on geotechnical engineering values.
0820	Soil and Rock Coring for Waterfront Pattaya Project, Chonburi Province	Pattaya, Chonburi	Aug-2008	Aug-2008	ItalThai Trevi Co., Ltd.	A total of thirty six (36) boreholes with rock coring were carried out to determine the subsurface condition
0822	DOW AIE Project in Rayong	Rayong	Oct-2008	Oct-2008	Foster Wheeler International Corporation	Evaluation of existing soil data and investigation of new subsoil conditions (totally 79 boreholes), and provided recommendations on the appropriate design parameters and foundation design for the proposed structures.



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0825	Sonic Logging Tests for PTT LNG Project, Rayong Province.	Rayong	Oct-2008	Oct-2008	Siam Tone Co., Ltd.	Conducted ninety (90) sonic logging tests on 1200 mm diameter bored piles to verify uniformity and relative quality of concrete.
0826	Ho Chi Minh City - Long Thanh - Dau Giay Expressway	Vietnam	Aug-2008	Aug-2008	Nippon Koei Co., Ltd.	Design of ground improvement for 55-km Ho Chi Minh - Long Thanh - Dau Giay Expressway with 200,000 sq.m of vacuum consolidation.
0828	Geotechnical Investigation and Topographical Survey Work for PTT CHEM EPS Project	Rayong Province, Thailand	Oct-2008	Oct-2008	Hyundai Engineering Co., Ltd.	Conducted twelve (12) boreholes along with Downhole seismic tests, pressuremeter tests, field electrical resistivity tests to investigate the subsoil conditions of the site.
0901	Consolidation Test on MRT Green Line	Bangkok, Thailand	Feb-2009	Feb-2009	JLP Engineering Services Co., Ltd.	Conducted eighty (80) consolidation tests to determine the consolidation characteristics of subsoils.
0903	Geotechnical Evaluation on Slope Failure for Toyota Boshoku Project	Bangkok, Thailand	Feb-2009	Feb-2009	Siam Tone Co., Ltd.	Consulting service for evaluating existing ground condition with new soil investigation, as well as providing recommendations on the possible remedies.
0906	Pressuremeter Test on 2nd Mekong Bridge, Cambodia	Neak Loeung, Cambodia	May-2009	May-2009	Siam Tone Co., Ltd.	Conducted pressuremeter tests and interpretation.



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0908	Ground Improvement Design for Toyota Boshoku Project	Bangkok, Thailand	Apr-2009	Apr-2009	Thai Takenaka International Ltd.	Consulting service for ground improvement design with soil cement columns and sand stabilized mat for internal road of Toyota Boshoku Plant.
0911	Soil Cement Trial Mix for Central Plaza Phra Ram 9 Project	Bangkok, Thailand	Jun-2009	Jun-2009	Seafco Public Co., Ltd.	Trial soil/cement with original soil from different depths were carried out to determine design mixed ratio.
0912	Underground Unit Substation	Bangkok, Thailand	Dec-2009	Dec-2009	AIT	Consulting service for design of underground electric power substation for Metropolitan Electricity Authority (MEA).
0915	Land Development Design for Long Son Petrochemical Complex	Ba Ria - Vung Tau, Vietnam	Oct-2009	Oct-2009	Long Son Petrochemical Co., Ltd.	Consulting service for design of ground modifications for Long Son Petrochemical Complex located in Long Son Island in the Northwest of Vung Tau City, Ba Ria - Vung Tau province, Vietnam.
0916	Design of Bored Pile and Rock Anchoring for MTT New Jetty No.3	Map Ta Phut, Rayong	Jul-2009	Jul-2009	Siam Tone Co., Ltd.	Consulting service for pile design with rock anchoring for supporting jetty structure.
0918	Hanoi - Haiphong Expressway in Package EX-7	Vietnam	Mar-2009	Mar-2009	GS Engineering & Construction Corp.	Consulting service for re-evaluation of ground improvement for Hanoi - Haiphong express way in Package EX-7.



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0919	Rayong Terminal Development Project	Map Ta Phut, Rayong	Sep-2009	Sep-2009	Foster Wheeler International Corporation	Consulting service for Land Reclamation and Revetment of Rayong Terminal Development Project.
0922	Bang Bo Combined Cycle Power Plant	Samut Prakan, Thailand	Nov-2009	Nov-2009	ALSTOM Asia Pacific Sdn Bhd	Evaluation on the possible causes of the settlement in the treated pavement area, including prediction on the future settlement based on available data.
0923	Preparation of ITB Document on Ground Modifications for Long Son Petrochemical Complex	Ba Ria - Vung Tau, Vietnam	Nov-2009	Nov-2009	Long Son Petrochemical Co., Ltd.	Preparation of the instructions to bidders on the ground modification works including document preparation with consideration of initial technical comments from potential bidders and the Client.
0925	Instrument Monitoring Work at Bang Bo Power Plant.	Samut Prakan, Thailand	Sep-2010	Sep-2010	ALSTOM Asia Pacific Sdn Bhd	A total of 5 nos. of inclinometer, 6 nos. of settlement plate and 103 nos. of settlement point was measured quarterly at Bang Bo Power Plant.
1005	Area D1-D3 Development Laemchabang Port	Chonburi, Thailand	Apr-2010	Apr-2010	Ten Consultants Co., Ltd.	A total of 144 piezocone penetration and 19 dissipation tests were carried out to investigate the subsoil condition.
1007	PTT GSP6 Project	Rayong, Thailand	Mar-2010	Mar-2010	PTT Public Co., Ltd.	Geotechnical consulting service for evaluation of structural foundations of Gas Separation Plant No. 6



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1016	Design of Road Rectification Work for Bang Bo Power Plant	Samut Prakan, Thailand	Nov-2010	Nov-2010	ALSTOM Asia Pacific Sdn Bhd	Consulting service for design of road rectification with raising by lightweight material for 1.3 km perimeter access road in Bang Bo Power Plant.
1017 & 1030	Tan Son Nhat - Binh Loi - Outer Ring Road Project	HCMC, Vietnam	Mar-2011	Mar-2011	GS Engineering & Construction Corp.	Redesign of ground improvement scheme for Tan Son Nhat - Binh Loi - Outer Ring Road Project.
1018 & 1020	PTT Tank Terminal Project	Rayong, Thailand	Jul-2010	Jul-2010	Thai Woo Ree Engineering Co., Ltd.	A total of 11 onshore and 11 offshore boreholes with rock coring were carried out to investigate the subsoil conditions for both onshore and offshore foundation design.
1019	Study of the Effect on the Substructure on the Bangkok Area due to Piezometric Pressure Recovery in the Aquifers	Bangkok, Thailand	Mar-2011	Mar-2011	Seven Associated Consultants	Geotechnical investigation and instrumentation works have been carried out to study the effect on substructures in the Bangkok area due to piezometric pressure recovery in the aquifers.
1033	Rayong Terminal Project (RTC)	Map Ta Phut, Rayong	Jan-2011	Jan-2011	DOW Chemical	Review of geotechnical design and construction work for foundation as well as jetty piling work
1102	PTT LNG Receiving Terminal Project	Map Ta Phut, Rayong	Mar-2011	Mar-2011	GS Engineering & Construction Corp.	Ten (10) CPT tests, one (1) borehole and supply of settlement plates for Temporary Access Road of Portion D.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1103	Geotechnical Design for Site Preparation Work of Nong Saeng Power Plant Project	Saraburi Province, Thailand	Mar-2011	Mar-2011	Sino-Thai Engineering & Construction Public Co., Ltd.	Geotechnical design for site preparation work including evaluation of subsoil conditions, stability and settlement analysis and design of geosynthetics together with preparation of drawings and specifications.
1104	TTK Global Training Center Project	Ban Pho, Chachoengsao, Thailand	Feb-2011	Feb-2011	Thai Takenaka International Ltd.	Design of ground improvement via soil cement column method for Training Course Area and settlement evaluation for untreated area.
1106	Geotechnical Investigation for Nong Saeng Power Plant Project	Saraburi Province, Thailand	Mar-2011	Mar-2011	Sino-Thai Engineering & Construction Public Co., Ltd.	A total of thirteen (13) boreholes with five (5) boreholes at Power Plant zone, seven (7) boreholes at Reservoir zone and one (1) borehole at the intake area were carried out to investigate the subsoil condition.
1107	Cone Penetration Tests (CPT) for Nong Saeng Power Plant	Saraburi Province, Thailand	Mar-2011	Mar-2011	KISO-JIBAN Consultants Co., Ltd.	Twenty nine (29) CPT tests were carried out in the power plant area with specified locations.
1109	Geotechnical Investigation and Topographical Survey for Onshore Compressor Station 4	Rayong, Thailand	Apr-2011	Apr-2011	Thai Woo Ree Engineering Co., Ltd.	A total of seven (7) boreholes, one (1) dynamic cone penetration along with silt sampling, two (2) test pits, four (4) field permeability, one (1) downhole seismic and two (2) sets of electrical resistivity tests were carried out to investigate the subsoil condition as well as to provide recommendations on the appropriate design parameters and foundation design for the proposed structures. Topographical survey was performed to investigate the site condition.
1114	Seismic Downhole and Soil Resistivity Tests	Jurong Island, Singapore	May-2011	May-2011	Moh And Associates (S) PTE LTD	A total of two (2) downholes and three (3) earth resistivity were carried out to investigate dynamic and electrical resistivity characteristics of subsoil.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1116	Nha Be New Town Project	Hanoi, Vietnam	Dec-2011	Dec-2011	GS Engineering & Construction Corp.	Consulting service on geotechnical engineering including evaluation of subsoil conditions, review and comment on basic and technical design of ground improvement.
1117	Instrument Monitoring Work at Bang Bo Power Plant.	Samut Prakan, Thailand	May-2011	May-2011	ALSTOM Asia Pacific Sdn Bhd	A total of 5 nos. of inclinometer, 6 nos. and 86 nos. of settlement point and 30 nos. of coordinate and elevation were measured after Road Rectification at Bang Bo Power Plant.
1119	As Built Document, Soil Boring, Monitoring and Topographical Survey of BCLP Land	Rayong	Oct-2011	Oct-2011	Gs Engineering & Construction Corp	Preparation of As-Built Document, soil boring and laboratory tests to investigate the physical properties of subsoil, additional instrumentation works for settlement monitoring and Topographical Survey work for the strip of BCLP land.
1124	Geotechnical Investigation at Pump House and Intak Structure of GNS Nong Saeng Power Plant	Nong Saeng, Saraburi	Jul-2011	Jul-2011	Sino-Thai Engineering & Construction Co., Ltd.	A total of two (2) boreholes along with four (4) field permeability tests and laboratory tests were carried out to investigate the subsoil condition as well as to provide recommendations on the pile capacity.
1147	Structural Design of Nam Sao Bridges in NNP1 Project, LAOS	LAOS	Nov-2011	Nov-2011	Obayashi Corporation	Preparation of structural drawings, detail design and calculations for Nam Sao Bridges.
1150	Mombasa Port Development	Kenya	Nov-2011	May-2012	Siam Tone Co., Ltd.	Subsoil investigation including laboratory testing, CPT test, Vane Shear test and report preparation.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1153	Nong Seang Power Generation Supply (PGS)	Nong Seang, Saruburi	Dec-2011	Dec-2011	Sino-Thai Engineering and construction Co., Ltd.	Design of geotechnical works for flood protection dike, water ponds, reservoirs in the Nong Saeng Power Plant.
1154	ISPP	Phanom Penh, Cambodia	Dec-2011	Mar-2013	Ce Teau	Instrument installation, monitoring of geotechnical instrument and surveying landscape area.
1155	New Permanent Flood Barrier, Hi-Tech Industrial Estate	Pathum Thani	May-2012	May-2012	Thai Industrial Corp., Ltd.	Design of flood protection barrier along the boundary perimeter of industrial estate (11 km) with earth dike for coping with the design flood level. Topographical survey and geotechnical investigation works were conducted for using in design work.
1201	Structural Design of Nam Sao Bridges in NNP1 Project, LAOS	LAOS	Jan-2012	Jan-2012	Obayashi Corporation	Preparation of structural drawings, detail design and calculations for Nam Sao Bridges.
1205	Teijin Polyester Project	Rang Sit, Bangkok	Feb-2012	Feb-2012	STS Instruments Co., Ltd.	A total of six (6) pressure meter test were carried out to achieve a quick measure of the in-situ stress-strain relationship of the soil.
1206	Instrument Monitoring Work at Bang Bo Power Plant.	Samut Prakan, Thailand	Mar-2012	Mar-2012	ALSTOM Asia Pacific Sdn Bhd	A total of 5 nos. of inclinometer, 6 nos. of settlement plate and 103 nos. of settlement point was measured quarterly at Bang Bo Power Plant.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1209	NSGT CGL	Map Ta Phut, Rayong	Apr-2012	Apr-2012	KRO Co., Ltd.	A total of six (6) boreholes were drilled to the average depth of 10 meters to investigate the subsoil to estimate the settlement rate.
1212	New Infant Nutrition Facility Project	Singapore	Apr-2012	Apr-2012	Moh and Associated (S) PTE LTD	A two (2) field electrical soil resistivity tests were carried out for determining the resistivity of the soil to be used in the design of underground system by Wenner Configuration Method.
1214	GNNK	Korat Province	May-2012	May-2012	Gulf JP NNK Company Limited	Consulting service for slope stability problem and countermeasure of water pond in the Power Plant.
1217	New Flood Protection Barrier System for TDK (Thailand)	Rojana, Ayutthaya	Jun-2012	Jun-2012	Thai Kajima Co., Ltd.	Design of flood protection barrier along the boundary perimeter of TDK plant (1.4 km) with earth dike, reinforce earth dike and concrete retaining wall with sheet pile wall for coping with the design flood level. Topographical survey and geotechnical investigation works were conducted for using in design work.
1218	New Flood Protection Barrier System for Thainamthip	Pathum Thani Province	Jun-2012	Jun-2012	Thainamthip Limited	A total of ten (10) boreholes were drilled to the average depth of 20 meters to investigate with ten (10) field vane shear tests and laboratory tests including engineering recommendation and topographical survey at every 25 linear m. along existing dike with boundary extending to boundary limitation on both sides of dike. Provide Initial concept design and Short-term protection solutions.
1220	Denchai-Chiang Rai Express Way	Chiang Rai	Jul-2012	Jul-2012	MAA Consultants Co., Ltd.	Perform the laboratory tests including physical properties and strength characteristic tests were carried out to identify the properties of existing rock foundation.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1224	New Flood Protection Barrier System for Tostem	Nava Nakorn, PathumThani	Jul-2012	Jul-2012	Thai Kajima Co., Ltd.	Topographical survey, A total of eighteen (18) boreholes were drilled to the average depth of 20 meters with nine (9) field vane shear tests and laboratory tests including engineering recommendation.
1226	Long Son Petrochemical Complex	Vietnam	Jul-2012	Jul-2012	Long Son Petrochemical Complex (SCG)	Consulting service for design of ground modifications for Long Son Petrochemical Complex located in Long Son Island in the Northwest of Vung Tau City, Ba Ria - Vung Tau province, Vietnam.
1228	FTM SH	Map Ta Phut, Rayong	Jul-2012	Jul-2012	KRO Co., Ltd.	A total of six (6) boreholes were drilled to the average depth of 15 meters with laboratory testing including engineering recommendation.
1247	IRPC UHV Project	Map Ta Phut, Rayong	Nov-2012	Feb-2013	GS Engineering & Construction Corp.	Topographical survey, A total of ninety-four (94) boreholes were drilled to the average depth of 30-35 meters with four (4) field permeability, eleven (11) downhole seismic test, eleven (11) set of electrical resistivity test and eight (8) trial pit & load tests, two (2) pressuremeter tests and laboratory tests including engineering recommendation.
1237	Suranaree & Bule Sky Co-Generation	Nakorn Ratchasima Province	Nov-2013	Jan-2014	Gulf Energy Development Company Limited	Consulting service for Design of the reservoir size of achieving,
1238	SOY - 1034	Ayutthaya Province	Dec-2012	Jul-2013	MITSUBISHI HEAVY INDUSTRIES, LTD.	Design Services for Ponds and consultancy Engineering Service for Storm Water Ponds



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1301	Kho Bo Ya LPG Terminal Tank Farm	Laem Chabang, Chonburi	Jan-2013	Feb-2013	Thai Wee Ree Engineering Co., Ltd.	A total of two(2) boreholes were drilled to the average depth of 20 meters with two (2) plate load test, one (1) downhole seismic test, one (1) set of electrical resistivity test including one (1) pressuremeter test and laboratory testing.
1302	Pinthong New Factory	Pinthong New Factory Land 1, Chonburi Province	Jan-2013	Feb-2013	K.R.O C., Ltd.	A total of nine (9) boreholes were drilled to the average depth of 12 meters, including physical property test.
1303	IRPC UHV Project	Map Ta Phut, Rayong	Mar-2013	Jul-2013	GS Engineering & Construction Corp.	A total of five (5) lateral pile load tests, Twelve (12) compressive pile load test, Five (5) Tensile pile load test.
1304	Kanom Power Plant #4	Nakorn Sri Tamarat Province	Mar-2013	Apr-2013	STS Instrument Co., Ltd.	Six (6) Pressuremeter test, and three (3) downhole seismic tests were performed down to 30 -35 depth in borehole.
1305	Structural Design of Nam Ngiep Project	LAOS	Mar-2013	Jun-2014	Obayashi Corporation	Preparation of structural drawings, detail design and calculations for Nam Ngiep Bridges.
1306	Kenya Project	Kenya	Mar-2013	May-2013	Siam Tone Co., Ltd.	Laboratory Testing



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1307	FSTH Plant in Amata City Rayong	Amata City, Rayong Province	Apr-2013	Jun-2013	Thai Nishimatsu Construction Co., Ltd.	Twenty (20) sets of pressuremeter test, including physical properties, strength (Triaxial and direct shear) and consolidation test, and CBR test.
1308	Mazda D	Eastern Seaboard, Pluak Daeng, Rayong	May-2013	Jun-2013	Thai Kajima Co., Ltd.	A total twenty (20) nos. of settlement plate monitoring and installation.
1309	IRPC UHV	Map Ta Phut, Rayong	Jul-2013	Jul-2013	SURJIN TECH CO., LTD.	A total of ten (10) boreholes were drilled to the average depth of 25 meters and laboratory tests including engineering
1310	IRPC UHV	Map Ta Phut, Rayong	Jul-2013	Jan-2014	SURJIN TECH CO., LTD.	Full Load Test (Anchor Pile System), Compression Test on Stone Column (250) ton, including single Column Load test (Dead Weight) , Supply and installation of settlement plate, inclinometer
1311	IRPC UHV	Map Ta Phut, Rayong	Aug-2013	Mar-2014	GS Engineering & Construction Corp.	Static and Dynamic Pile Load Tests 360 Nos.
1312	Static Compression Pile Load Test for Malikha Condo Project	Yangon Myanmar	Sep-2013	Oct-2013	Golden Tri Star Co.,Ltd	A total of five (5) static pile load tests were carried out for verification of bored piles



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1313	1st Midfield Satellite Building Development	Suvarnabhumi International Airport	Aug-2013	Jun-2014	MAA Consultants Co., Ltd.	Review of soil factual reports and preparation of geotechnical interpretative report, design check of pile foundation and diaphragm wall design including of possible causes of pavement damage on existing airfield pavement and provide solutions to minimize such problem in new pavement.
1401	Mitsui House	Sukhumvit Soi 53, Bangkok	Dec-2013	Jan-2014	Thai Kajima Co., Ltd.	A total of three (3) boreholes were drilled to the average depth of 30 meters to investigate the subsoil to estimate the settlement rate including engineering recommendation.
1402	Point Yamu Phuket Project	Phuket	Jan-2014	Feb-2014	The Yamu Club Villas	Four (4) lines of seismic travel time tomography survey
1403	Mango Project	Eastern Hemaraj Seaboard Industrial, Rayong	Jan-2014	Feb-2014	Ten Consultants Co., Ltd.	The soil investigation was performed to determine the current subsoil condition. A total of twelve (12) of Cone Penetrometer Test, CPT.
1404	TOP SPP Block 1/2 & Utility Improvement	Chonburi	Jan-2014	Feb-2014	Ten Consultants Co., Ltd.	The soil investigation was performed to determine the current subsoil condition. A total of eleven (11) of Cone Penetrometer Tests, CPT and six (6) electrical soil resistivity test with two (2) downhole seismic tests.
1405	GSPP11 GAS Engine Power Plant	Siam Eastern Industrial Estate, Rayong	Jan-2014	Feb-2014	Ten Consultants Co., Ltd.	The in-situ test to measure stress-strain relationship and determining the resistivity of the soil. A total of ten (10) pressuremeter tests and two (2) electrical soil resistivity tests.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1406	Ricoh Manufacturing (Thailand) New Factory	Amata City Industrial, Rayong	Feb-2014	Feb-2014	Thai kajima Co., Ltd.	A total of three (3) boreholes to investigate the subsoil condition and recommend on geotechnical engineering values. In addition, installation of observation well and monitoring.
1407	IRPC UHV	Rayong	Feb-2014	May-2014	Surjin (Thai) Co., Ltd.	Four (4) Compression Test on Stone Column with Single Column Load test (Dead Weight). In addition, installation of settlement plate and inclinometer (8 Tests)
1408	FTM - Ford Body Shop	Hemaraj Industrial Estate, Rayong	Feb-2014	Feb-2014	Thai Kajima Co., Ltd.	A total of two (2) boreholes to investigate the subsoil condition and recommend on geotechnical engineering values. In addition, installation of observation well and monitoring.
1409	Feed Mill	Nakhon Ratchasima	Jan-2014	Jun-2014	Christiani & Tielsen (Thai) Co., Ltd.	Consultancy service and laboratory testing
1410	FTM (Body & Stamping Shop PH-3)	Eastern Hemaraj Seaboard Industrial, Rayong	Feb-2014	Apr-2014	Thai kajima Co., Ltd.	A total of twenty four (24) boreholes were drilled to the average depth of 15 meters and laboratory tests.
1411	Gulf Power Plant	Rojana Industrial Estate	Feb-2014	Mar-2014	Sino-Thai Engineering & Construction	A total of two (2) boreholes were drilled to the average depth of 10 meters with two (2) field vane shear tests and laboratory tests.



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Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1412	Hilltop Vista	Yangon, Myanmar	Mar-2014	Apr-2014	Golden Tri Star Co.,Ltd	One (1) static compression pile load tests on bored pile were conducted at foundation with diameter 1200 mm and length 50 m to determine pile behavior under vertical compression load with maximum load of 1,817 tons.
1413	Junction City	Yangon, Myanmar	Mar-2014	Jun-2014	Golden Tri Star Co.,Ltd	ULT Load Test and Dynamic Pile Load Test on Bored Pile
1414	Junction Square	Yangon, Myanmar	Mar-2014	Mar-2014	Golden Tri Star Co.,Ltd	Three (3) static compression pile load tests on working pile were conducted at foundation to determine pile behavior under vertical compression load with maximum load of 1,200 tons.
1415	Suzuyo New Warehouse	Samutprakarn	Mar-2014	Apr-2014	Thai Takenaka International Ltd.	A total of three (3) boreholes to investigate the subsoil condition and recommend on geotechnical engineering values. In addition, installation of observation well and monitoring.
1416	Ford Body Shop	Eastern Hemaraj Industrial Estate, Rayong	Apr-2014	Dec-2014	Thaikajima Co., Ltd.	Continuous monitoring of seven (7) points were carried out during construction to measure the ground water level. (Apr 2014 - Dec 2014)
1417	300 -Rai Reservoir	Rojana Industrial, Rayong	Apr-2014	May-2014	Gulf JP UT Company Limited	A total of three (3) boreholes to investigate the subsoil condition and recommend on geotechnical engineering values.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1418	FTM PH-3 Blanking Shop	Eastern Hemaraj Industrial Estate, Rayong	Apr-2014	May-2014	Thai Kajima Company Limited	A total of eight (8) boreholes were drilled to the average depth of 15 meters and laboratory tests.
1419	PTT LNG Receiving Terminal Expansion Project Phase II	Rayong Province	Mar-2014	Jul-2014	IHI Posco-Eng Consortium	- A total of thirty two (32) boreholes were drilled to rock surface with at least 1 m of rock coring, nine (9) plate load test, nine (9) downhole seismic test, forty-one (41) field electrical resistivity test, nine (9) standpipe installation and laboratory test including engineering recommendation. - Topographic survey to obtain coordinate and topographic information for design of the new plant (300,000 sq.m.).
1421	Sai Yok 3	Kanchanaburi	May-2014	May-2014	Thai Woo Ree Engineering Co., Ltd.	A total of two (2) boreholes to investigate with core rock sampling 1 meter, one (1) Electrical Resistivity Test, one (1) Downhole test, one (1) Thermal resistivity test, one (1) Permeability test including laboratory test and recommend on geotechnical engineering.
1422	PTTLNG LNG Receiving Terminal Expansion-Phase II (Offshore)	Rayong	Jun-2014	Jul-2014	Nawarat Patanakarn Public Company Limited	A total of six (6) pressuremeter on soil (1 level per hole)
1423	SMC Thai New Factory Phase I	Eastern Hemraj Industrial Estate, Rayong	May-2014	Jun-2014	Thai Takenaka International Ltd.	A total of 5 (five) boreholes were drilled to the average dept of 6.8 meters with (28) twenty-eight Dynamic Cone Penetration 137 meters.
1424	PTTLNG LNG Receiving Terminal Expansion	Rayong	May-2014	Jul-2014	IHI Corporation	Keep record of pile top rock and checking the pile tip condition as well as collecting excavated materials in the lat buckets. All the excavated rock sample will be kept in containers for records.



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Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1425	Long Song Petrochemicals	Vietnam	Jun-2014	Dec-2015	Long Song Petrochemicals Co., Ltd.	Revised related Bill of Quantity (BOQ), Provide consultancy during bidding clarification of the land development works, including geotechnical consultancy works and services.
1426	Raw Water Reservoir of Suranaree Power Plant	Suranaree Industrial Estate, Korat	Jul-2014	Nov-2014	Gulf NRV 1	<ul style="list-style-type: none"><li>- Preliminary design of water reservoir, water intake and budgetary cost estimates of reservoir system.</li><li>- Estimation of land area required for water storage.</li><li>- Topographical Survey for River Mun cross section, and four (4) boreholes were drilled to the average dept of 15 meters with laboratory test.</li></ul>
1427	Mae Rim Underpass	Chiang Mai	Oct-2014	Dec-2015	Ten consultants Co., Ltd.	Sonic Logging Test of Barrette Pile 6 tubes and Pile Integrity Test of Barrette Pile.
1428	YKK	Bangpoo, Samutprakan	Jul-2014	Sep-2014	YKK (Thailand) Co., Ltd.	Topographical Survey, and one (1) borehole were drilled to the average depth of 20 meters with laboratory test, including engineering assessment report.
1429	Thu Thiem 3 and 4 Project	Vietnam	Jul-2014	Aug-2014	BR Design Consultant	Design of soft ground treatment for all internal roads, prepared which will include design concept, selection of soil parameters and treatment methods, design calculations, highlighting foreseeable problem areas, specifications etc.
1430	BlueScope	Eastern Industrial Estate, Rayong	Jun-2014	Jul-2014	Thai Kajima Co., Ltd.	A total of 3 (three) boreholes were drilled to the average dept of 26 meters with 3 (three) observation wells. A 20 ton excavating the trial pit including both field and laboratory results interpretation along with settlement and stability analysis. Cone Penetration Test 12 (twelve) .



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1431	Pearl Manaro	Sattahip, Chonburi	Jun-2014	Jul-2014	Clough (Thailand) Co., Ltd.	A total of 4 (four) boreholes were drilled to the average dept of 18 meters with 4 (four) installation of casing for DCPT test including laboratory testing.
1432	Nam Ngiep 1 Hydropower	LAOS	Jul-2014	Oct-2014	Obayashi Corporation	Design wall dimensions, general steel arrangement, initial quantities and detail structural calculations, detailed drawings, detailed quantities.
1433	PTTLNG LNG Receiving Terminal Expansion	Rayong	Jul-2014	Jul-2014	Southern concrete Pile Public Co., Ltd.	A total 12 (twelve) pile dynamic analysis test with initial test and restrike test.
1434	PTTLNG LNG Receiving Terminal Expansion	Map Ta Phu Industrial Estate, Rayong	Jul-2014	Aug-2014	Posco Engineering (Thailand) Co., Ltd.	Two (2) Compression Test, two (2) Tensile Pile Load Test and two (2) Lateral Pile Load Test.
1435	Mitsui House	Sukhumvit Soi 53	Aug-2014	Aug-2014	Thai Kajima Co., Ltd.	Static compressive pile load test (Test load 125 ton)
1436	PTTLNG LNG Receiving Terminal Expansion	Map Ta Phut, Rayong	Sep-2014	Oct-2014	IHI Corporation	Four (4) bored pile coring work with coring throughout the concrete of bored pile followed by rock coring below pile tip for LNG storage tank.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1437	CNT Office Building	Bang Na	Sep-2014	Nov-2014	Christiani & Nielsen (Thai)	One (1) static compression pile load test for 300 mm spun pile
1438	PTTLNG LNG Receiving Terminal Expansion	Map Ta Phu Industrial Estate, Rayong	Oct-2014	Aug-2014	Posco Engineering (Thailand) Co., Ltd.	Two (2) Compression Test on Tensile Pile Load Test
1439	Consultancy Service on Geotechnical Evaluation Works at KLIA2	Kuala Lumpur International Airport, Malaysia	Dec-2014	Jun-2015	Malaysia Airports (Sepang) Sdn. Bhd.	Geotechnical consultant for evaluating the completed ground improvement scheme of KLIA2. The study included geotechnical data interpretation, settlement analysis, reporting, presentation as well as appropriate recommendations
1440	Supply and Monitoring of Instrument at Nakornsrihammarat Airport	Nakornsrihammarat Airport, Nakornsrihammarat Province	Feb-2015	Mar-2016	CeTeau (Thailand)	Interpretation of plate bearing test result and bearing capacity included settlement analysis
1441	Soil Investigation Work at DAT New Factory	Rojana Industrial Park, Prachinburi	Dec-2014	Jan-2015	Thai Takenaka International Ltd.	A total of Ten (10) boreholes to investigation the subsoil condition Including Scrutinizing Both Field and Laboratory Results of Both New and Previous Boreholes and Settlement Analysis.
1501	Merchant Luxury, Shwe Gone Emotion Tower, Kis Plaza, Min Residence	Yangon, Nay Pyi Taw, Myanmar	Jan-2015	Nov-2015	Myanmar	Static pile load test with strain Gauge, Working pile load test and Dynamic Load Test.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1502	HINO	Laem Chabang Industrial Estate, Sriracha, Chonburi	Feb-2015	Jun-2015	Thai Takenaka International Ltd.	A total of three (3) boreholes to investigate the subsoil condition and recommend on geotechnical engineering values. In addition, installation of observation well and monitoring. Design of Bored Pile Wall, RC Design for Bored Pile Wall, Stability Check & Pile Capacity Estimation
1503	Initial Design (Conceptual) Isuzu Test Course	Lat Lum Kao, Pathum Thani	Mar-2015	Apr-2015	Siam Tone Co.,Ltd.	Recommend on geotechnical engineering values. In addition, installation of observation well and monitoring.
1504	MCL	Myanmar	Mar-2015	Mar-2015	RFS Service Co., Ltd.	Pile Dynamic Load Test (PDA)
1505	Toyota Buzz	Chainatt	Jan-2015	Mar-2015	Thai Takenaka International Ltd.	- DCPT 62 Points - Soil Cement Coring from 0 m to 5 m and Unconfined compression test on cored sample..
1506	TCMA Land B	Lad Krabang, Bangkok	Apr-2015	Jun-2015	SMCC (Thailand ) Co., Ltd.	- Ple Load Test - A total of thirteen (13) boreholes were drilled to the average depth 35 meters including factual report.
1507	Nippon Gaishi	Asia Industrial Area, Saunt Prakan	Jun-2015	Jun-2015	Siam Tone Co., Ltd.	Field Supervision for soil boring including laboratory results interpretation along with engineering analysis, Pressuremeter Test and Supply of Instrument.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1508	Komatsu	Bang Pakong, Chachoengsao	Jul-2015	Aug-2015	Thai Kajima Co., Ltd.	Topographical Survey, A total of fourteen (14) borehole were drilled to the average dept. of 35 meters and laboratory, including factual soil report..
1509	GNRV1 and GNRV 2	Suranaree, Korat	Jul-2015	Aug-2015	Sino Thai Engineering & Construction Public Company Limited	Consulting Service for Reservoir Design Work for Off-Site Facilities - Raw water Reservoir and Wastewater Pond for GNRV 1 and GNRV 2
1510	GNRV1 and GNRV 2	Suranaree, Korat	Jul-2015	Sep-2015	Aurecon Consulting (Thailand) Co., Ltd.	Consulting Service for Reservoir Design Work for Off-Site Facilities - Raw water Reservoir and Wastewater Pond for GNRV 1 and GNRV 2
1545	Highway Route No. 402	Phuket	Sep-2015	Apr-2016	Chayakar Engineering Limited Partnership	Supply of VW Strain Gauge and inclinometer casing and installation with 9 holes with average 15 m. per hole with sonic logging test of concrete panel 8 tubes (16 Paths) x 12 m. depth.
1512	Nippon Gaishi Project	Samut Prakarn	Sep-2015	Sep-2015	Hazama Ando Corporation	Consultancy service for Ground Improvement Design and Pile Design
1513	Klong Kra Shang Toey Bridge	Samut Prakarn	Oct-2015	Mar-2016	Thai Takenaka International Ltd.	Foundation and Geotechnical Review of bridge foundation design, road foundation adjacent to retention pond.



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1514	Siam Tohcello	Eastern Seaborad., Pluakdaeng , Rayong	Oct-2015	Oct-2015	Rayong Engineering & Plant Service	Consultancy service for Wet Floor Issue.
1515	Water Wells Installation for Lixil Plant	Navanakorn, Pathumthani	Nov-2015	Mar-2016	Thai Kajima Co., Ltd.	Two (2) water wells having yield of around 120 m <sup>3</sup> per hour were installed at depth of around 200 m for water extraction to be used at the plant included supply and installation of steel casing , stainless wire wound screen and submersible pump.
1601	GTS1	Pluang Daeng, Rayong	Jan-2016	Jan-2016	ToYo Engineering Corporation	Soil Investigation and Pumping test
1602	NGK	Asia Industrial Estate, Samutprakarn	Jan-2016	Mar-2016	Thai kajima Co., Ltd.	1.Chemical Soil Anaysis 2.Topographical Survey and Soil Investigaion 2 Boreholes @ 40 m. 3. PDA Test
1603	Mazda F	Rayong	Feb-2016	Feb-2016	Thai Kajima Co., Ltd.	Geotechnical Engineering Evaluation for 29 Boreholes
1604	CCPP, Myanmar	Myanmar	Apr-2016	May-2016	JLP Engineering Services Co., Ltd.	Soil Resistivity Test, Soil Temperature



## ALFA GEOTECH PROJECT EXPERIENCE

Job No.	Project Name	Location	Period		Client	Work Description
			From	To		
1605	Reservoir Design Work for Off-Site Facilities	Korat Province	Apr-2016	ongoing	Sino-Thai Engineering	Engineering Design Services for Waste Water Reservoir and Raw Water Reservoir, GNRV1, Korat.
1606	NGK	Asia Industrial, Samupprakanr	May-2016	Jun-2016	Thai Kajima	Pile Dynamic Load Test (PDA) 351 Tests
1607	Bangkok Sky Tower	Tak Sin, Bangkok	May-2016	Jun-2016	STS	Pressuremeter Test 10 Nos.