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Production of a Topographic Map and the Creation of a Six-Layer Geographic Information System (GIS) For A Fifteen Square-Kilometre (15 Km²) Areal Extent of the Gidan Kwano Campus of the Federal University of Technology, Minna, Niger State, Nigeria

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Abstract

Geological or geophysical surveys must be tied-in to an existing Geographic Information System (GIS) platform and georeferencing of survey stations should be the acceptable norm. It is as a result of these facts that this work was designed in order that proper surveying, topographic, and GIS information for a defined fifteen square-kilometer (15km²) gridded area was executed. The objectives of this project are the creation of a detailed topographic map for the area of study so as to reduce ambiguities in future geoscientific studies at the study area, the implementation of georeferencing protocol at the area of study, the creation of a Geographic Information System (GIS) database for the area of study, and the creation of specific GIS layers for the area of study. These GIS layers define the outcrop, arboreal, economic resource, land use, as well as squatters' settlements profile of the area of study. The area selected for this study is located at the following co-ordinate grids: N09⁰30'25.20'', E006⁰26'11.34''; N09⁰33'07.20'', E006⁰26'11.34'' and N09⁰30'25.20'', E006⁰24'34.14''; N09⁰33'07.20'', E006⁰24'34.14''; this area covers the portion of the Gidan Kwano Campus (GKC) where near-term, mid-term, and long-term facility expansion works are expected to be sited. Latitude, longitude, elevation (i.e. x, y, z) information using the Etrex hand-held Global Positioning System (GPS) units were collected every 100m along every N-S and E-W axes at the area of study, thus forming a grid of 1581 georeferenced stations of interest for the topographic map generation. X, y, z information-gathering sequence for the GIS layers was a non-gridded, spatial-oriented exercise. The site-specific topographic map for this project work was generated using the Golden Surfer 8 software. In addition, the ArcView GIS was used to create a six-layer Geographic Information System (GIS) for the area of study. The topographic map and GIS database can be considered as a suite of very important reference materials that can be assessed by researchers engaged in future surface and subsurface formation studies in the area of study.

Keywords: Topographic, georeferencing, GIS, geosciences, survey, latitude, longitude, elevation

1.0 INTRODUCTION

1.1 Need for the Study. It is now desirable, more than ever before, that geological or geophysical surveys must be tied in to an existing Geographic Information System (GIS) platform. Moreso, georeferencing of survey stations should be the acceptable norm and data analysis and presentation must be aided by tie-ins to the GIS database. It is as a result of these facts that this work was designed in order that proper surveying, topographic, and GIS information for a three-kilometre by five-kilometre (i.e. a fifteen square-kilometer) gridded area was generated.

1.2 Problem Statement. Geoscientific investigations must necessarily be tied-in to existing topographic maps and Geographic Information System (GIS) database of any area of study. Where no such information exist, result presentations are likely to be fraught with ambiguities.

1.3 Objectives of Study. The objectives of this study are the following:

- (i) The creation of a detailed topographic map for the area of study.
- (ii) The creation of a Geographic Information System (GIS) database for the area of study. This GIS database is made up of layers that define the outcrop, arboreal, economic resource, land use, and squatters' settlements profile of the area of study.

1.4 Justification of Study. According to the published literature (ABEM, 1999), any geoscientific survey must be tied-in to existing topographic, geologic, and suchlike (e.g. GIS) maps of the area of interest. Thus this project work has provided a platform by means of which these targets could be met.

1.5 Scope and Limitation of Study. The total extent of survey for this project work was 15km². Georeferenced data were collected at 100m intervals. Owing to financial and time constraints, only 15km² of the total 100km² landmass of the Gidan Kwano Campus could be covered.

1.6 Area of Study. The area of study is a 15km² areal extent within the Gidan Kwano Campus (GKC) of the Federal University of Technology, Minna, Nigeria. The GKC is about 10,650 hectares or 106.5 km² in size. The georeferenced indicators of the area of study are N09⁰30'25.20'', E006⁰26'11.34''; N09⁰33'07.20'', E006⁰26'11.34'' and N09⁰30'25.20'', E006⁰24'34.14''; N09⁰33'07.20'', E006⁰24'34.14''.

1.7 Basic Cartographic Concepts. Graph drawing and cartography interact when graphs that already have an embedding (i.e. geometric networks) have to be visualized. Examples of such networks are street, subway, river, or cable networks. Often it helps to visualize the underlying network for analyzing the quantity under consideration. For example, traffic on a road network can be visualized by drawing each road as a rectangle whose width is proportional to the amount of traffic in that road (Wolff, 2004).

One of the main problems in map production is a process called *generalization*. Given cartographic data that has been collected at large scale, this data must be simplified in order to produce maps at small scale. In order to obtain readable maps, detail must be reduced and spacing must be enlarged. Traditionally this has been done manually by cartographers, but increasingly semi-automated and even automated methods are in use, particularly in conjunction with Geographic Information Systems, GIS. The esthetic constraints that govern the process of drawing geometric networks can be seen as an example of generalization: usually vertices must keep a certain minimum distance and edges are restricted to polygonal lines that use few directions and have few bends. Note that general graph-drawing algorithms cannot be used ad hoc for drawing geometric networks since they do not respect the given embedding. A good drawing of a geometric network must reflect geometry in a certain way since a user typically has some intuitive notion of the underlying geometry, a *mental map* in other words. For example, the user of a metro system expects stations in the north to appear on the top of maps that depict the metro system. Thus the aim of drawing geometric networks is to find a good compromise between distorting geometry and maximizing aesthetics (Eades *et al.*, 1991).

1.8 Topographic Surveying. The term “topographic surveying” encompasses a broad range of surveying and mapping products, ranging from aerial mapping to ground and underground surveys (www.140.194.76.129.org). “Control surveying” is a survey which provides horizontal or vertical position data for the support or control of subordinate surveys or for mapping (www.140.194.76.129.org). Topographic surveys have been defined as follows: “A topographic map shows, through the use of suitable symbols, (1) the spatial characteristics of the earth’s surface, with such features as hills and valleys, vegetation and rivers, and (2) constructed features such as buildings, roads, canals, and cultivation. The distinguishing characteristic of a topographic map, as compared with other maps, is the representation of the terrain relief.”

1.9 Contouring Concept. According to Wikipedia (2011), a contour line (also *isoline* or *isarithm*) of a function of two variables is a curve along which the function has a constant value (also Courant et al., 1996). In cartography, a contour line (often just called a "contour") joins points of equal elevation (height) above a given level, such as mean sea level. A contour map is a map illustrated with contour lines, for example a topographic map, which thus shows valleys and hills, and the steepness of slopes. The contour interval of a contour map is the difference in elevation between successive contour lines (Tracy, 1907). More generally, a contour line for a function of two variables is a curve connecting points where the function has the same particular value. The gradient of the function is always perpendicular to the contour lines. When the lines are close together the magnitude of the gradient is large: the variation is steep. A level set is a generalization of a contour line for functions of any number of variables. Contour lines are curved or straight lines on a map describing the intersection of a real or hypothetical surface with one or more horizontal planes. The configuration of these contours allows map readers to infer relative gradient of a parameter and estimate that parameter at specific places. Contour lines may be either traced on a visible three-dimensional model of the surface, as when a photogrammetrist viewing a stereo-model plots elevation contours, or interpolated from estimated surface elevations, as when a computer program threads contours through a network of observation points of area centroids. In the latter case, the method of interpolation affects the reliability of individual isolines and their portrayal of slope, pits and peaks (Davis, 1986).

1.10 The Geographic Information System (GIS). According to Wikipedia (2010), Geographic Information System (GIS) represents a new paradigm for the organization of information and design information system, the essential aspect of which is use of the concept of location as the basis for the structuring of information system. The main advantage of using GIS is its ability to access and analyze spatially distributed data with respect to its actual spatial location overlaid on a base map of the area of coverage that allows analysis not possible with the other data base management systems. The main benefit of using the GIS is not merely the user friendly visual access and display, but also the spatial analysis capability and the applicability to apply standard GIS functionalities such as simultaneous access to several layers of data and the overlay of some, as well as the ability to interface with external programs and software for decision support data management, and user specific functions. A Geographic Information System (GIS) or geospatial information system is a system designed to capture, store, manipulate, analyze, manage, and

present all types of geographically referenced data. In the simplest terms, GIS is the merging of cartography, statistical analysis, and database technology. A GIS can be thought of as a system — it digitally creates and "manipulates" spatial areas that may be jurisdictional, purpose or application-oriented for which a specific GIS is developed. Hence, a GIS developed for an application, jurisdiction, enterprise or purpose may not be necessarily interoperable or compatible with a GIS that has been developed for some other application, jurisdiction, enterprise, or purpose. What goes beyond a GIS is a spatial data infrastructure (SDI), a concept that has no such restrictive boundaries.

Therefore, in a general sense, the term describes any information system that integrates, stores, edits, analyzes, shares and displays geographic information for informing decision making. GIS applications are tools that allow users to create interactive queries (user-created searches), analyze spatial information, edit data, maps, and present the results of all these operations. Geographic information science is the science underlying the geographic concepts, applications and systems. In recent years computer tools such as geographic information systems (GIS) have become fundamental for environmental assessment, regional planning, ecosystem conservation and natural resource management. Also in developing countries there exists a growing interest in these tools, both in the public and private sector. GIS offer a wide range of possibilities in the fields of inventory making, planning and decision making. With GIS one can store and manage geographical data, integrate different types and analyze relations between data themes, perform spatial modeling, etc. The results are displayed visually on maps to help decision-makers better understand and solve problems.

GIS is an interdisciplinary tool. Therefore, it receives attention from various disciplines such as agricultural engineering, civil engineering, computer science, sociology, etc. This is positive in a way, for indeed it is necessary that all the involved disciplines become partners in the process of implementation of the GIS, on the other hand it also complicates the situation because each one of them tends to neglect the global picture. A sociologist does not worry about projection systems, an agricultural engineer does not see the need of a neatly structured database, a computer scientist does not understand the final goal of his new toy, and each one of them wants to have or to be himself "the" GIS specialist. Geographic Information System (GIS), Geographical Information System or Geospatial Information System is a system that captures, stores, analyze, manage, and

present data with reference to geographic location data. In the simplest terms, GIS is the merging of Cartography, statistical analysis and data base technology. GIS can be thought of as a system – it digitally creates and “manipulates” spatial areas that may be jurisdictional, purpose or application oriented, for which a specific GIS is developed. GIS (geographic information system) describes any information system that integrates, stores, edit, analyzes, shares and displays geographic information for informing decision making. GIS applications are tools that allow users to create interactive queries (user-created searches), analyze spatial information, edit data and present the result of all these operations. GIS (geographic information system) uses spatio – temporal (space – time) location as the key index variable for all other information. GIS can relate otherwise unrelated information by using location key index variable. The key is the location and / or extents in space – time. Any variable that can be located spatially, and increasingly also temporally, can be referenced using a GIS. Locations or extents in earth space – time may be recorded as date / time of occurrence and X, Y and Z co-ordinates representing; longitude, latitude and elevations (altitude) respectively. Related by accurate spatial information, an incredible verity of real world and projected past or future data can be analyzed, interpreted and represented to facilitate education and possible decision making. GIS accuracy depends upon source data, and how it is encoded to be data referenced. Land Surveyors have been able to provide a high level of positional accuracy utilizing the GPS derived positions. Also the high-resolution digital terrain and aerial imagery, the powerful computers, Web technology, are changing the quality, utility, and expectations of GIS to serve society on a grand scale, but nevertheless there are other source data that has an impact on the overall GIS accuracy like: paper maps that are not found to be very suitable to achieve the desired accuracy since the aging of maps affects their dimensional stability. In developing a Digital Topographic Data Base for a GIS, topographical maps are the main source of data. Aerial photography and satellite images are extra sources for collecting data and identifying attributes which can be mapped in layers over a location facsimile of scale. The scale of a map and geographical rendering area representation type are very important aspects since the information content depends mainly on the scale set and resulting locatability of the map's representations. In order to digitize a map, the map has to be checked within theoretical dimensions, and then scanned into a raster format, and resulting raster data has to be given a theoretical dimension by a rubber sheeting/warping technology process. Some maps were made many decades ago, where at that time the computer industry was not even in its perspective

establishments. This has led to historical reference maps without common norms. Map accuracy is a relative issue of minor importance in cartography. All maps are established for communication ends. Maps use a historically constrained technology of pen and paper to communicate a view of the world to their users. Cartographers feel little need to communicate information based on accuracy, for when the same map is digitized and input into a GIS, the mode of use often changes. The new uses extend well beyond a determined domain for which the original map was intended and designed. A quantitative analysis of maps brings accuracy issues into focus. The electronic and other equipment used to make measurements for GIS is far more precise than the machines of conventional map analysis (Wikipedia, 2010).

1.11 The GIS Layer. According to Wikipedia (2010), a Geographic Information System (GIS) is a tool for mapping and analyzing data. The ability to layer many features onto the same map and select or unselect as needed allows for a multitude of views and ease of interpreting data. More important, this allows for in depth scientific analysis and problem solving. When information, in digital form, is geographically referenced (meaning that the information is linked to specific places on the earth, using a system such as Latitude/Longitude) it can then be used as a map layer in GIS. Each map layer, or theme, thus consists of geographic, or spatial, data linked to descriptive, or tabular, information. The strength of GIS lies in its ability to create and organize these distinct map layers for different types of information, and then to overlay and combine layers as necessary to create maps and perform analyses.

1.12 Georeferencing Essentials. To georeference something means to define its existence in physical space. That is, establishing its location in terms of map projections or coordinate systems. The term is used both when establishing the relation between raster, vector images and coordinates but also when determining the spatial location of other geographical features. Examples would include establishing the correct position of an aerial photograph within a map or finding the geographical coordinates of a place name or street address. This procedure is thus imperative to data modeling in the field of geographic information systems (GIS) and other cartographic methods. When data from different sources need to be combined and then used in a GIS application, it becomes essential to have a common referencing system. This is brought about by using various georeferencing techniques. Most georeferencing tasks are undertaken either because

the user wants to produce a new map or because they want to link two or more different datasets together by virtue of the fact that they relate to the same geographic locations (Wikipedia, 2010).

1.12.1 Need for Georeferencing:

- (i) Georeferencing is crucial to making aerial and satellite imagery, usually raster images, useful for mapping as it explains how other data, such as the above GPS points, relate to the imagery.
- (ii) Very essential information may be contained in data or images that were produced at a different point of time. It may be desired either to combine or compare this data with that currently available. The latter can be used to analyze the changes in the features under study over a period of time.
- (iii) Different maps may use different projection systems. Georeferencing tools contain methods to combine and overlay these maps with minimum distortion.
- (iv) Using georeferencing methods, data obtained from surveying tools like handheld GPS may be given a point of reference from topographic maps already available.
- (v) It may be required to establish the relationship between social survey results which have been coded with postal codes or street addresses and other geographic areas such as census zones or other areas used in public administration or service planning (Wikipedia, 2010).

1.12.2 Method of Georeferencing: There are various GIS tools available that can transform image data to some geographic control framework, like ArcMap, PCI Geomatica, or ERDAS Imagine. One can georeference a set of points, lines, polygons, images, or 3D structures. For instance, a GPS device will record latitude and longitude coordinates for a given point of interest, effectively georeferencing this point. A georeference must be a unique identifier. In other words, there must be only one location for which a georeference acts as the reference. Images may be encoded using special GIS file formats or be accompanied by a world file. To georeference an image, one first needs to establish control points, input the known geographic coordinates of these control points, choose the coordinate system and other projection parameters and then minimize residuals. Residuals are the difference between the actual coordinates of the control points and the coordinates predicted by the geographic model created using the control points. They provide a method of determining the level of accuracy of the georeferencing process. In situations where

data have been collected and assigned to postal or area codes, it is usually necessary to convert these to geographic coordinates by use of a definitive directory or gazetteer file. Such gazetteers are often produced by census agencies, national mapping organizations or postal service providers. At their simplest, these may simply comprise a list of area codes or place names and another list of corresponding codes, names or coordinate locations. The range and purpose of the codes available is country-specific.

1.12.3 Latitudes and Longitudes: A geographic coordinate system is a coordinate system that enables every location on the Earth to be specified by a set of numbers. The coordinates are often chosen such that one of the numbers represents vertical position, and two or three of the numbers represent horizontal position. A common choice of coordinates is latitude, longitude and elevation. The geographic latitude (abbreviation: Lat., ϕ , or phi) of a point on the Earth's surface is the angle between the equatorial plane and a line that passes through that point and is normal to the surface of a reference ellipsoid which approximates the shape of the Earth. This line passes a few kilometres away from the center of the Earth except at the poles and the equator where it passes through Earth's center. Lines joining points of the same latitude trace circles on the surface of the Earth called parallels, as they are parallel to the equator and to each other. The North Pole is 90° N; the South Pole is 90° S. The 0° parallel of latitude is designated the equator, the fundamental plane of all geographic coordinate systems. The equator divides the globe into Northern and Southern Hemispheres. The longitude (abbreviation: Long., λ , or lambda) of a point on the Earth's surface is the angle east or west from a reference meridian to another meridian that passes through that point. All meridians are halves of great ellipses (often improperly called great circles), which converge at the north and south poles. A line passing near the Royal Observatory, Greenwich (near London in the UK) has been chosen as the international zero-longitude reference line, the Prime Meridian. Places to the east are in the eastern hemisphere, and places to the west are in the western hemisphere. The antipodal meridian of Greenwich is both 180° W and 180° E. The zero/zero point is located in the Gulf of Guinea about 625 km south of Tema, Ghana (Wikipedia, 2010) .

1.13 Concept of the Universal Traverse Mercator (UTM). The Universal Transverse Mercator (UTM) geographic coordinate system is a grid-based method of specifying locations on the surface of the Earth that is a practical application of a 2-dimensional Cartesian coordinate system. It is a horizontal position representation, i.e. it is used to identify locations on the earth

independently of vertical position, but differs from the traditional method of latitude and longitude in several respects. The UTM system is not a single map projection. The system instead employs a series of sixty zones, each of which is based on a specifically defined secant transverse Mercator projection. The Universal Transverse Mercator (UTM) coordinate systems use a metric-based Cartesian grid laid out on a conformal projected surface to locate positions on the surface of the Earth. The UTM system is not a single map projection but a series of map projections, one for each of sixty 6-degree bands of longitude.

The Universal Transverse Mercator coordinate system was developed by the United States Army Corps of Engineers in the 1940s. The system was based on an ellipsoidal model of Earth. For areas within the conterminous United States, the Clarke 1866 ellipsoid was used. For the remaining areas of Earth, including Hawaii, the International Ellipsoid was used. Currently, the world geodetic system 1984 (WGS84) ellipsoid is used as the underlying model of Earth in the UTM coordinate system. The transverse Mercator projection is a variant of the Mercator projection, which was originally developed by the Flemish geographer and cartographer Gerardus Mercator, in 1570. This projection is conformal, so that it preserves angles and approximates shape but invariably distorts distance and area. UTM involves non-linear scaling in both Easting and Northing to ensure the projected map of the ellipsoid is conformal. The UTM system divides the surface of Earth between 80°S and 84°N latitude into 60 zones, each 6° of longitude in width and centered over a meridian of longitude. Zone 1 is bounded by longitude 180° to 174° W and is centered on the 177th West meridian. Zone numbering increases in an eastward direction. Each of the 60 longitude zones in the UTM system is based on a transverse Mercator projection, which is capable of mapping a region of large north-south extent with a low amount of distortion. By using narrow zones of 6° (up to 800 km) in width, and reducing the scale factor along the central meridian by only 0.0004 to 0.9996 (a reduction of 1:2500), the amount of distortion is held below 1 part in 1,000 inside each zone. Distortion of scale increases to 1.0010 at the outer zone boundaries along the equator. In each zone, the scale factor of the central meridian reduces the diameter of the transverse cylinder to produce a secant projection with two standard lines, or lines of true scale, located approximately 180 km on either side of, and approximately parallel to, the central meridian ($\text{ArcCos } 0.9996 = 1.62^\circ$ at the Equator). The scale factor is less than 1 inside these lines and greater

than 1 outside of these lines, but the overall distortion of scale inside the entire zone is minimized (Wikipedia, 2010).

1.14 Economic Resources Concept. Economics might be defined as the study of how society allocates scarce resources (Conrad, 1999). The field of resource economics would then be the study of how society allocates scarce natural resources such as stocks of fish, stands of trees, fresh water, oil, and other naturally occurring resources. A distinction is sometimes made between resource and environmental economics, where the latter field is concerned with the way wastes are disposed of and the resulting quality of air, water, and soil serving as waste receptors (Aje, 1999). In addition, environmental economics is concerned with the conservation of natural environments and biodiversity. Natural resources are often categorized as being renewable or non-renewable. A renewable resource must display a significant rate of growth or renewal on a relevant economic time scale. An economic time scale is a time interval for which planning and management is meaningful (Edward, 2001). The notion of an economic time scale can make the classification of natural resources a bit tricky. A critical question in the allocation of natural resources is “How much of the resource should be harvested (extracted) today?” Finding the “best” allocation of natural resources over time can be regarded as a dynamic optimization problem. In such problems it is common to try to maximise some measure of net economic value, over some future horizon, subject to the dynamics of the harvested resource and any other relevant constraints. The solution to the dynamic optimisation of a natural resource would be a schedule or “time path” indicating the optimal amount to be harvested (extracted) in each period. The optimal rate of harvest or extraction in a particular period may be zero (Conrad, 1999). All natural resources and factors of production that have limited supply at any given price is an economic resource Data from member countries and existing statistical resources would allow the UNCRS to coordinate a global assessment of the quantity and types of emergency provisions required and an analysis of where they are required (UNDP, 2010).

1.15 Land Use Concept. A land ownership and use policy must recognize the fact that the very existence of some people rests on their having access to a piece of land and any attempt to wrest this from them would be strongly resisted. It is in this light that attempt is made to examine Nigerian experience on the land tenure and the land reform issues (Olayiwola and Adeleye, 2006). Human use of land has altered the structure and functioning of the ecosystem (Vitonset, 1997).

The most spatially and economically important human use of land globally includes cultivation in various ways, construction, reserves, protected lands and timber extraction. Recently settlements and sprawl development are becoming large active land use changes especially in the developing regions of the world (Turner et al, 1994). The pattern of land use can provide us insight into the factors that have caused the land cover to change. The urban population in Africa is growing faster than any other continent. It is predicted that by 2030 about 5 billion people, approximately the population size of the entire continent today will be in urban areas and that these figures will be absorbed by the urban areas of the less developed regions (United Nations Population Revision, 2001). The driving forces behind the rapid urbanization in Africa today are the combination of rural-urban migration and natural increase within the towns and cities themselves. Nigeria has been regarded as the most populous nation in Africa with a teeming population of over 130 million crowded over a land area of about 923,000 square kilometres. It has over a hundred cities with population that passes for urban centers. Nigerian cities, notably Lagos, Kano, and Ibadan are among the first one hundred largest cities in the world, which translates into pressures on land and thus high urban dynamics.

The concept of land use (i.e., the way a particular piece of land is utilized by humans and other living organisms), seems at first glance a simple and straightforward subject on the surface. Humans use land to build cities where they live (residential land) and work (commercial land). They use land for growing crops and raising livestock (agricultural land) for food. Forestland provides fuel for energy and lumber for building. Humans use land for play (recreational land) and set some of it aside as exclusive wildlife habitat (wilderness land). But no matter how land is used by humans and other living species, humans ultimately decide how land is used. Given the nature of humans, land use involves a complex interplay of environmental parameters, economic needs and often politics.

1.16 Arboreal Concept. Arboreal study is a dedication to a sustainable future for people and their trees. Arboreal specializes in tree management from the seed to the ancient living monument, individual specimens to entire wood lands. Arboreal describes anything referring to trees or something that is tree like (www.Uk.linkedin.co; www.Yourdictionary.com/arboreal). Trees are an important component of the natural landscape because of their prevention of erosion and the provision of a weather-sheltered ecosystem in and under their foliage. They also play an important

role in producing oxygen and reducing carbon dioxide in the atmosphere, as well as moderating ground temperatures. They are also elements in landscaping and agriculture, both for their aesthetic appeal and their orchard crops (such as apples). Wood from trees is a building material, as well as a primary energy source in many developing countries. A small group of trees growing together is called a grove or copse, and a landscape covered by a dense growth of trees is called a forest. Several biotopes are defined largely by the trees that inhabit them; examples are rainforest and taiga (see ecozones). A landscape of trees scattered or spaced across grassland (usually grazed or burned over periodically) is called a savanna. A forest of great age is called old growth forest or ancient woodland (in the UK). A young tree is called a sapling.

The parts of a tree are the roots, trunk(s), branches, twigs and leaves. Tree stems consist mainly of support and transport tissues (xylem and phloem). Wood consists of xylem cells, and bark is made of phloem and other tissues external to the vascular cambium. Trees may be grouped into exogenous and endogenous trees according to the way in which their stem diameter increases. Exogenous trees, which comprise the great majority of trees (all conifers and almost all broadleaf trees), grow by the addition of new wood outwards, immediately under the bark. Endogenous trees, mainly in the monocotyledons (e.g., palms and dragon trees), but also cacti, grow by addition of new material inwards. Trees with leaves range from being Deciduous to Evergreen. By analyzing the leaf arrangement and shape, a tree can be identified. As an exogenous tree grows, it creates growth rings as new wood is laid down concentrically over the old wood. In species growing in areas with seasonal climate changes, wood growth produced at different times of the year may be visible as alternating light and dark, or soft and hard, rings of wood. In temperate climates, and tropical climates with a single wet-dry season alternation, the growth rings are annual, each pair of light and dark rings being one year of growth; these are known as annual rings. In areas with two wet and dry seasons each year, there may be two pairs of light and dark rings each year; and in some (mainly semi-desert regions with irregular rainfall), there may be a new growth ring with each rainfall. In tropical rainforest regions, with constant year-round climate, growth is continuous and the growth rings are not visible nor is there a change in the wood texture. In species with annual rings, these rings can be counted to determine the age of the tree, and used to date cores or even wood taken from trees in the past, a practice known as the science of dendrochronology. Very few tropical trees can be accurately dated in this manner. Age determination is also impossible in endogenous trees. The roots of a tree are generally embedded in earth, providing anchorage for the

above-ground biomass and absorbing water and nutrients from the soil. However, while ground nutrients are essential to a tree's growth the majority of its biomass – over 90 percent – comes from carbon dioxide absorbed from the atmosphere (see photosynthesis). Above ground, the trunk gives height to the leaf-bearing branches, aiding in competition with other plant species for sunlight. In many trees, the arrangement of the branches optimizes exposure of the leaves to sunlight. Not all trees have all the plant organs or parts mentioned above. For example, most palm trees are not branched, the saguaro cactus of North America has no functional leaves, tree ferns do not produce bark, etc. Based on their general shape and size, all of these are nonetheless generally regarded as trees. A plant form that is similar to a tree, but generally having smaller, multiple trunks and/or branches that arise near the ground, is called a shrub. However, no precise differentiation between shrubs and trees is possible. Given their small size, bonsai plants would not technically be "trees", but one should not confuse reference to the form of a species with the size or shape of individual specimens. A spruce seedling does not fit the definition of a tree, but all spruces are trees.

1.17 Concept of Outcrops. An outcrop is a visible exposure of bedrock or ancient superficial deposits on the surface of the earth. Outcrops do not cover the majority of the earth's land surface because in most places the bedrock or superficial deposits are covered by a mantle of soil and vegetation and cannot be seen or examined closely. However in places where the overlying cover is removed through erosion or tectonic uplift, the rock may be exposed, or crop out. Such exposure will happen most frequently in areas where erosion is rapid and exceeds the weathering rate such as on steep hillsides, mountain ridges and tops, river banks, and tectonically active areas. Bedrock and superficial deposits may also be exposed at the earth's surface due to human excavations such as quarrying and building of transport routes. Outcrops allow direct observation and sampling of the bedrock in situ for geologic analysis and creating geologic maps. In situ measurements are critical for proper analysis of geological history and outcrops are therefore extremely important for understanding the geologic time scale of earth history. Some of the types of information that can only be obtained from bedrock outcrops, or through precise drilling and coring operations, are; structural geology features orientations (e.g. bedding planes, fold axes, foliation), depositional features orientations (e.g. paleo-current directions, grading, facies changes), pale magnetic orientations. Outcrops are also critically important for understanding fossil assemblages, paleo-environment, and evolution as they provide a record of relative changes within geologic strata.

Accurate description, mapping, and sampling for laboratory analysis of outcrops made possible all of the geologic sciences and the development of fundamental geologic laws such as: law of superposition, principle of original horizontality, principle of lateral continuity, and principle of faunal succession. Outcrops can therefore be considered the fundamental element of geologic science (Wikipedia, 2010).

1.18 Squatter Settlements Concept. In Nigeria, squatter settlements can be categorized into two main groups namely the illegally occupied settlements and the illegally developed settlements. Squatter settlement can either at first begin as a commercial or a residential enclave which at the latter stage would evolve into a settlement of mixed activities. Squatting activities on illegally occupied land is peculiar with government acquired lands. For reasons which include non-payment of compensation, project abandonments and change in government personnel, government often times do not put the acquired lands into use. Encroachment begins when the lands are put to agricultural uses by the former owners and their tenants. The problem is further compounded by the insatiable desires of the original land owning families (who own it before government acquisition) who pounce on this land and sell it to unsuspecting buyers. Other group of squatter settlements in this category includes those located on less desirable areas of the city such as wet land, refuse dump, over pipe lines and under high tension electricity transmission line. Illegally developed squatter settlements on the other hand, usually emerged at rural urban fringe as a result of land speculators buying agricultural land and laying it out without provision for adequate roads, facilities for health, education and recreation. The expectation is that government in the future would provide these basic infrastructures. In this circumstance, plots were bought, developed and occupied without necessary approval from Town Planning Authorities (Olanrewaju, 2001). According to Omirin (2003), most Nigerian cities are squalid, because majority is confined to marginal areas without services or infrastructure. In this wise, city dwellers are forced to provide inefficient solutions to their refuse disposal, water supply and other needs. Whatever the type of squatter settlement, the underlying causes is the same- the inaccessibility of developable land to the urban poor.

2.0 METHODOLOGY

The process of data acquisition for this study was accomplished in various stages discussed hence:

2.1 Co-ordinate Mapping. The combination compass-and-rope method enabled the survey party to maintain a straight course in any of the cardinal directions at the commencement of this project work. The use a hand-held Global Positioning System (GPS) units facilitated the determination of latitude and longitude values, as well as elevation values, at each of the stations of interest within the selected study area. The stations of interest are usually fixed at 100m intervals.

2.2 Projected Mapping. This is a fast and accurate method of locating the co-ordinates of stations at the 100m point intervals. Knowing the co-ordinates of any one station of interest, the co-ordinates of the remaining stations can be predicted using simple co-ordinate addition and subtraction based on the standard relationship expressed below:

$$100\text{m} \approx 3.24''$$

It is a generally accepted fact that latitude increases due north and decreases due south, whilst longitude increases due east and decreases due west. Thus adding 3.24'' to a reference latitude value represents the next 100m spot along a constant longitude in a northerly direction. Subtracting 3.24'' to a reference latitude value represents the next 100m spot along a constant longitude in a southerly direction. Adding 3.24'' to a reference longitude value represents the next 100m spot along a constant latitude in an easterly direction. Subtracting 3.24'' to a reference longitude value represents the next 100m spot along constant latitude in a westerly direction.

2.3 Dataset of Study:

2.3.1 Topographic (i.e. x, y, z) Dataset. At 100m spacing between stations of interest for the 15km² of the study area, there are 1581 survey points where latitude (x), longitude (y), and elevation (z) information were measured. The complete x, y, z plus their UTM equivalent dataset is presented in Appendix A.

2.3.2 Economic Resources Georeferenced Dataset. The x, y, z attributes of a recognized economic resource item (in this case the Shea butter tree) in the area of study is presented in Appendix B.

2.3.3 Land Use Georeferenced Dataset. The x, y, z attributes of recognized land use apportionment in the area of study is presented in Appendix C.

2.3.4 Arboreal Georeferenced Dataset: The x, y, z attributes of prominent arboreal resource item (i.e. trees greater 10m in height) in the area of study is presented in Appendix D.

2.3.5 Outcrops-on-Land Georeferenced Dataset. The x, y, z attributes of outcrops-on-land in the area of study is presented in Appendix E.

2.3.6 Outcrops-in-Stream-Channels Georeferenced Dataset. The x, y, z attributes of outcrops-in-stream-channels in the area of study is presented in Appendix F.

2.3.7 Squatter Settlements Georeferenced Dataset. The x, y, z attributes of squatter settlements in the area of study is presented in Appendix G.

3.0 DATA ANALYSIS AND RESULT PRESENTATION

3.1 Conversion of Latitude and Longitude to the Universal Traverse Mercator (UTM) System. The data collected from the field where all longitude and latitude representation, which in this case are in degree ($^{\circ}$), minute ($'$) and seconds ($''$). These data was acquired by means of the hand-held e-Trex Garmin GPS device. In using the TatukGIS coordinator calculator, the following properties were considered. The original datum was set as WGS 84 (World Geodetic System 1984) with the projection being Geodetic (unprojected) and the output projection being in UTM, the datum used was Minna, Nigeria Zone 32. The TatukGIS coordinate calculator was used in the data conversion in this study. By convention, the WGS 84 geoid describe Earth as an ellipsoid along North-South axis with an equatorial radius of $a = 6378.137km$ and an orbital eccentricity of $e = 0.0818192$. The resulting UTM values corresponding to the conventional latitude and longitude values are as shown in the various Appendices.

3.2 Production of Site-Specific Topographic Map. The site-specific topographic map for this project work was generated using the Golden Surfer 8 software. Initially, the Co-ordinate Calculator software was used to convert the 1581 georeferenced stations of interest of the $15km^2$ area from their conventional latitude, longitude, elevation (x, y, z) attributes to their equivalent UTM attributes. These UTM values were exported to Golden Surfer 8. When in Golden Surfer 8 work mode, click on “Map” to show a dialogue, and then click on “Contour Map”, then “New

Contour Map.” Upon assessing the exported UTM dataset, the Golden Surfer 8 generates a topographic map of the designated study area. Fig.1 is the resulting contour map of the study area. The contour map of Fig.1 was produced at an interval of 10m. It is observed in Fig.1 that, overall, terrain elevation trends generally vary between 175m and 215m. The lower terrain elevations are observed in the southern portion of the map whilst the higher terrain elevations are observed in the northern portion of the map of Fig.1. Thus, elevation increases (i.e. topography becomes more steep) as one moves due north along the study area. This fact corroborates the observations of Adesoye (1986). Intense contour closures in the northeastern sector of Fig.1 are indicators of the presence of numerous depressions and prominences whereas the scattered contour signatures in the southerly portion of Fig.1 are indicators of flat lowlands. The twin contour closures between UTM 1054500 and 1055000 on the western edge of the survey area is a prominent stream channel that flows out of the study area. A prominent water hole can be seen at UTM 217500 in the deep south of the survey area. Another water hole is also observed at the northeast of the survey area.

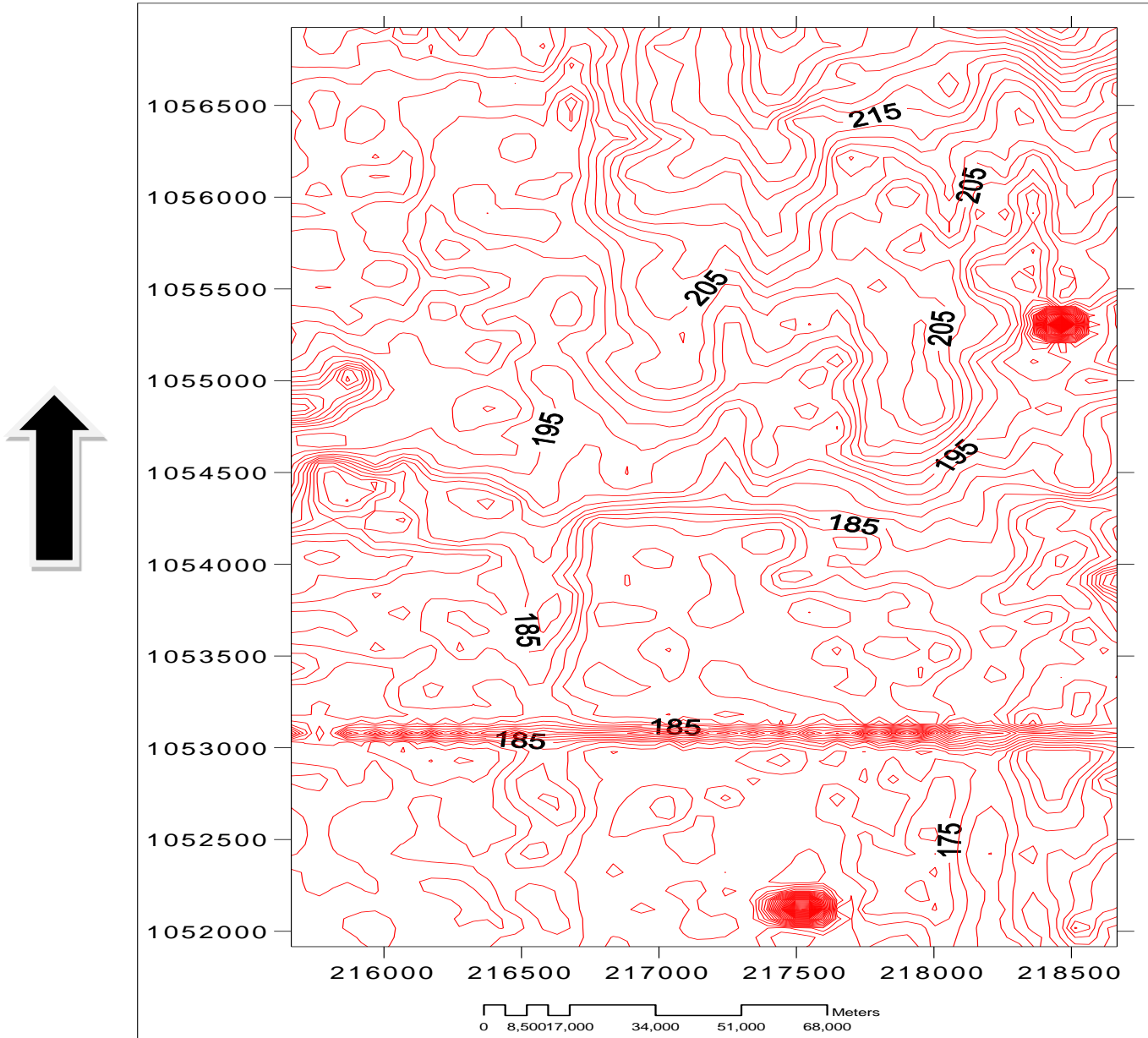


Fig.1. Topographic map of the 15km² area of study

3.3 Creation of a Geographic Information System (GIS) for the Area of Study. Initially, the database showing all the attributes of field data was created conventionally with a Management Information System (MIS) database application, Microsoft Excel. Later, the database was exported to the Arcview GIS platform. The GIS application has the potential of creating a database which shows the spatial information of any geographical locations on a digital map. The multiple field creation enables the GIS application to function with better user interphase coordination in terms of interactive abilities. After these fields were created in correspondence to each data point, then, the data was inputted into the database progressively such as to create a precise database showing the attributes of the spatial points located on the map. The various columns for the recording of the different attributes of these sources were created afterwards before the data were inputted into these fields. Fig.2 shows the composite GIS map of the area of study.

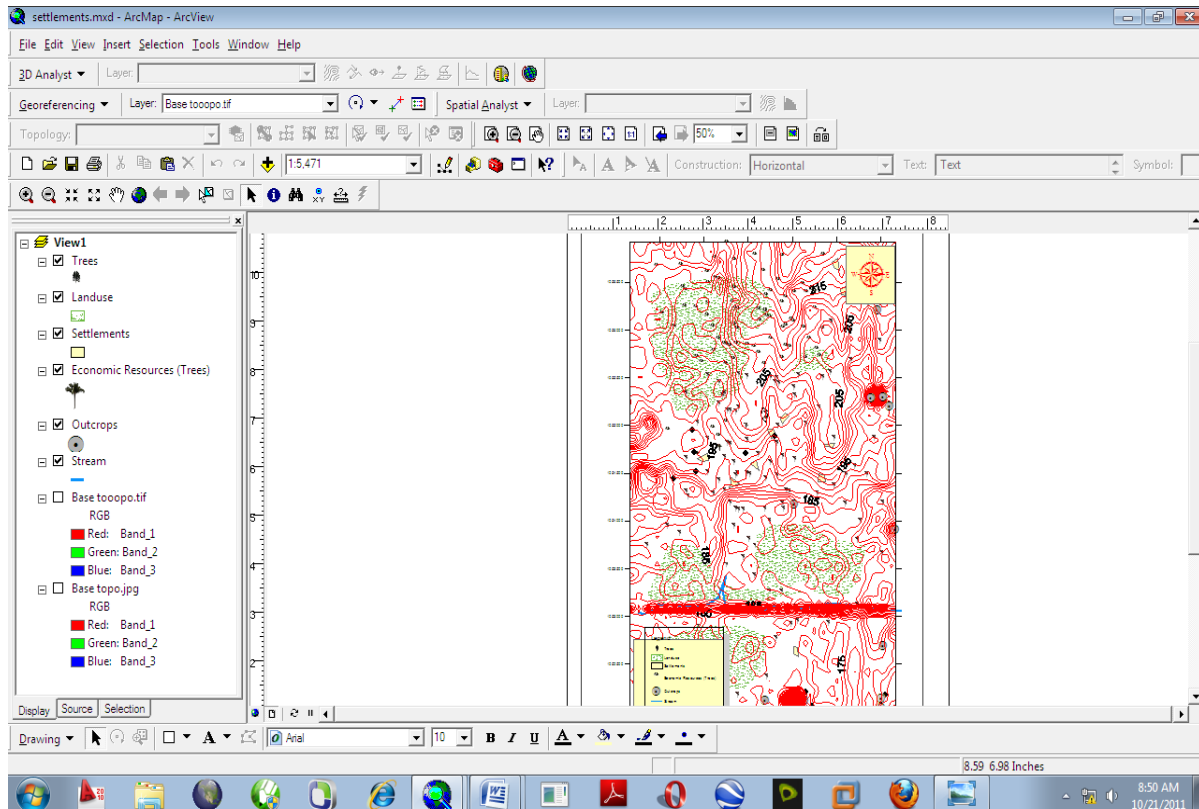


Fig.2. Composite GIS map of the area of study

Fig.3 shows the enabled economic resource GIS map of the area of study.

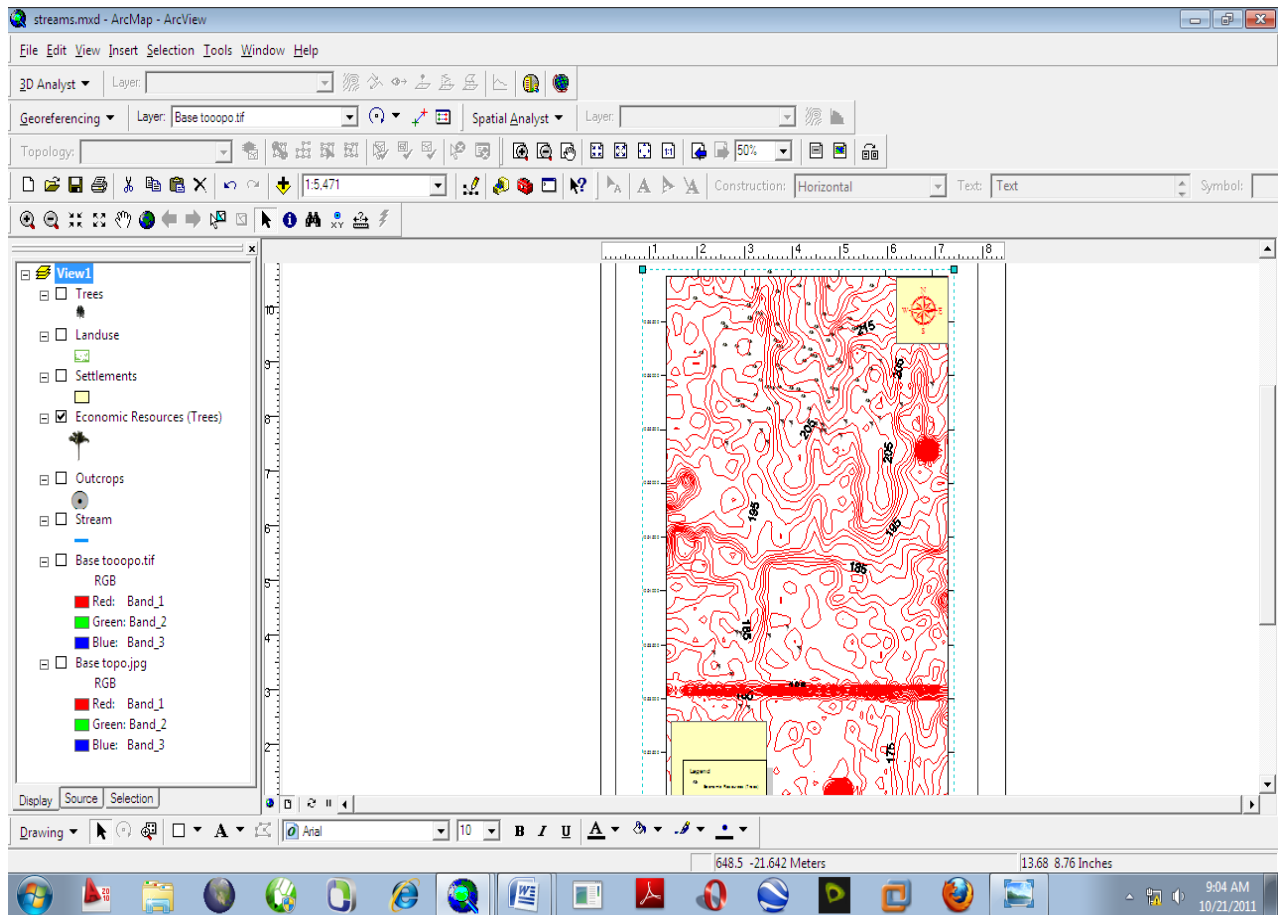


Fig.3. Enabled economic resource GIS map of the area of study.

Fig.4 shows the enabled land use GIS map of the area of study.

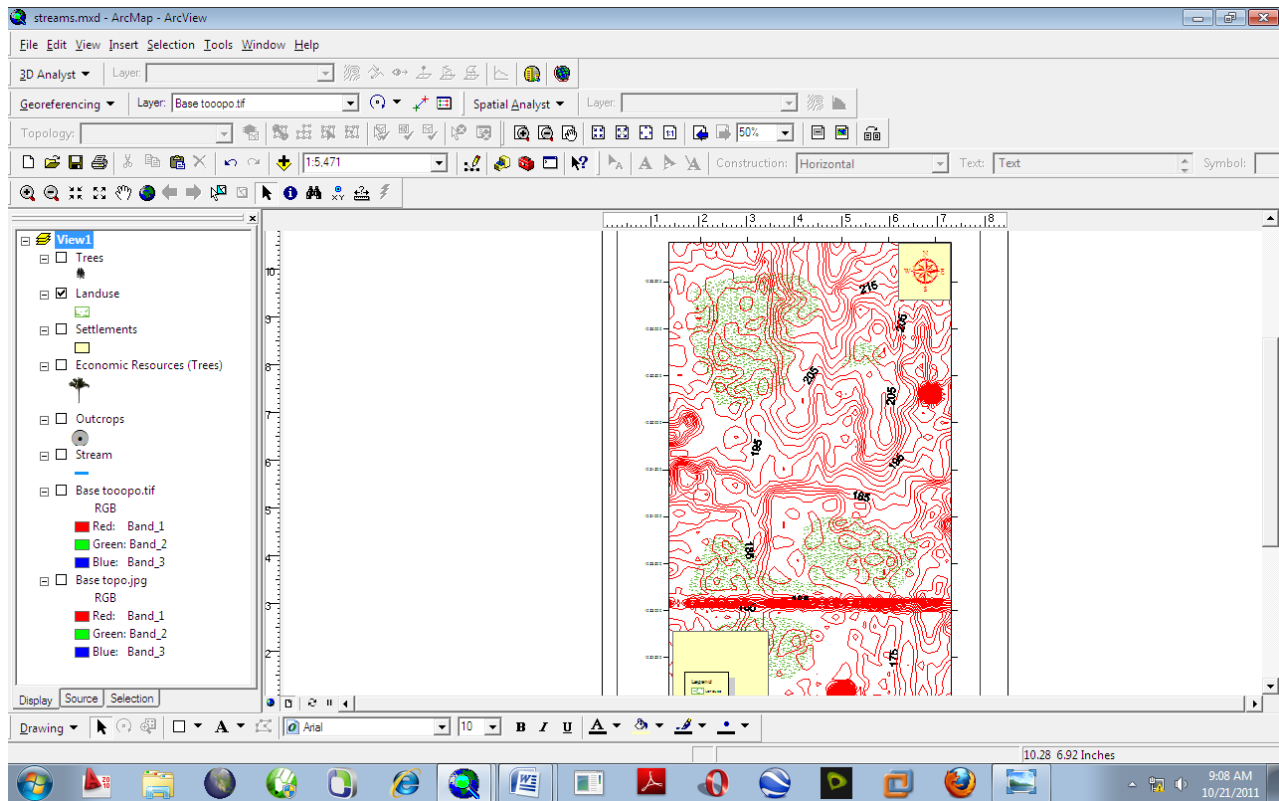


Fig.4. Enabled land use GIS map of the area of study.

Fig.5 shows the enabled arboreal GIS map of the area of study.

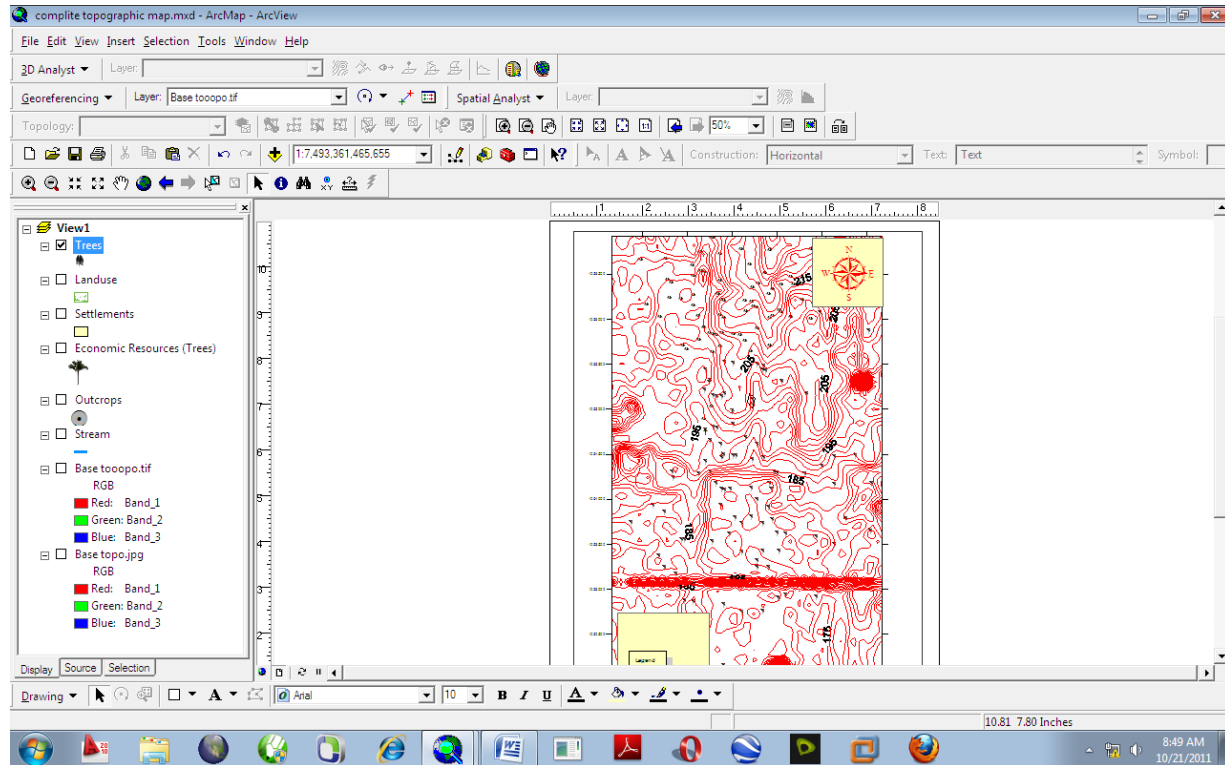


Fig.5. Enabled arboreal GIS map of the area of study.

Fig.6 shows the outcrop-on-land/outcrops-in-stream-channels GIS map of the area of study.

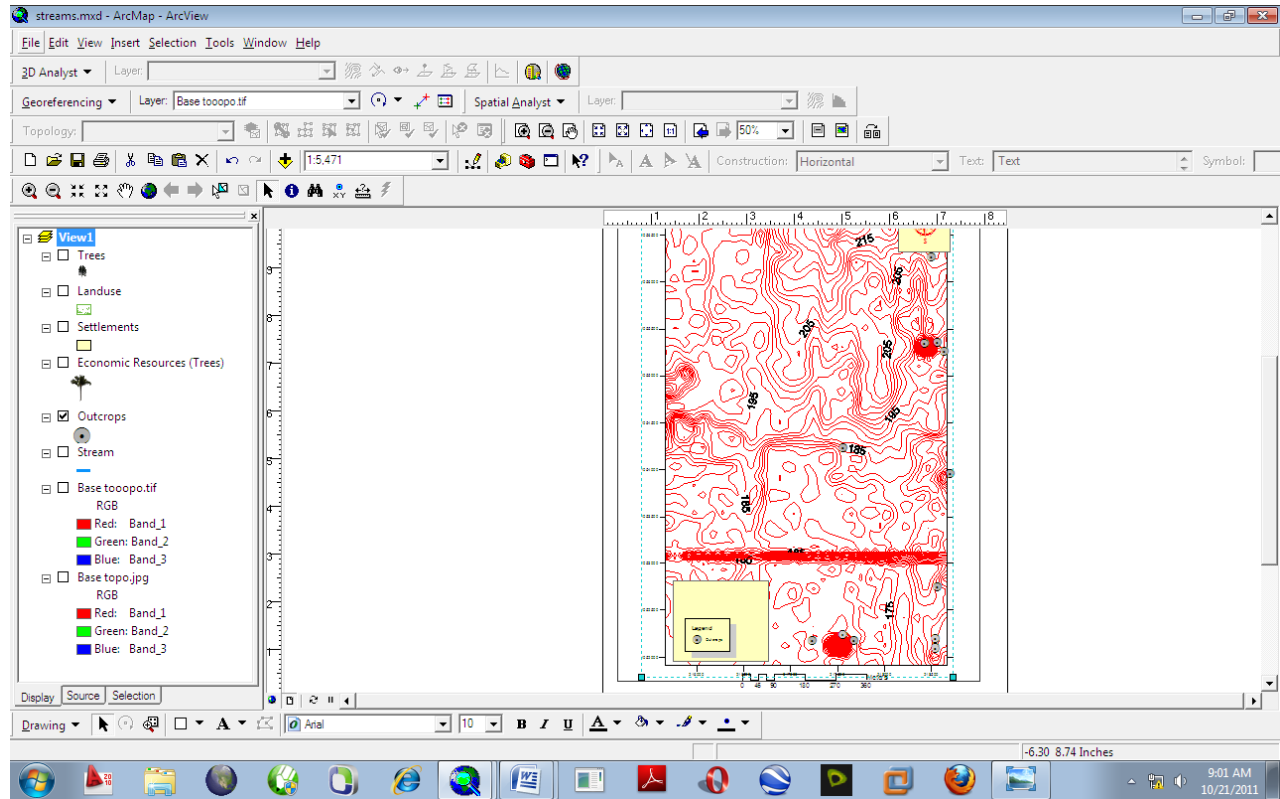


Fig.6. Enabled outcrop-on-land/outcrops-in-stream-channels GIS map of the area of study.

Fig.7 shows the enabled outcrops-in-stream-channels/outcrop-on-land GIS map of the area of study.

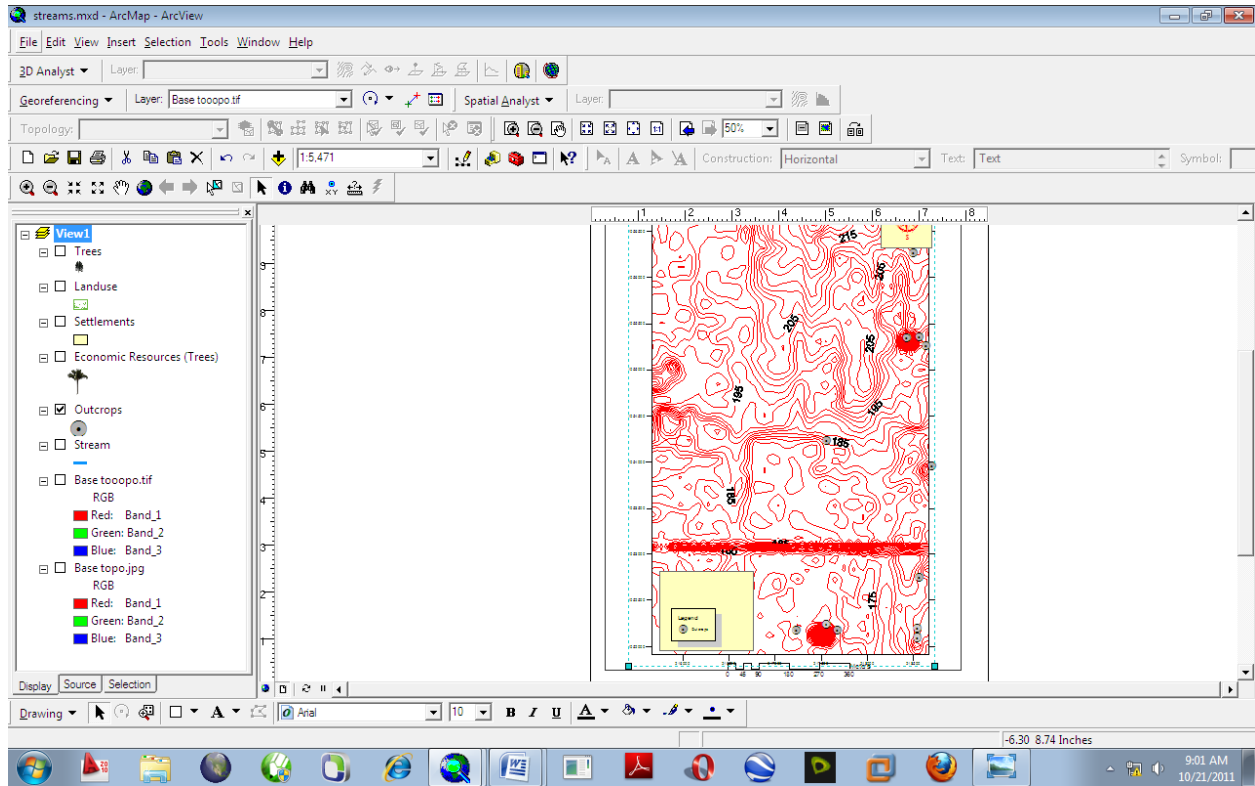


Fig.7. Enabled outcrops-in-stream-channels/outcrop-on-land GIS map of the area of study.

Fig.8 shows the squatter settlements GIS map of the area of study.

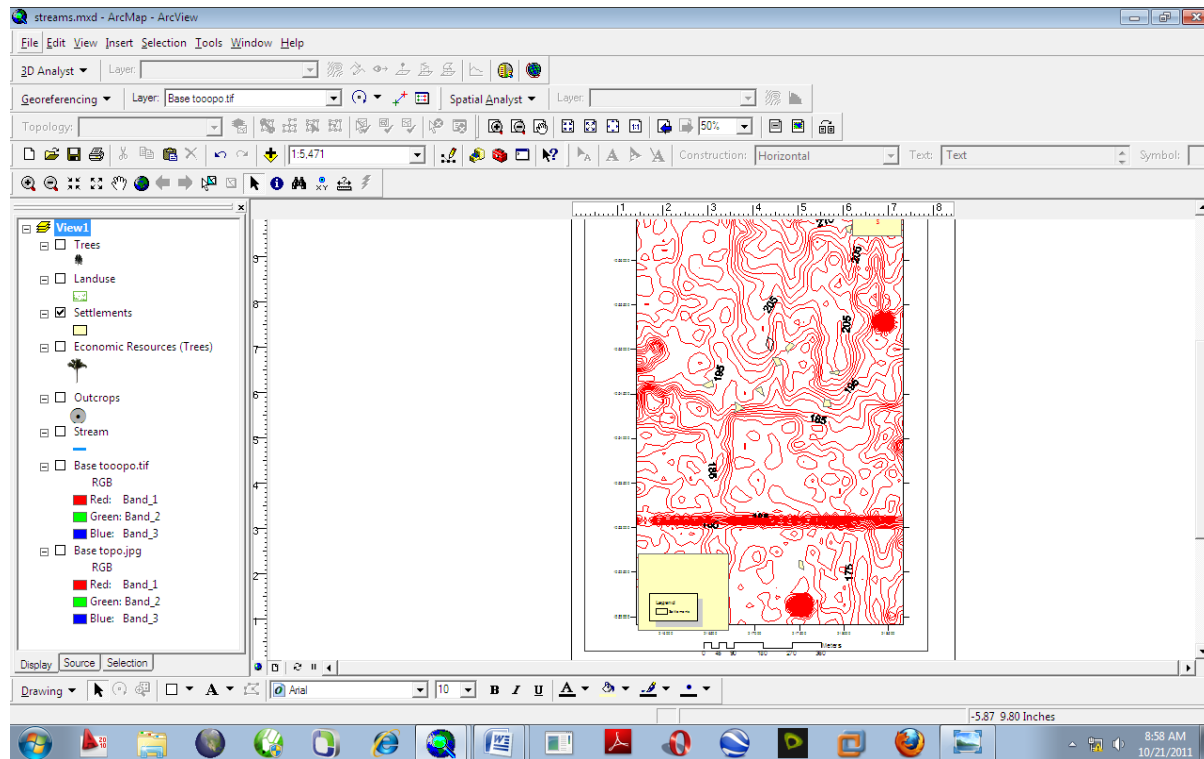


Fig.8. Enabled squatter settlements GIS map of the area of study.

4.0 DISCUSSION, CONCLUSION AND RECOMMENDATION

4.1 Discussion. For the topographic map creation, data were acquired at 1,581 points of interest within the 15 km² gridded area. At 100m spacing between stations, this was considered sufficiently detailed for this study. An improvement over the “rope-and-compass” station-fixing process was the “projected mapping” approach incorporated during this study. Georeferencing economic resources, land use, arboreal, outcrops-on-land, outcrops-in-stream-channels, and squatter settlements information was not necessarily a function of the 100m station spacing. The major economic resource item identified in the area of study was the Shea butter tree and about 118 Shea butter trees were duly identified in the study area. Land use information in the area of study concerns the portions that were “active” farmlands (i.e. evidence of cultivation seen) and arboreal information concerns georeferencing trees that were at least 10m tall; about 131 trees were thus identified. Outcrops seen on land and in stream beds were considered important geological markers for subsequent detailed studies. For this study, squatter settlements were not

considered under the land use concept, so a separate information profile was created for it; about 17 different squatter settlements were identified in the area of study. All of the x,y,z dataset collected during the course of this exercise were converted to their corresponding UTM equivalent whilst production of the site-specific topographic map was aided by the Golden Surfer 8 software. The composite GIS map and the specific GIS layers of the study area were produced by use of the Arcview GIS software and the results are as shown in Figs1 to 8. In the ArcView GIS environment, distribution of the economic resource item identified for this study (i.e. the Shea butter tree) at the study area can be viewed by highlighting only the icon or legend corresponding to “Economic Resource (Shea butter tree)” as seen in Fig.3. It is also observed that all of the Shea butter trees identified during the course of this study were found at the northern portion of the study area. Fig.4 shows the enabled land use GIS layer map of the area of study whilst Figs 5 to 8 show the enabled arboreal GIS layer map of the area of study, the enabled outcrop-on-land/outcrops-in-stream-channels GIS layer map of the area of study, the enabled outcrops-in-stream-channels/outcrop-on-land GIS layer map of the area of study, and the enabled squatter settlements GIS layer map of the area of study.

4.2 Conclusion. The area identified as N09⁰30'25.20'', E006⁰26'11.34''; N09⁰33'07.20'', E006⁰26'11.34'' and N09⁰30'25.20'', E006⁰24'34.14''; N09⁰33'07.20'', E006⁰24'34.14'' at the Gidan Kwano Campus of the Federal University of Technology, Minna, can now be represented by the detailed topographic map of Fig.1. This map should form an integral component of the database of the Federal University of Technology's Physical Planning and Development Unit (PPDU). Though the horizontal and vertical axes of Fig.1 are given in UTM values, the TatumGIS coordinate calculator can be used to determine the corresponding x and y values at the appropriate locations on the map. Following on the heels of the creation of the topographic map for the study area, a composite GIS map made up of six different layers has now been created for the study area as can be seen in Fig.2. Figs 3 to 8 are for the different enabled layers. Overall, the Shea butter trees are scarce in the area of study; the good news is that they can be cultivated on a large scale. Agricultural activities are spread throughout the expanse of the study area, tall trees are scarce, and outcrops are scattered throughout. Seventeen different squatter settlements in the area of study indicate the density of illegal occupants in just 15km² of the total 100km² land area of the Gidan Kwano Campus of the Federal University of Technology, Minna.

4.3 Recommendation. Detailed topographic map creation for a 15km² area of the Gidan Kwano Campus of the Federal University of Technology, Minna, was only a pioneering effort in this regard. It is recommended that further and expanded studies targeting the whole of the Gidan Kwano Campus be carried out. As well as this requirement, a comprehensive and versatile GIS database for the whole of the Gidan Kwano Campus should be produced and archived.

REFERENCES

- ABEM 1999.** *Instruction Manual: Terrameter SAS 4000/SAS 1000*, ABEM Instrument AB, Sundbyberg (Sweden).
- Adesoye, S.A., 1986.** *Master Plan of the Federal University of Technology's Permanent Site, Minna*. Adesoye and Partners, Kaduna, Nigeria.
- Aje, O.A. 1999.** *Economics in Economic Resources*, Oxford Publishing House, Oxford.
- Conrad, J.M. 1999.** *Resource Economics*, Cambridge University Press, Cambridge.
- Courant, R., Robbins, H., and Stewart, I. 1996.** *What Is Mathematics? An Elementary Approach to Ideas and Methods*, Oxford University Press, New York.
- Davis, J. C. 1986.** *Statistics and Data Analysis in Geology*, Wiley [ISBN 0471080799](#).
- Eades, P., Lai, W., Misue, K., Sugiyama, K. 1991.** Preserving the mental map of a diagram. In *Proc. Compugraphics '91*, Sesimbra, Portugal, Vol.1, pp 34 – 43.
- Edward, S.R. 2001.** *Economic Resources for Nation Development*. John Wiley and Sons, New York.
- Olanrewaju D. O. 2001.** Urban infrastructure: A critique of urban renewal process in Ijora Badia, Lagos. *Habitat International*, 25, 373-384.
- Olayiwola, L.M. and Adeleye, O. 2006.** *Land Reform – Experience from Nigeria*, In Promoting Land Administration and Good Governance, 5th FIG Regional Conference, Accra, Ghana.
- Omirin, M M. 2003.** Issues in land accessibility in Nigeria. In Omirin, M. M; Nubi, T. Gbenga and Fawehinmi, S. A (eds) *Land Management and Property Tax Reform in Nigeria*, Proceeding of National Workshop; organized by Department of Estate Management, University of Lagos, 49-70.
- Tracy, J. C. 1907.** *Plane Surveying; A Text-Book and Pocket Manual*, J. Wiley & Sons, New York.
- Turner II, B.L., Mayer, W.B., and Skole, D.L. 1994.** Global Landuse/Landcover Change towards an Integrated Study.
- United Nations Development Programme 2010.** *Shea Butter Scoping Paper*, International Working Paper, UN, New York.
- United Nations Population Revision, 2001.** *World Urbanization Prospects*, The 2001 Revision.
- Vitonset, D.M., 1997.** Human domination of health's ecosystems. *Science*, 27, 494-499.

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Wikipedia, 2010. <http://www.wikipedia.org>.

Wikipedia 2011. Contour line. http://www.en.wikipedia.org/wiki/contour_line, retrieved on 17th October 2011.

Wolff, A. 2004. <http://www.nwcg.gov/pms>. Retrieved 9th September 2011.

www.Uk.linkedin.co/in/arboreal treecare specialists-united kingdom. Retrived on 19th October 2011.

www.Yourdictionary.com/arboreal. Retrived on 12th September 2011. Retrived on 19th October 2011.

www.140.194.76.129.org. Retrived on 12th September 2011.

APPENDICES

Appendix B: Latitude (x), Longitude (y), Elevation (x), UTM Information for the 15km² Areal Extent

REFERENCED LINE 1: LATITUDE: N09° 30'25.20"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26' 11.34"	199 Metres	218629.1642	1051916.178	176.66
P2	E006° 26' 08.01"	201 Metres	218527.5441	1051916.93	178.66
P3	E006° 26' 04.86"	195 Metres	218416.9521	1051917.748	172.65
P4	E006° 26' 01.62"	202 Metres	218332.5431	1051918.373	179.65
P5	E006° 25' 58.38"	202 Metres	218233.6693	1051919.105	179.65
P6	E006° 25' 55.14"	201 Metres	218134.7954	1051919.837	178.65
P7	E006° 25' 51.09"	198 Metres	218011.2029	1051920.753	175.65
P8	E006° 25' 48.66"	202 Metres	217937.0474	1051921.302	179.65
P9	E006° 25' 45.42"	202 Metres	217838.1733	1051922.035	179.65
P10	E006° 25' 42.18"	201 Metres	217739.2991	1051922.769	178.65
P11	E006° 25' 38.94"	202 Metres	217640.4249	1051923.502	179.64
P12	E006° 25' 35.07"	203 Metres	217522.325	1051924.379	180.64
P13	E006° 25' 32.46"	204 Metres	217442.6762	1051924.97	181.64
P14	E006° 25' 29.22"	200 Metres	217343.8018	1051925.705	177.64
P15	E006° 25' 25.98"	201 Metres	217244.9273	1051926.439	178.64
P16	E006° 25' 22.74"	200 Metres	217146.0527	1051927.174	177.64
P17	E006° 25' 19.05"	200 Metres	217033.4455	1051928.011	177.64
P18	E006° 25' 16.26"	201 Metres	216948.3034	1051928.645	178.64
P19	E006° 25' 13.02"	198 Metres	216849.4287	1051929.38	175.63
P20	E006° 25' 09.78"	201 Metres	216750.5538	1051930.116	178.63
P21	E006° 25' 06.54"	202 Metres	216651.6789	1051930.852	179.63
P22	E006° 25' 03.03"	202 Metres	216544.5643	1051931.65	179.63
P23	E006° 25' 00.06"	204 Metres	216453.9289	1051932.326	181.63
P24	E006° 24' 56.82"	200 Metres	216355.0538	1051933.062	177.63
P25	E006° 24' 53.58"	201 Metres	216256.1786	1051933.8	178.63

P26	E006 ⁰ 24'50.34"	200 Metres	216157.3034	1051934.537	177.63
P27	E006 ⁰ 24'47.01"	201 Metres	216055.6816	1051935.295	178.62
P28	E006 ⁰ 24'43.86"	202 Metres	215959.5527	1051936.013	179.62
P29	E006 ⁰ 24'40.62"	200 Metres	215860.6773	1051936.751	177.62
P30	E006 ⁰ 24'37.38"	200 Metres	215761.8018	1051937.49	177.62
P31	E006 ⁰ 24'34.14"	201 Metres	215662.9262	1051938.228	178.62

REFERENCED LINE 2: LATITUDE: N09⁰ 30'28.44"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	198 Metres	218629.9418	1052021.32	175.66
P2	E006 ⁰ 26'08.01"	210 Metres	218528.3218	1052022.072	187.66
P3	E006 ⁰ 26'04.86"	197 Metres	218432.195	1052022.783	174.65
P4	E006 ⁰ 26'01.62"	197 Metres	218333.3215	1052023.515	174.65
P5	E006 ⁰ 25'58.38"	202 Metres	218234.4479	1052024.247	179.65
P6	E006 ⁰ 25'55.14"	201 Metres	218135.5743	1052024.979	178.65
P7	E006 ⁰ 25'51.09"	197 Metres	218011.9822	1052025.895	174.65
P8	E006 ⁰ 25'48.66"	201 Metres	217937.8268	1052026.445	178.65
P9	E006 ⁰ 25'45.42"	200 Metres	217838.953	1052027.178	177.65
P10	E006 ⁰ 25'42.18"	200 Metres	217740.0791	1052027.911	177.65
P11	E006 ⁰ 25'38.94"	201 Metres	217641.2051	1052028.645	178.64
P12	E006 ⁰ 25'35.07"	202 Metres	217523.1056	1052029.522	179.64
P13	E006 ⁰ 25'32.46"	201 Metres	217443.457	1052030.113	178.64
P14	E006 ⁰ 25'29.22"	201 Metres	217344.5829	1052030.848	178.64
P15	E006 ⁰ 25'25.98"	197 Metres	217245.7087	1052031.582	174.64
P16	E006 ⁰ 25'22.74"	198 Metres	217146.8344	1052032.317	175.64
P17	E006 ⁰ 25'19.05"	200 Metres	217034.2275	1052033.155	177.64
P18	E006 ⁰ 25'16.26"	200 Metres	216949.0856	1052033.788	177.64
P19	E006 ⁰ 25'13.02"	201 Metres	216850.2111	1052034.524	178.63
P20	E006 ⁰ 25'09.78"	200 Metres	216751.3365	1052035.26	177.63

P21	E006 ⁰ 25'06.54"	205 Metres	216652.4619	1052035.996	182.63
P22	E006 ⁰ 25'03.03"	203 Metres	216545.3476	1052036.794	180.63
P23	E006 ⁰ 25'00.06"	198 Metres	216454.7125	1052037.469	175.63
P24	E006 ⁰ 24'56.82"	200 Metres	216355.8376	1052038.206	177.63
P25	E006 ⁰ 24'53.58"	199 Metres	216256.9628	1052038.943	176.63
P26	E006 ⁰ 24'50.34"	200 Metres	216158.0878	1052039.681	177.62
P27	E006 ⁰ 24'47.01"	201 Metres	216056.4662	1052040.439	178.62
P28	E006 ⁰ 24'43.86"	203 Metres	215960.3376	1052041.157	180.62
P29	E006 ⁰ 24'40.62"	202 Metres	215861.4625	1052041.895	179.62
P30	E006 ⁰ 24'37.38"	200 Metres	215762.5873	1052042.634	177.62
P31	E006 ⁰ 24'34.14"	201 Metres	215663.712	1052043.372	178.62

REFERENCED LINE 3: LATITUDE: N09⁰ 30'31.56"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	204 Metres	218630.6511	1052117.239	181.66
P2	E006 ⁰ 26'08.01"	202 Metres	218529.0315	1052117.991	179.66
P3	E006 ⁰ 26'04.86"	198 Metres	218432.9049	1052118.702	175.65
P4	E006 ⁰ 26'01.62"	196 Metres	218334.0317	1052119.434	173.65
P5	E006 ⁰ 25'58.38"	203 Metres	218235.1583	1052120.166	180.65
P6	E006 ⁰ 25'55.14"	200 Metres	218136.2849	1052120.899	177.65
P7	E006 ⁰ 25'51.09"	195 Metres	218012.6932	1052121.815	172.65
P8	E006 ⁰ 25'48.66"	196 Metres	217938.538	1052122.364	173.65
P9	E006 ⁰ 25'45.42"	195 Metres	217749.0303	1052123.77	172.65
P10	E006 ⁰ 25'42.18"	200 Metres	217740.7908	1052123.831	177.64
P11	E006 ⁰ 25'38.94"	202 Metres	217641.917	1052124.565	179.64
P12	E006 ⁰ 25'35.07"	106 Metres	217523.819	1052125.441	83.64
P13	E006 ⁰ 25'32.46"	202 Metres	217169.5195	1052128.074	179.64
P14	E006 ⁰ 25'29.22"	200 Metres	217345.2955	1052126.767	177.64
P15	E006 ⁰ 25'25.98"	200 Metres	217246.4216	1052127.502	177.64

P16	E006 ⁰ 25'22.74"	199 Metres	217147.5475	1052128.237	176.64
P17	E006 ⁰ 25'19.05"	201 Metres	217034.9409	1052129.075	178.64
P18	E006 ⁰ 25'16.26"	202 Metres	216949.7992	1052129.708	179.63
P19	E006 ⁰ 25'13.02"	201 Metres	216850.925	1052130.444	178.63
P20	E006 ⁰ 25'09.78"	200 Metres	216752.0507	1052131.18	177.63
P21	E006 ⁰ 25'06.54"	203 Metres	216653.1763	1052131.916	180.63
P22	E006 ⁰ 25'03.03"	204 Metres	216546.0623	1052132.714	181.63
P23	E006 ⁰ 25'00.06"	203 Metres	216455.4273	1052133.39	180.63
P24	E006 ⁰ 24'56.82"	198 Metres	216356.5528	1052134.127	175.63
P25	E006 ⁰ 24'53.58"	200 Metres	216257.6782	1052134.864	177.63
P26	E006 ⁰ 24'50.34"	201 Metres	216158.8034	1052135.602	178.62
P27	E006 ⁰ 24'47.01"	200 Metres	216057.1821	1052136.36	177.62
P28	E006 ⁰ 24'43.86"	201 Metres	215961.0538	1052137.077	178.62
P29	E006 ⁰ 24'40.62"	200 Metres	215862.1789	1052137.816	177.62
P30	E006 ⁰ 24'37.38"	201 Metres	215763.3039	1052138.554	178.62
P31	E006 ⁰ 24'34.14"	201 Metres	215664.4289	1052139.293	178.62

REFERENCED LINE 4: LATITUDE: N09° 30'34.92"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	205 Metres	218631.4151	1052220.536	182.66
P2	E006 ⁰ 26'08.01"	202 Metres	218529.7959	1052221.288	179.65
P3	E006 ⁰ 26'04.86"	200 Metres	218433.6694	1052222	177.65
P4	E006 ⁰ 26'01.62"	197 Metres	218334.7965	1052222.732	174.65
P5	E006 ⁰ 25'58.38"	202 Metres	218235.9234	1052223.464	179.65
P6	E006 ⁰ 25'55.14"	200 Metres	218137.0503	1052224.196	177.65
P7	E006 ⁰ 25'51.09"	196 Metres	218013.4589	1052225.112	173.65
P8	E006 ⁰ 25'48.66"	195 Metres	217939.304	1052225.662	172.65
P9	E006 ⁰ 25'45.42"	196 Metres	217840.4306	1052226.395	173.65
P10	E006 ⁰ 25'42.18"	200 Metres	217741.5572	1052227.129	177.64
P11	E006 ⁰ 25'38.94"	201 Metres	217642.6838	1052227.863	178.64

P12	E006 ⁰ 25'35.07"	201 Metres	217524.5849	1052228.74	178.64
P13	E006 ⁰ 25'32.46"	200 Metres	217444.9367	1052229.331	177.64
P14	E006 ⁰ 25'29.22"	200 Metres	217346.0631	1052230.066	177.64
P15	E006 ⁰ 25'25.98"	202 Metres	217247.1893	1052230.801	179.64
P16	E006 ⁰ 25'22.74"	198 Metres	217148.3156	1052231.536	175.64
P17	E006 ⁰ 25'19.05"	199 Metres	217035.7093	1052232.373	176.64
P18	E006 ⁰ 25'16.26"	200 Metres	216950.5678	1052233.007	177.63
P19	E006 ⁰ 25'13.02"	201 Metres	216851.6939	1052233.742	178.63
P20	E006 ⁰ 25'09.78"	200 Metres	216752.8198	1052234.479	177.63
P21	E006 ⁰ 25'06.54"	203 Metres	216653.9457	1052235.215	180.63
P22	E006 ⁰ 25'03.03"	204 Metres	216546.832	1052236.013	181.63
P23	E006 ⁰ 25'00.06"	203 Metres	216456.1973	1052236.688	180.63
P24	E006 ⁰ 24'56.82"	200 Metres	216357.323	1052237.426	177.63
P25	E006 ⁰ 24'53.58"	198 Metres	216258.4487	1052238.163	175.63
P26	E006 ⁰ 24'50.34"	199 Metres	216159.5742	1052238.901	176.62
P27	E006 ⁰ 24'47.01"	200 Metres	216057.9532	1052239.659	177.62
P28	E006 ⁰ 24'43.86"	202 Metres	215961.8251	1052240.377	179.62
P29	E006 ⁰ 24'40.62"	201 Metres	215862.9505	1052241.115	178.62
P30	E006 ⁰ 24'37.38"	202 Metres	215764.0758	1052241.854	179.62
P31	E006 ⁰ 24'34.14"	201 Metres	215665.201	1052242.593	178.62

REFERENCED LINE 5: LATITUDE: N09° 30'38.16"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	204 Metres	218632.152	1052320.145	181.66
P2	E006 ⁰ 26'08.01"	202 Metres	218530.5329	1052320.897	179.65
P3	E006 ⁰ 26'04.86"	200 Metres	218434.4068	1052321.608	177.65
P4	E006 ⁰ 26'01.62"	198 Metres	218335.5341	1052322.34	175.65
P5	E006 ⁰ 25'58.38"	202 Metres	218236.6613	1052323.072	179.65
P6	E006 ⁰ 25'55.14"	202 Metres	218137.7884	1052323.805	179.65
P7	E006 ⁰ 25'51.09"	195 Metres	218014.1973	1052324.721	172.65

P8	E006 ⁰ 25'48.66"	196 Metres	217940.0426	1052325.271	173.65
P9	E006 ⁰ 25'45.42"	196 Metres	217841.1695	1052326.004	173.65
P10	E006 ⁰ 25'42.18"	196 Metres	217742.2964	1052326.738	173.64
P11	E006 ⁰ 25'38.94"	200 Metres	217643.4232	1052327.472	177.64
P12	E006 ⁰ 25'35.07"	202 Metres	217525.3246	1052328.349	179.64
P13	E006 ⁰ 25'32.46"	201 Metres	217445.6766	1052328.94	178.64
P14	E006 ⁰ 25'29.22"	200 Metres	217346.8033	1052329.675	177.64
P15	E006 ⁰ 25'25.98"	199 Metres	217247.9298	1052330.41	176.64
P16	E006 ⁰ 25'22.74"	201 Metres	217149.0563	1052331.145	178.64
P17	E006 ⁰ 25'19.05"	201 Metres	217036.4503	1052331.982	178.64
P18	E006 ⁰ 25'16.26"	200 Metres	216951.3091	1052332.616	177.63
P19	E006 ⁰ 25'13.02"	202 Metres	216852.4353	1052333.352	179.63
P20	E006 ⁰ 25'09.78"	201 Metres	216753.5616	1052334.088	178.63
P21	E006 ⁰ 25'06.54"	201 Metres	216654.6877	1052334.825	178.63
P22	E006 ⁰ 25'03.03"	202 Metres	216547.5743	1052335.623	179.63
P23	E006 ⁰ 25'00.06"	203 Metres	216456.9398	1052336.298	180.63
P24	E006 ⁰ 24'56.82"	202 Metres	216358.0658	1052337.035	179.63
P25	E006 ⁰ 24'53.58"	201 Metres	216259.1917	1052337.773	178.63
P26	E006 ⁰ 24'50.34"	200 Metres	216160.3175	1052338.511	177.62
P27	E006 ⁰ 24'47.01"	200 Metres	216058.6968	1052339.269	177.62
P28	E006 ⁰ 24'43.86"	201 Metres	215962.569	1052339.987	178.62
P29	E006 ⁰ 24'40.62"	202 Metres	215863.6946	1052340.725	179.62
P30	E006 ⁰ 24'37.38"	202 Metres	215764.8201	1052341.464	179.62
P31	E006 ⁰ 24'34.14"	201 Metres	215665.9456	1052342.203	178.62

REFERENCED LINE 6: LATITUDE: N09⁰ 30'41.40"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	204 Metres	218632.807	1052408.685	181.66
P2	E006 ⁰ 26'08.01"	198 Metres	218531.1882	1052409.437	175.65
P3	E006 ⁰ 26'04.86"	201 Metres	218435.0622	1052410.149	178.65

P4	E006 ⁰ 26°01.62"	195 Metres	218336.1898	1052410.881	172.65
P5	E006 ⁰ 25°58.38"	203 Metres	218237.3172	1052411.613	180.65
P6	E006 ⁰ 25°55.14"	203 Metres	218138.4446	1052412.346	180.65
P7	E006 ⁰ 25°51.09"	195 Metres	218014.8538	1052413.262	172.65
P8	E006 ⁰ 25°48.66"	198 Metres	217940.6992	1052413.812	175.65
P9	E006 ⁰ 25°45.42"	197 Metres	217841.8264	1052414.545	174.65
P10	E006 ⁰ 25°42.18"	197 Metres	217742.9535	1052415.279	174.64
P11	E006 ⁰ 25°38.94"	200 Metres	217644.0805	1052416.013	177.64
P12	E006 ⁰ 25°35.07"	202 Metres	217525.9822	1052416.89	179.64
P13	E006 ⁰ 25°32.46"	200 Metres	217446.3344	1052417.482	177.64
P14	E006 ⁰ 25°29.22"	200 Metres	217347.4613	1052418.216	177.64
P15	E006 ⁰ 25°25.98"	201 Metres	217248.588	1052418.951	178.64
P16	E006 ⁰ 25°22.74"	202 Metres	217149.7148	1052419.686	179.64
P17	E006 ⁰ 25°19.05"	201 Metres	217037.109	1052420.524	178.63
P18	E006 ⁰ 25°16.26"	200 Metres	216951.968	1052421.158	177.63
P19	E006 ⁰ 25°13.02"	201 Metres	216853.0945	1052421.894	178.63
P20	E006 ⁰ 25°09.78"	200 Metres	216754.221	1052422.63	177.63
P21	E006 ⁰ 25°06.54"	203 Metres	216655.3473	1052423.366	180.63
P22	E006 ⁰ 25°03.03"	208 Metres	216548.2341	1052424.165	185.63
P23	E006 ⁰ 25°00.06"	204 Metres	216457.5999	1052424.84	181.63
P24	E006 ⁰ 24°56.82"	201 Metres	216358.7261	1052425.577	178.63
P25	E006 ⁰ 24°53.58"	202 Metres	216259.8522	1052426.315	179.62
P26	E006 ⁰ 24°50.34"	203 Metres	216160.9783	1052427.053	180.62
P27	E006 ⁰ 24°47.01"	202 Metres	216059.3578	1052427.811	179.62
P28	E006 ⁰ 24°43.86"	201 Metres	215963.2302	1052428.529	178.62
P29	E006 ⁰ 24°40.62"	201 Metres	215864.356	1052429.268	178.62
P30	E006 ⁰ 24°37.38"	202 Metres	215765.4818	1052430.006	179.62
P31	E006 ⁰ 24°34.14"	204 Metres	215666.6075	1052430.746	181.62

REFERENCED LINE 7: LATITUDE: N09° 30'44.64"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26' 11.34"	199 Metres	218633.6259	1052519.361	176.65
P2	E006° 26' 08.01"	198 Metres	218532.0074	1052520.113	175.65
P3	E006° 26' 04.86"	198 Metres	218435.8817	1052520.825	175.65
P4	E006° 26' 01.62"	198 Metres	218337.0095	1052521.557	175.65
P5	E006° 25' 58.38"	203 Metres	218238.1372	1052522.289	180.65
P6	E006° 25' 55.14"	202 Metres	218139.2649	1052523.022	179.65
P7	E006° 25' 51.09"	195 Metres	218015.6744	1052523.938	172.65
P8	E006° 25' 48.66"	195 Metres	217941.5201	1052524.488	172.65
P9	E006° 25' 45.42"	200 Metres	217842.6475	1052525.222	177.64
P10	E006° 25' 42.18"	196 Metres	217743.775	1052525.955	173.64
P11	E006° 25' 38.94"	201 Metres	217644.9022	1052526.69	178.64
P12	E006° 25' 35.07"	200 Metres	217526.8043	1052527.567	177.64
P13	E006° 25' 32.46"	200 Metres	217447.1567	1052528.158	177.64
P14	E006° 25' 29.22"	201 Metres	217348.2839	1052528.893	178.64
P15	E006° 25' 25.98"	200 Metres	217249.4109	1052529.628	177.64
P16	E006° 25' 22.74"	202 Metres	217150.5379	1052530.363	179.64
P17	E006° 25' 19.05"	202 Metres	217037.9325	1052531.201	179.63
P18	E006° 25' 16.26"	200 Metres	216952.7918	1052531.835	177.63
P19	E006° 25' 13.02"	199 Metres	216853.9186	1052532.571	176.63
P20	E006° 25' 09.78"	200 Metres	216755.0453	1052533.307	177.63
P21	E006° 25' 06.54"	204 Metres	216656.1719	1052534.044	181.63
P22	E006° 25' 03.03"	204 Metres	216549.0591	1052534.842	181.63
P23	E006° 25' 00.06"	200 Metres	216458.4251	1052535.518	177.63
P24	E006° 24' 56.82"	201 Metres	216359.5516	1052536.255	178.63
P25	E006° 24' 53.58"	201 Metres	216260.678	1052536.993	178.62
P26	E006° 24' 50.34"	202 Metres	216161.8043	1052537.73	179.62
P27	E006° 24' 47.01"	200 Metres	216060.1841	1052538.489	177.62
P28	E006° 24' 43.86"	200 Metres	215964.0568	1052539.207	177.62

P29	E006° 24'40.62"	200 Metres	215865.183	1052539.946	177.62
P30	E006° 24'37.38"	202 Metres	215766.309	1052540.684	179.62
P31	E006° 24'34.14"	205 Metres	215667.435	1052541.424	182.62

REFERENCED LINE 8: LATITUDE: N09° 30'47.88"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26'11.34"	200 Metres	218634.3629	1052618.969	177.65
P2	E006° 26'08.01"	197 Metres	218532.7447	1052619.721	174.65
P3	E006° 26'04.86"	196 Metres	218436.6193	1052620.433	173.65
P4	E006° 26'01.62"	197 Metres	218337.7473	1052621.165	174.65
P5	E006° 25'58.38"	202 Metres	218238.8753	1052621.898	179.65
P6	E006° 25'55.14"	201 Metres	218140.0032	1052622.631	178.65
P7	E006° 25'51.09"	196 Metres	218016.4131	1052623.547	173.65
P8	E006° 25'48.66"	196 Metres	217942.2589	1052624.097	173.65
P9	E006° 25'45.42"	201 Metres	217843.3866	1052624.831	178.64
P10	E006° 25'42.18"	201 Metres	217744.5143	1052625.564	178.64
P11	E006° 25'38.94"	198 Metres	217645.6419	1052626.298	175.64
P12	E006° 25'35.07"	200 Metres	217527.5442	1052627.176	177.64
P13	E006° 25'32.46"	200 Metres	217447.8969	1052627.767	177.64
P14	E006° 25'29.22"	201 Metres	217349.0243	1052628.502	178.64
P15	E006° 25'25.98"	201 Metres	217250.1516	1052629.237	178.64
P16	E006° 25'22.74"	202 Metres	217151.2788	1052629.973	179.64
P17	E006° 25'19.05"	196 Metres	217038.6738	1052630.81	173.63
P18	E006° 25'16.26"	198 Metres	216953.5332	1052631.444	175.63
P19	E006° 25'13.02"	199 Metres	216854.6603	1052632.18	176.63
P20	E006° 25'09.78"	202 Metres	216755.7873	1052632.917	179.63
P21	E006° 25'06.54"	208 Metres	216656.9141	1052633.653	185.63
P22	E006° 25'03.03"	204 Metres	216549.8016	1052634.452	181.63
P23	E006° 25'00.06"	202 Metres	216459.1679	1052635.127	179.63
P24	E006° 24'56.82"	201 Metres	216360.2946	1052635.865	178.63

P25	E006 ⁰ 24'53.58"	200 Metres	216261.4213	1052636.602	177.62
P26	E006 ⁰ 24'50.34"	202 Metres	216162.5479	1052637.34	179.62
P27	E006 ⁰ 24'47.01"	201 Metres	216060.9279	1052638.099	178.62
P28	E006 ⁰ 24'43.86"	200 Metres	215964.8009	1052638.817	177.62
P29	E006 ⁰ 24'40.62"	201 Metres	215865.9273	1052639.556	178.62
P30	E006 ⁰ 24'37.38"	202 Metres	215767.0536	1052640.295	179.62
P31	E006 ⁰ 24'34.14"	204 Metres	215668.1798	1052641.034	181.62

REFERENCED LINE 9: LATITUDE: N09⁰ 30'51.12"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	198 Metres	218635.1	1052718.578	175.65
P2	E006 ⁰ 26'08.01"	198 Metres	218533.4821	1052719.33	175.65
P3	E006 ⁰ 26'04.86"	192 Metres	218437.3569	1052720.041	169.65
P4	E006 ⁰ 26'01.62"	197 Metres	218338.4852	1052720.774	174.65
P5	E006 ⁰ 25'58.38"	201 Metres	218239.6134	1052721.506	178.65
P6	E006 ⁰ 25'55.14"	200 Metres	218140.7416	1052722.239	177.65
P7	E006 ⁰ 25'51.09"	195 Metres	218017.1518	1052723.156	172.65
P8	E006 ⁰ 25'48.66"	199 Metres	217942.9978	1052723.706	176.65
P9	E006 ⁰ 25'45.42"	201 Metres	217844.1258	1052724.439	178.64
P10	E006 ⁰ 25'42.18"	200 Metres	217745.2537	1052725.173	177.64
P11	E006 ⁰ 25'38.94"	196 Metres	217646.3816	1052725.907	173.64
P12	E006 ⁰ 25'35.07"	202 Metres	217528.2842	1052726.785	179.64
P13	E006 ⁰ 25'32.46"	200 Metres	217448.6371	1052727.376	177.64
P14	E006 ⁰ 25'29.22"	201 Metres	217349.7647	1052728.111	178.64
P15	E006 ⁰ 25'25.98"	196 Metres	217250.8924	1052728.846	173.64
P16	E006 ⁰ 25'22.74"	200 Metres	217152.0199	1052729.582	177.64
P17	E006 ⁰ 25'19.05"	197 Metres	217039.4151	1052730.42	174.63
P18	E006 ⁰ 25'16.26"	198 Metres	216954.2747	1052731.053	175.63
P19	E006 ⁰ 25'13.02"	200 Metres	216855.402	1052731.79	177.63
P20	E006 ⁰ 25'09.78"	201 Metres	216756.5293	1052732.526	178.63

P21	E006 ⁰ 25'06.54"	207 Metres	216657.6564	1052733.263	184.63
P22	E006 ⁰ 25'03.03"	208 Metres	216550.5441	1052734.061	185.63
P23	E006 ⁰ 25'00.06"	204 Metres	216459.9106	1052734.737	181.63
P24	E006 ⁰ 24'56.82"	200 Metres	216361.0377	1052735.474	177.62
P25	E006 ⁰ 24'53.58"	201 Metres	216262.1646	1052736.212	178.62
P26	E006 ⁰ 24'50.34"	202 Metres	216163.2914	1052736.95	179.62
P27	E006 ⁰ 24'47.01"	201 Metres	216061.6718	1052737.709	178.62
P28	E006 ⁰ 24'43.86"	202 Metres	215965.545	1052738.427	179.62
P29	E006 ⁰ 24'40.62"	202 Metres	215866.6716	1052739.166	179.62
P30	E006 ⁰ 24'37.38"	203 Metres	215767.7982	1052739.905	180.62
P31	E006 ⁰ 24'34.14"	202 Metres	215668.9247	1052740.644	179.62

REFERENCED LINE 10: LATITUDE: N09⁰ 30'54.36"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	206 Metres	218635.8371	1052818.186	183.65
P2	E006 ⁰ 26'08.01"	196 Metres	218534.2195	1052818.938	173.65
P3	E006 ⁰ 26'04.86"	191 Metres	218438.0947	1052819.65	168.65
P4	E006 ⁰ 26'01.62"	196 Metres	218339.2232	1052820.382	173.65
P5	E006 ⁰ 25'58.38"	200 Metres	218240.3516	1052821.115	177.65
P6	E006 ⁰ 25'55.14"	200 Metres	218141.4801	1052821.848	177.65
P7	E006 ⁰ 25'51.09"	196 Metres	218020.9422	1052822.742	173.65
P8	E006 ⁰ 25'48.66"	200 Metres	217943.7368	1052823.314	177.64
P9	E006 ⁰ 25'45.42"	196 Metres	217844.8651	1052824.048	173.64
P10	E006 ⁰ 25'42.18"	202 Metres	217745.9932	1052824.782	179.64
P11	E006 ⁰ 25'38.94"	200 Metres	217647.1213	1052825.516	177.64
P12	E006 ⁰ 25'35.07"	200 Metres	217529.0243	1052826.394	177.64
P13	E006 ⁰ 25'32.46"	201 Metres	217449.3774	1052826.985	178.64
P14	E006 ⁰ 25'29.22"	202 Metres	217350.5053	1052827.72	179.64
P15	E006 ⁰ 25'25.98"	201 Metres	217251.6331	1052828.456	178.64
P16	E006 ⁰ 25'22.74"	200 Metres	217152.7609	1052829.191	177.63

P17	E006 ⁰ 25'19.05"	201 Metres	217040.1564	1052830.029	178.63
P18	E006 ⁰ 25'16.26"	200 Metres	216955.0163	1052830.663	177.63
P19	E006 ⁰ 25'13.02"	201 Metres	216856.1439	1052831.399	178.63
P20	E006 ⁰ 25'09.78"	202 Metres	216757.2714	1052832.136	179.63
P21	E006 ⁰ 25'06.54"	203 Metres	216658.3988	1052832.872	180.63
P22	E006 ⁰ 25'03.03"	206 Metres	216551.2868	1052833.671	183.63
P23	E006 ⁰ 25'00.06"	205 Metres	216460.6535	1052834.347	182.63
P24	E006 ⁰ 24'56.82"	199 Metres	216361.7808	1052835.084	176.62
P25	E006 ⁰ 24'53.58"	200 Metres	216262.908	1052835.822	177.62
P26	E006 ⁰ 24'50.34"	197 Metres	216164.0352	1052836.56	174.62
P27	E006 ⁰ 24'47.01"	201 Metres	216062.4157	1052837.319	178.62
P28	E006 ⁰ 24'43.86"	202 Metres	215966.2891	1052838.037	179.62
P29	E006 ⁰ 24'40.62"	200 Metres	215867.4161	1052838.776	177.62
P30	E006 ⁰ 24'37.38"	205 Metres	215768.5429	1052839.515	182.62
P31	E006 ⁰ 24'34.14"	204 Metres	215669.6697	1052840.254	181.62

REFERENCED LINE 11: LATITUDE: N09° 30' 57.60"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	199 Metres	218636.4515	1052901.193	176.65
P2	E006 ⁰ 26'08.01"	192 Metres	218534.8341	1052901.945	169.65
P3	E006 ⁰ 26'04.86"	193 Metres	218438.7094	1052902.657	170.65
P4	E006 ⁰ 26'01.62"	193 Metres	218339.8382	1052903.389	170.65
P5	E006 ⁰ 25'58.38"	200 Metres	218240.9669	1052904.122	177.65
P6	E006 ⁰ 25'55.14"	199 Metres	218142.0955	1052904.855	176.65
P7	E006 ⁰ 25'51.09"	199 Metres	218018.5063	1052905.772	176.65
P8	E006 ⁰ 25'48.66"	202 Metres	217944.3526	1052906.322	179.64
P9	E006 ⁰ 25'45.42"	199 Metres	217845.4811	1052907.055	176.64
P10	E006 ⁰ 25'42.18"	202 Metres	217746.6095	1052907.789	179.64
P11	E006 ⁰ 25'38.94"	199 Metres	217647.7379	1052908.524	176.64
P12	E006 ⁰ 25'35.07"	200 Metres	217529.6411	1052909.401	177.64

P13	E006 ⁰ 25'32.46"	196 Metres	217449.9944	1052909.993	173.64
P14	E006 ⁰ 25'29.22"	198 Metres	217351.1225	1052910.728	175.64
P15	E006 ⁰ 25'25.98"	200 Metres	217252.2505	1052911.463	177.64
P16	E006 ⁰ 25'22.74"	201 Metres	217153.3785	1052912.199	178.63
P17	E006 ⁰ 25'19.05"	200 Metres	217040.7742	1052913.037	177.63
P18	E006 ⁰ 25'16.26"	201 Metres	216955.6343	1052913.671	178.63
P19	E006 ⁰ 25'13.02"	200 Metres	216856.7621	1052914.407	177.63
P20	E006 ⁰ 25'09.78"	201 Metres	216757.8899	1052915.144	178.63
P21	E006 ⁰ 25'06.54"	204 Metres	216659.0175	1052915.88	181.63
P22	E006 ⁰ 25'03.03"	206 Metres	216551.9057	1052916.679	183.63
P23	E006 ⁰ 25'00.06"	201 Metres	216461.2727	1052917.355	178.63
P24	E006 ⁰ 24'56.82"	198 Metres	216362.4002	1052918.092	175.62
P25	E006 ⁰ 24'53.58"	197 Metres	216263.5276	1052918.83	174.62
P26	E006 ⁰ 24'50.34"	200 Metres	216164.6549	1052919.568	177.62
P27	E006 ⁰ 24'47.01"	199 Metres	216063.0357	1052920.327	176.62
P28	E006 ⁰ 24'43.86"	202 Metres	215966.9093	1052921.045	179.62
P29	E006 ⁰ 24'40.62"	201 Metres	215868.0365	1052921.784	178.62
P30	E006 ⁰ 24'37.38"	200 Metres	215769.1636	1052922.523	177.62
P31	E006 ⁰ 24'34.14"	201 Metres	215670.2906	1052923.263	178.62

REFERENCED LINE 12: LATITUDE: N09⁰ 31'00.84"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	196 Metres	218637.3118	1053017.402	173.65
P2	E006 ⁰ 26'08.01"	193 Metres	218535.6946	1053018.155	170.65
P3	E006 ⁰ 26'04.86"	194 Metres	218439.5702	1053018.867	171.65
P4	E006 ⁰ 26'01.62"	192 Metres	218340.6993	1053019.599	169.65
P5	E006 ⁰ 25'58.38"	205 Metres	218241.8282	1053020.332	182.65
P6	E006 ⁰ 25'55.14"	203 Metres	218142.9572	1053021.065	180.65
P7	E006 ⁰ 25'51.09"	202 Metres	218019.3683	1053021.982	179.65
P8	E006 ⁰ 25'48.66"	200 Metres	217945.215	1053022.532	177.64

P9	E006 ⁰ 25'45.42"	202 Metres	217846.3437	1053023.266	179.64
P10	E006 ⁰ 25'42.18"	200 Metres	217747.4724	1053024	177.64
P11	E006 ⁰ 25'38.94"	200 Metres	217648.6011	1053024.734	177.64
P12	E006 ⁰ 25'35.07"	201 Metres	217530.5046	1053025.612	178.64
P13	E006 ⁰ 25'32.46"	200 Metres	217450.8582	1053026.203	177.64
P14	E006 ⁰ 25'29.22"	202 Metres	217351.9866	1053026.939	179.64
P15	E006 ⁰ 25'25.98"	201 Metres	217253.115	1053027.674	178.64
P16	E006 ⁰ 25'22.74"	200 Metres	217154.2433	1053028.41	177.63
P17	E006 ⁰ 25'19.05"	201 Metres	217041.6393	1053029.248	178.63
P18	E006 ⁰ 25'16.26"	202 Metres	216956.4997	1053029.882	179.63
P19	E006 ⁰ 25'13.02"	200 Metres	216857.6278	1053030.618	177.63
P20	E006 ⁰ 25'09.78"	201 Metres	216758.7558	1053031.355	178.63
P21	E006 ⁰ 25'06.54"	205 Metres	216659.8837	1053032.092	182.63
P22	E006 ⁰ 25'03.03"	205 Metres	216552.7723	1053032.89	182.63
P23	E006 ⁰ 25'00.06"	202 Metres	216462.1395	1053033.566	179.63
P24	E006 ⁰ 24'56.82"	200 Metres	216363.2673	1053034.304	177.62
P25	E006 ⁰ 24'53.58"	201 Metres	216264.395	1053035.042	178.62
P26	E006 ⁰ 24'50.34"	200 Metres	216165.5227	1053035.78	177.62
P27	E006 ⁰ 24'47.01"	197 Metres	216063.9038	1053036.539	174.62
P28	E006 ⁰ 24'43.86"	198 Metres	215967.7778	1053037.257	175.62
P29	E006 ⁰ 24'40.62"	201 Metres	215868.9052	1053037.996	178.62
P30	E006 ⁰ 24'37.38"	202 Metres	215770.0325	1053038.735	179.62
P31	E006 ⁰ 24'34.14"	200 Metres	215671.1599	1053039.475	177.61

REFERENCED LINE 13: LATITUDE: N09° 31' 04.08"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	200 Metres	218638.0491	1053117.011	177.65
P2	E006 ⁰ 26'08.01"	197 Metres	218536.4322	1053117.763	174.65
P3	E006 ⁰ 26'04.86"	199 Metres	218440.308	1053118.475	176.65
P4	E006 ⁰ 26'01.62"	191 Metres	218341.4375	1053119.208	168.65

P5	E006 ⁰ 25'58.38"	204 Metres	218242.5666	1053119.94	181.65
P6	E006 ⁰ 25'55.14"	205 Metres	218143.6958	1053120.674	182.65
P7	E006 ⁰ 25'51.09"	200 Metres	218020.1073	1053121.59	177.64
P8	E006 ⁰ 25'48.66"	201 Metres	217945.9541	1053122.141	178.64
P9	E006 ⁰ 25'45.42"	201 Metres	217847.0832	1053122.874	178.64
P10	E006 ⁰ 25'42.18"	201 Metres	217748.2121	1053123.609	178.64
P11	E006 ⁰ 25'38.94"	204 Metres	217649.341	1053124.343	181.64
P12	E006 ⁰ 25'35.07"	203 Metres	217531.2449	1053125.221	180.64
P13	E006 ⁰ 25'32.46"	198 Metres	217451.5987	1053125.813	175.64
P14	E006 ⁰ 25'29.22"	200 Metres	217352.7273	1053126.548	177.64
P15	E006 ⁰ 25'25.98"	199 Metres	217253.856	1053127.283	176.63
P16	E006 ⁰ 25'22.74"	200 Metres	217154.9845	1053128.019	177.63
P17	E006 ⁰ 25'19.05"	200 Metres	217042.3809	1053128.857	177.63
P18	E006 ⁰ 25'16.26"	201 Metres	216957.2415	1053129.491	178.63
P19	E006 ⁰ 25'13.02"	200 Metres	216858.3698	1053130.227	177.63
P20	E006 ⁰ 25'09.78"	201 Metres	216759.4981	1053130.964	178.63
P21	E006 ⁰ 25'06.54"	205 Metres	216660.6263	1053131.701	182.63
P22	E006 ⁰ 25'03.03"	206 Metres	216553.5151	1053132.5	183.63
P23	E006 ⁰ 25'00.06"	203 Metres	216462.8826	1053133.176	180.62
P24	E006 ⁰ 24'56.82"	202 Metres	216364.0106	1053133.914	179.62
P25	E006 ⁰ 24'53.58"	201 Metres	216265.1386	1053134.652	178.62
P26	E006 ⁰ 24'50.34"	200 Metres	216166.2665	1053135.39	177.62
P27	E006 ⁰ 24'47.01"	200 Metres	216064.6479	1053136.149	177.62
P28	E006 ⁰ 24'43.86"	201 Metres	215968.5221	1053136.867	178.62
P29	E006 ⁰ 24'40.62"	200 Metres	215869.6498	1053137.606	177.62
P30	E006 ⁰ 24'37.38"	202 Metres	215770.7774	1053138.346	179.62
P31	E006 ⁰ 24'34.14"	201 Metres	215671.905	1053139.085	178.61

REFERENCED LINE 14: LATITUDE: N09° 31'07.32"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26' 11.34"	204 Metres	218638.7865	1053216.619	181.65
P2	E006° 26' 08.01"	196 Metres	218537.1699	1053217.371	173.65
P3	E006° 26' 04.86"	201 Metres	218441.046	1053218.083	178.65
P4	E006° 26' 01.62"	200 Metres	218342.1756	1053218.816	177.65
P5	E006° 25' 58.38"	204 Metres	218243.3051	1053219.549	181.65
P6	E006° 25' 55.14"	204 Metres	218144.4346	1053220.282	181.65
P7	E006° 25' 51.09"	203 Metres	218020.8464	1053221.199	180.64
P8	E006° 25' 48.66"	203 Metres	217946.6934	1053221.749	180.64
P9	E006° 25' 45.42"	201 Metres	217847.8227	1053222.483	178.64
P10	E006° 25' 42.18"	201 Metres	217748.9519	1053223.217	178.64
P11	E006° 25' 38.94"	202 Metres	217650.0811	1053223.952	179.64
P12	E006° 25' 35.07"	203 Metres	217531.9852	1053224.83	180.64
P13	E006° 25' 32.46"	203 Metres	217452.3392	1053225.422	180.64
P14	E006° 25' 29.22"	201 Metres	217353.4682	1053226.157	178.64
P15	E006° 25' 25.98"	200 Metres	217254.5971	1053226.892	177.63
P16	E006° 25' 22.74"	201 Metres	217155.7259	1053227.628	178.63
P17	E006° 25' 19.05"	200 Metres	217043.1225	1053228.466	177.63
P18	E006° 25' 16.26"	201 Metres	216957.9833	1053229.1	178.63
P19	E006° 25' 13.02"	202 Metres	216859.1119	1053229.837	179.63
P20	E006° 25' 09.78"	202 Metres	216760.2405	1053230.574	179.63
P21	E006° 25' 06.54"	204 Metres	216661.369	1053231.311	181.63
P22	E006° 25' 03.03"	204 Metres	216554.2581	1053232.11	181.63
P23	E006° 25' 00.06"	203 Metres	216463.6258	1053232.786	180.62
P24	E006° 24' 56.82"	204 Metres	216364.754	1053233.523	181.62
P25	E006° 24' 53.58"	204 Metres	216265.8823	1053234.262	181.62
P26	E006° 24' 50.34"	205 Metres	216167.0104	1053235	182.62
P27	E006° 24' 47.01"	204 Metres	216065.3921	1053235.759	181.62
P28	E006° 24' 43.86"	200 Metres	215969.2666	1053236.477	177.62

P29	E006° 24'40.62"	201 Metres	215870.3945	1053237.216	178.62
P30	E006° 24'37.38"	202 Metres	215771.5224	1053237.956	179.62
P31	E006° 24'34.14"	201 Metres	215672.6503	1053238.695	178.61

REFERENCED LINE 15: LATITUDE: N09° 31' 10.56"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26'11.34"	199 Metres	218639.5241	1053316.227	176.65
P2	E006° 26'08.01"	196 Metres	218537.9077	1053316.98	173.65
P3	E006° 26'04.86"	201 Metres	218441.784	1053317.692	178.65
P4	E006° 26'01.62"	202 Metres	218350.2376	1053318.37	178.65
P5	E006° 25'58.38"	205 Metres	218244.0436	1053319.158	182.65
P6	E006° 25'55.14"	204 Metres	218145.1734	1053319.891	181.65
P7	E006° 25'51.09"	204 Metres	218021.5855	1053320.808	181.64
P8	E006° 25'48.66"	202 Metres	217947.4327	1053321.358	179.64
P9	E006° 25'45.42"	202 Metres	217848.5623	1053322.092	179.64
P10	E006° 25'42.18"	198 Metres	217749.6918	1053322.826	175.64
P11	E006° 25'38.94"	199 Metres	217650.8212	1053323.561	176.64
P12	E006° 25'35.07"	200 Metres	217532.7257	1053324.439	177.64
P13	E006° 25'32.46"	201 Metres	217453.0798	1053325.031	178.64
P14	E006° 25'29.22"	202 Metres	217354.209	1053325.766	179.64
P15	E006° 25'25.98"	203 Metres	217255.3382	1053326.502	180.63
P16	E006° 25'22.74"	201 Metres	217156.4673	1053327.237	178.63
P17	E006° 25'19.05"	200 Metres	217043.8642	1053328.076	177.63
P18	E006° 25'16.26"	199 Metres	216958.7253	1053328.71	176.63
P19	E006° 25'13.02"	197 Metres	216859.8542	1053329.446	174.63
P20	E006° 25'09.78"	199 Metres	216760.983	1053330.183	176.63
P21	E006° 25'06.54"	200 Metres	216662.1117	1053330.92	177.63
P22	E006° 25'03.03"	206 Metres	216555.0011	1053331.719	183.63
P23	E006° 25'00.06"	203 Metres	216464.369	1053332.395	180.62
P24	E006° 24'56.82"	202 Metres	216365.4976	1053333.133	179.62

P25	E006 ⁰ 24'53.58"	205 Metres	216266.626	1053333.871	182.62
P26	E006 ⁰ 24'50.34"	206 Metres	216167.7544	1053334.61	183.62
P27	E006 ⁰ 24'47.01"	204 Metres	216066.1363	1053335.369	181.62
P28	E006 ⁰ 24'43.86"	200 Metres	215970.0111	1053336.087	177.62
P29	E006 ⁰ 24'40.62"	201 Metres	215871.1393	1053336.827	178.62
P30	E006 ⁰ 24'37.38"	200 Metres	215772.2675	1053337.566	177.62
P31	E006 ⁰ 24'34.14"	200 Metres	215673.3956	1053338.306	177.61

REFERENCED LINE 16: LATITUDE: N09⁰ 31'13.80"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	202 Metres	218640.0977	1053393.7	179.65
P2	E006 ⁰ 26'08.01"	201 Metres	218538.4815	1053394.453	178.65
P3	E006 ⁰ 26'04.86"	199 Metres	218442.3581	1053395.165	176.65
P4	E006 ⁰ 26'01.62"	203 Metres	218343.4881	1053395.898	180.65
P5	E006 ⁰ 25'58.38"	206 Metres	218244.6181	1053396.631	183.65
P6	E006 ⁰ 25'55.14"	205 Metres	218145.7481	1053397.364	182.65
P7	E006 ⁰ 25'51.09"	203 Metres	218022.1604	1053398.281	180.64
P8	E006 ⁰ 25'48.66"	198 Metres	217948.0079	1053398.831	175.64
P9	E006 ⁰ 25'45.42"	201 Metres	217849.1376	1053399.566	178.64
P10	E006 ⁰ 25'42.18"	198 Metres	217750.2673	1053400.3	175.64
P11	E006 ⁰ 25'38.94"	201 Metres	217651.3969	1053401.034	178.64
P12	E006 ⁰ 25'35.07"	200 Metres	217533.3016	1053401.912	177.64
P13	E006 ⁰ 25'32.46"	200 Metres	217453.6559	1053402.504	177.64
P14	E006 ⁰ 25'29.22"	200 Metres	217354.7854	1053403.24	177.64
P15	E006 ⁰ 25'25.98"	203 Metres	217255.9147	1053403.975	180.63
P16	E006 ⁰ 25'22.74"	202 Metres	217157.044	1053404.711	179.63
P17	E006 ⁰ 25'19.05"	198 Metres	217044.4412	1053405.55	175.63
P18	E006 ⁰ 25'16.26"	202 Metres	216959.3023	1053406.184	179.63
P19	E006 ⁰ 25'13.02"	200 Metres	216860.4315	1053406.92	177.63
P20	E006 ⁰ 25'09.78"	198 Metres	216761.5605	1053407.657	175.63
P21	E006 ⁰ 25'06.54"	203 Metres	216662.6894	1053408.394	180.63

P22	E006 ⁰ 25'03.03"	207 Metres	216555.579	1053409.193	184.62
P23	E006 ⁰ 25'00.06"	204 Metres	216464.9471	1053409.87	181.62
P24	E006 ⁰ 24'56.82"	205 Metres	216366.0758	1053410.608	182.62
P25	E006 ⁰ 24'53.58"	203 Metres	216267.2045	1053411.346	180.62
P26	E006 ⁰ 24'50.34"	204 Metres	216168.3332	1053412.084	181.62
P27	E006 ⁰ 24'47.01"	201 Metres	216066.7153	1053412.843	178.62
P28	E006 ⁰ 24'43.86"	200 Metres	215970.5902	1053413.562	177.62
P29	E006 ⁰ 24'40.62"	199 Metres	215871.7187	1053414.301	176.62
P30	E006 ⁰ 24'37.38"	203 Metres	215772.847	1053415.041	180.61
P31	E006 ⁰ 24'34.14"	208 Metres	215673.9752	1053415.78	185.61

REFERENCED LINE 17: LATITUDE: N09° 31'17.04"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	198 Metres	218640.9993	1053515.444	175.65
P2	E006 ⁰ 26'08.01"	202 Metres	218539.3834	1053516.196	179.65
P3	E006 ⁰ 26'04.86"	203 Metres	218443.2603	1053516.909	180.65
P4	E006 ⁰ 26'01.62"	202 Metres	218344.3907	1053517.641	179.65
P5	E006 ⁰ 25'58.38"	205 Metres	218245.521	1053518.375	182.65
P6	E006 ⁰ 25'55.14"	204 Metres	218146.6512	1053519.108	181.64
P7	E006 ⁰ 25'51.09"	196 Metres	218023.0641	1053520.025	173.64
P8	E006 ⁰ 25'48.66"	202 Metres	217948.9116	1053520.575	179.64
P9	E006 ⁰ 25'45.42"	202 Metres	217850.0417	1053521.31	179.64
P10	E006 ⁰ 25'42.18"	202 Metres	217751.1717	1053522.044	179.64
P11	E006 ⁰ 25'38.94"	196 Metres	217652.3017	1053522.779	173.64
P12	E006 ⁰ 25'35.07"	200 Metres	217534.2068	1053523.657	177.64
P13	E006 ⁰ 25'32.46"	200 Metres	217454.5613	1053524.249	177.64
P14	E006 ⁰ 25'29.22"	201 Metres	217355.691	1053524.984	178.63
P15	E006 ⁰ 25'25.98"	200 Metres	217256.8207	1053525.72	177.63
P16	E006 ⁰ 25'22.74"	201 Metres	217157.9503	1053526.456	178.63
P17	E006 ⁰ 25'19.05"	197 Metres	217045.3479	1053527.294	174.63

P18	E006 ⁰ 25'16.26"	198 Metres	216960.2094	1053527.929	175.63
P19	E006 ⁰ 25'13.02"	201 Metres	216861.3387	1053528.665	178.63
P20	E006 ⁰ 25'09.78"	200 Metres	216762.4681	1053529.402	177.63
P21	E006 ⁰ 25'06.54"	203 Metres	216663.5973	1053530.14	180.63
P22	E006 ⁰ 25'03.03"	208 Metres	216556.4872	1053530.939	185.62
P23	E006 ⁰ 25'00.06"	206 Metres	216465.8556	1053531.615	183.62
P24	E006 ⁰ 24'56.82"	205 Metres	216366.9847	1053532.353	182.62
P25	E006 ⁰ 24'53.58"	208 Metres	216268.1137	1053533.091	185.62
P26	E006 ⁰ 24'50.34"	202 Metres	216169.2427	1053533.83	179.62
P27	E006 ⁰ 24'47.01"	205 Metres	216067.6251	1053534.589	182.62
P28	E006 ⁰ 24'43.86"	206 Metres	215971.5003	1053535.308	183.62
P29	E006 ⁰ 24'40.62"	204 Metres	215872.6291	1053536.047	181.62
P30	E006 ⁰ 24'37.38"	203 Metres	215773.7578	1053536.786	180.61
P31	E006 ⁰ 24'34.14"	202 Metres	215674.8864	1053537.526	179.61

REFERENCED LINE 18: LATITUDE: N09° 31'20.28"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	203 Metres	218641.737	1053615.052	180.65
P2	E006 ⁰ 26'08.01"	196 Metres	218540.1215	1053615.805	173.65
P3	E006 ⁰ 26'04.86"	202 Metres	218443.9985	1053616.517	179.65
P4	E006 ⁰ 26'01.62"	204 Metres	218345.1291	1053617.25	181.65
P5	E006 ⁰ 25'58.38"	207 Metres	218246.2597	1053617.983	184.65
P6	E006 ⁰ 25'55.14"	205 Metres	218147.3903	1053618.717	182.64
P7	E006 ⁰ 25'51.09"	201 Metres	218023.8034	1053619.634	178.64
P8	E006 ⁰ 25'48.66"	201 Metres	217949.6512	1053620.184	178.64
P9	E006 ⁰ 25'45.42"	201 Metres	217850.7815	1053620.918	178.64
P10	E006 ⁰ 25'42.18"	201 Metres	217751.9118	1053621.653	178.64
P11	E006 ⁰ 25'38.94"	200 Metres	217653.042	1053622.388	177.64
P12	E006 ⁰ 25'35.07"	202 Metres	217534.9474	1053623.266	179.64
P13	E006 ⁰ 25'32.46"	201 Metres	217455.3021	1053623.858	178.64

P14	E006 ⁰ 25'29.22"	200 Metres	217356.4322	1053624.593	177.63
P15	E006 ⁰ 25'25.98"	200 Metres	217257.5621	1053625.329	177.63
P16	E006 ⁰ 25'22.74"	201 Metres	217158.6919	1053626.065	178.63
P17	E006 ⁰ 25'19.05"	199 Metres	217046.0898	1053626.904	176.63
P18	E006 ⁰ 25'16.26"	200 Metres	216960.9515	1053627.538	177.63
P19	E006 ⁰ 25'13.02"	201 Metres	216862.0811	1053628.275	178.63
P20	E006 ⁰ 25'09.78"	200 Metres	216763.2107	1053629.012	177.63
P21	E006 ⁰ 25'06.54"	206 Metres	216664.3402	1053629.749	183.63
P22	E006 ⁰ 25'03.03"	210 Metres	216557.2304	1053630.548	187.62
P23	E006 ⁰ 25'00.06"	205 Metres	216466.5991	1053631.225	182.62
P24	E006 ⁰ 24'56.82"	208 Metres	216367.7284	1053631.963	185.62
P25	E006 ⁰ 24'53.58"	207 Metres	216268.8576	1053632.701	184.62
P26	E006 ⁰ 24'50.34"	206 Metres	216169.9869	1053633.44	183.62
P27	E006 ⁰ 24'47.01"	205 Metres	216068.3696	1053634.199	182.62
P28	E006 ⁰ 24'43.86"	204 Metres	215972.2451	1053634.918	181.62
P29	E006 ⁰ 24'40.62"	206 Metres	215873.374	1053635.657	183.62
P30	E006 ⁰ 24'37.38"	205 Metres	215774.503	1053636.397	182.61
P31	E006 ⁰ 24'34.14"	206 Metres	215675.6318	1053637.137	183.61

REFERENCED LINE 19: LATITUDE: N09⁰ 31' 23.52"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	204 Metres	218642.4748	1053714.66	181.65
P2	E006 ⁰ 26'08.01"	202 Metres	218540.8595	1053715.413	179.65
P3	E006 ⁰ 26'04.86"	207 Metres	218444.7368	1053716.125	184.65
P4	E006 ⁰ 26'01.62"	206 Metres	218345.8677	1053716.858	183.65
P5	E006 ⁰ 25'58.38"	203 Metres	218246.9986	1053717.592	180.65
P6	E006 ⁰ 25'55.14"	205 Metres	218148.1293	1053718.325	182.64
P7	E006 ⁰ 25'51.09"	205 Metres	218024.5427	1053719.242	182.64
P8	E006 ⁰ 25'48.66"	202 Metres	217950.3908	1053719.793	179.64
P9	E006 ⁰ 25'45.42"	202 Metres	217851.5213	1053720.527	179.64

P10	E006 ⁰ 25'42.18"	200 Metres	217752.6519	1053721.262	177.64
P11	E006 ⁰ 25'38.94"	198 Metres	217653.7824	1053721.997	175.64
P12	E006 ⁰ 25'35.07"	197 Metres	217535.6881	1053722.875	174.64
P13	E006 ⁰ 25'32.46"	200 Metres	217456.0431	1053723.467	177.64
P14	E006 ⁰ 25'29.22"	201 Metres	217357.1733	1053724.203	178.63
P15	E006 ⁰ 25'25.98"	202 Metres	217258.3035	1053724.938	179.63
P16	E006 ⁰ 25'22.74"	203 Metres	217159.4336	1053725.674	180.63
P17	E006 ⁰ 25'19.05"	200 Metres	217046.8318	1053726.513	177.63
P18	E006 ⁰ 25'16.26"	199 Metres	216961.6937	1053727.147	176.63
P19	E006 ⁰ 25'13.02"	198 Metres	216862.8236	1053727.884	175.63
P20	E006 ⁰ 25'09.78"	198 Metres	216763.9535	1053728.621	175.63
P21	E006 ⁰ 25'06.54"	209 Metres	216665.0831	1053729.359	186.63
P22	E006 ⁰ 25'03.03"	210 Metres	216557.9737	1053730.158	187.62
P23	E006 ⁰ 25'00.06"	205 Metres	216467.3426	1053730.834	182.62
P24	E006 ⁰ 24'56.82"	206 Metres	216368.4722	1053731.572	183.62
P25	E006 ⁰ 24'53.58"	208 Metres	216269.6017	1053732.311	185.62
P26	E006 ⁰ 24'50.34"	207 Metres	216170.7311	1053733.05	184.62
P27	E006 ⁰ 24'47.01"	202 Metres	216069.1142	1053733.809	179.62
P28	E006 ⁰ 24'43.86"	204 Metres	215972.9899	1053734.528	181.62
P29	E006 ⁰ 24'40.62"	205 Metres	215874.1191	1053735.267	182.61
P30	E006 ⁰ 24'37.38"	206 Metres	215775.2483	1053736.007	183.61
P31	E006 ⁰ 24'34.14"	206 Metres	215676.3774	1053736.747	183.61

REFERENCED LINE 20: LATITUDE: N09° 31' 26.76"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	207 Metres	218643.2126	1053814.269	184.65
P2	E006 ⁰ 26'08.01"	198 Metres	218541.5977	1053815.021	175.65
P3	E006 ⁰ 26'04.86"	202 Metres	218445.4752	1053815.734	179.65
P4	E006 ⁰ 26'01.62"	200 Metres	218346.6064	1053816.467	177.65
P5	E006 ⁰ 25'58.38"	200 Metres	218247.7375	1053817.2	177.65

P6	E006 ⁰ 25'55.14"	204 Metres	218148.8685	1053817.934	181.64
P7	E006 ⁰ 25'51.09"	204 Metres	218025.2822	1053818.851	181.64
P8	E006 ⁰ 25'48.66"	202 Metres	217951.1304	1053819.402	179.64
P9	E006 ⁰ 25'45.42"	200 Metres	217852.2613	1053820.136	177.64
P10	E006 ⁰ 25'42.18"	202 Metres	217753.3921	1053820.871	179.64
P11	E006 ⁰ 25'38.94"	202 Metres	217654.5228	1053821.606	179.64
P12	E006 ⁰ 25'35.07"	199 Metres	217536.4289	1053822.484	176.64
P13	E006 ⁰ 25'32.46"	201 Metres	217456.784	1053823.076	178.63
P14	E006 ⁰ 25'29.22"	200 Metres	217357.9146	1053823.812	177.63
P15	E006 ⁰ 25'25.98"	202 Metres	217259.045	1053824.548	179.63
P16	E006 ⁰ 25'22.74"	201 Metres	217160.1754	1053825.284	178.63
P17	E006 ⁰ 25'19.05"	200 Metres	217047.5738	1053826.122	177.63
P18	E006 ⁰ 25'16.26"	200 Metres	216962.436	1053826.757	177.63
P19	E006 ⁰ 25'13.02"	201 Metres	216863.5661	1053827.494	178.63
P20	E006 ⁰ 25'09.78"	200 Metres	216764.6963	1053828.231	177.63
P21	E006 ⁰ 25'06.54"	210 Metres	216665.8262	1053828.968	187.62
P22	E006 ⁰ 25'03.03"	208 Metres	216558.717	1053829.768	185.62
P23	E006 ⁰ 25'00.06"	206 Metres	216468.0861	1053830.444	183.62
P24	E006 ⁰ 24'56.82"	205 Metres	216369.216	1053831.182	182.62
P25	E006 ⁰ 24'53.58"	204 Metres	216270.3458	1053831.921	181.62
P26	E006 ⁰ 24'50.34"	205 Metres	216172.6961	1053832.65	182.62
P27	E006 ⁰ 24'47.01"	205 Metres	216069.8588	1053833.419	182.62
P28	E006 ⁰ 24'43.86"	206 Metres	215973.7347	1053834.138	183.62
P29	E006 ⁰ 24'40.62"	204 Metres	215874.8643	1053834.877	181.61
P30	E006 ⁰ 24'37.38"	202 Metres	215775.9938	1053835.617	179.61
P31	E006 ⁰ 24'34.14"	201 Metres	215677.1231	1053836.357	178.61

REFERENCED LINE 21: LATITUDE: N09° 31' 30.00"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	221 Metres	218643.9503	1053913.877	198.65

P2	E006 ⁰ 26'08.01"	204 Metres	218542.3358	1053914.63	181.65
P3	E006 ⁰ 26'04.86"	201 Metres	218446.2137	1053915.342	178.65
P4	E006 ⁰ 26'01.62"	198 Metres	218347.3451	1053916.075	175.65
P5	E006 ⁰ 25'58.38"	205 Metres	218248.4764	1053916.809	182.64
P6	E006 ⁰ 25'55.14"	205 Metres	218149.6077	1053917.542	182.64
P7	E006 ⁰ 25'51.09"	207 Metres	218026.0217	1053918.46	184.64
P8	E006 ⁰ 25'48.66"	205 Metres	217951.8701	1053919.011	182.64
P9	E006 ⁰ 25'45.42"	204 Metres	217853.0013	1053919.745	181.64
P10	E006 ⁰ 25'42.18"	206 Metres	217754.1323	1053920.48	183.64
P11	E006 ⁰ 25'38.94"	202 Metres	217655.2633	1053921.215	179.64
P12	E006 ⁰ 25'35.07"	206 Metres	217537.1696	1053922.093	183.64
P13	E006 ⁰ 25'32.46"	208 Metres	217457.525	1053922.685	185.63
P14	E006 ⁰ 25'29.22"	200 Metres	217358.6559	1053923.421	177.63
P15	E006 ⁰ 25'25.98"	202 Metres	217259.7866	1053924.157	179.63
P16	E006 ⁰ 25'22.74"	201 Metres	217160.9172	1053924.893	178.63
P17	E006 ⁰ 25'19.05"	200 Metres	217048.3159	1053925.732	177.63
P18	E006 ⁰ 25'16.26"	201 Metres	216963.1783	1053926.366	178.63
P19	E006 ⁰ 25'13.02"	202 Metres	216864.3087	1053927.103	179.63
P20	E006 ⁰ 25'09.78"	200 Metres	216765.4391	1053927.841	177.63
P21	E006 ⁰ 25'06.54"	204 Metres	216666.5694	1053928.578	181.62
P22	E006 ⁰ 25'03.03"	209 Metres	216559.4604	1053929.377	186.62
P23	E006 ⁰ 25'00.06"	206 Metres	216468.8298	1053930.054	183.62
P24	E006 ⁰ 24'56.82"	207 Metres	216369.9599	1053930.792	184.62
P25	E006 ⁰ 24'53.58"	204 Metres	216271.09	1053931.531	181.62
P26	E006 ⁰ 24'50.34"	205 Metres	216172.2199	1053932.269	182.62
P27	E006 ⁰ 24'47.01"	204 Metres	216070.6035	1053933.029	181.62
P28	E006 ⁰ 24'43.86"	200 Metres	215974.4798	1053933.748	177.62
P29	E006 ⁰ 24'40.62"	201 Metres	215875.6095	1053934.487	178.61
P30	E006 ⁰ 24'37.38"	202 Metres	215776.7392	1053935.227	179.61
P31	E006 ⁰ 24'34.14"	200 Metres	215677.8689	1053935.967	177.61

REFERENCED LINE 22: LATITUDE: N09° 31'33.24"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26' 11.34"	202 Metres	218644.6886	1054013.485	179.65
P2	E006° 26' 08.01"	200 Metres	218543.0741	1054014.238	177.65
P3	E006° 26' 04.86"	195 Metres	218446.9523	1054014.951	172.65
P4	E006° 26' 01.62"	203 Metres	218348.0839	1054015.684	180.65
P5	E006° 25' 58.38"	207 Metres	218249.2154	1054016.417	184.64
P6	E006° 25' 55.14"	206 Metres	218150.347	1054017.151	183.64
P7	E006° 25' 51.09"	207 Metres	218026.7614	1054018.069	184.64
P8	E006° 25' 48.66"	206 Metres	217952.61	1054018.619	183.64
P9	E006° 25' 45.42"	207 Metres	217853.7413	1054019.354	184.64
P10	E006° 25' 42.18"	205 Metres	217754.8726	1054020.088	182.64
P11	E006° 25' 38.94"	207 Metres	217656.0038	1054020.823	184.64
P12	E006° 25' 35.07"	204 Metres	217537.9106	1054021.702	181.64
P13	E006° 25' 32.46"	201 Metres	217458.2662	1054022.294	178.63
P14	E006° 25' 29.22"	200 Metres	217359.3972	1054023.03	177.63
P15	E006° 25' 25.98"	201 Metres	217260.5282	1054023.766	178.63
P16	E006° 25' 22.74"	202 Metres	217161.6591	1054024.502	179.63
P17	E006° 25' 19.05"	199 Metres	217049.0581	1054025.341	176.63
P18	E006° 25' 16.26"	198 Metres	216963.9208	1054025.976	175.63
P19	E006° 25' 13.02"	200 Metres	216865.0514	1054026.713	177.63
P20	E006° 25' 09.78"	200 Metres	216766.1821	1054027.45	177.63
P21	E006° 25' 06.54"	208 Metres	216667.3125	1054028.188	185.62
P22	E006° 25' 03.03"	210 Metres	216560.2039	1054028.987	187.62
P23	E006° 25' 00.06"	207 Metres	216469.5735	1054029.664	184.62
P24	E006° 24' 56.82"	202 Metres	216370.7039	1054030.402	179.62
P25	E006° 24' 53.58"	201 Metres	216271.8342	1054031.141	178.62
P26	E006° 24' 50.34"	201 Metres	216172.9645	1054031.879	178.62
P27	E006° 24' 47.01"	200 Metres	216071.3483	1054032.639	177.62
P28	E006° 24' 43.86"	201 Metres	215975.2248	1054033.358	178.62

P29	E006° 24'40.62"	200 Metres	215876.3548	1054034.098	177.61
P30	E006° 24'37.38"	198 Metres	215777.4848	1054034.837	175.61
P31	E006° 24'34.14"	200 Metres	215678.6147	1054035.578	177.61

REFERENCED LINE 23: LATITUDE: N09° 31'36.48"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26'11.34"	207 Metres	218645.4266	1054113.093	184.65
P2	E006° 26'08.01"	198 Metres	218543.8124	1054113.846	175.65
P3	E006° 26'04.86"	201 Metres	218447.6908	1054114.559	178.65
P4	E006° 26'01.62"	203 Metres	218348.8227	1054115.292	180.65
P5	E006° 25'58.38"	207 Metres	218249.9545	1054116.026	184.64
P6	E006° 25'55.14"	207 Metres	218151.0864	1054116.76	184.64
P7	E006° 25'51.09"	207 Metres	218027.5011	1054117.677	184.64
P8	E006° 25'48.66"	208 Metres	217953.3498	1054118.228	185.64
P9	E006° 25'45.42"	208 Metres	217854.4814	1054118.963	185.64
P10	E006° 25'42.18"	202 Metres	217755.6131	1054119.697	179.64
P11	E006° 25'38.94"	202 Metres	217656.7446	1054120.432	179.64
P12	E006° 25'35.07"	204 Metres	217538.6515	1054121.311	181.63
P13	E006° 25'32.46"	199 Metres	217459.0074	1054121.903	176.63
P14	E006° 25'29.22"	198 Metres	217360.1387	1054122.639	175.63
P15	E006° 25'25.98"	200 Metres	217261.2699	1054123.375	177.63
P16	E006° 25'22.74"	201 Metres	217162.4011	1054124.112	178.63
P17	E006° 25'19.05"	201 Metres	217049.8004	1054124.951	178.63
P18	E006° 25'16.26"	200 Metres	216964.6632	1054125.585	177.63
P19	E006° 25'13.02"	201 Metres	216865.7942	1054126.322	178.63
P20	E006° 25'09.78"	200 Metres	216766.9251	1054127.06	177.62
P21	E006° 25'06.54"	208 Metres	216668.0558	1054127.797	185.62
P22	E006° 25'03.03"	210 Metres	216560.9474	1054128.597	187.62
P23	E006° 25'00.06"	208 Metres	216470.3173	1054129.273	185.62
P24	E006° 24'56.82"	209 Metres	216371.4479	1054130.012	186.62

P25	E006 ⁰ 24'53.58"	211 Metres	216272.5784	1054130.751	188.62
P26	E006 ⁰ 24'50.34"	209 Metres	216173.709	1054131.489	186.62
P27	E006 ⁰ 24'47.01"	207 Metres	216072.093	1054132.249	184.62
P28	E006 ⁰ 24'43.86"	207 Metres	215975.9698	1054132.968	184.61
P29	E006 ⁰ 24'40.62"	201 Metres	215877.1001	1054133.708	178.61
P30	E006 ⁰ 24'37.38"	202 Metres	215778.2304	1054134.448	179.61
P31	E006 ⁰ 24'34.14"	201 Metres	215679.3605	1054135.188	178.61

REFERENCED LINE 24: LATITUDE: N09⁰ 31' 39.72"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	208 Metres	218646.1647	1054212.702	185.65
P2	E006 ⁰ 26'08.01"	203 Metres	218544.5508	1054213.455	180.65
P3	E006 ⁰ 26'04.86"	202 Metres	218448.4294	1054214.168	179.65
P4	E006 ⁰ 26'01.62"	199 Metres	218349.5617	1054214.901	176.64
P5	E006 ⁰ 25'58.38"	207 Metres	218250.6937	1054215.634	184.64
P6	E006 ⁰ 25'55.14"	210 Metres	218151.8258	1054216.368	187.64
P7	E006 ⁰ 25'51.09"	208 Metres	218028.2408	1054217.286	185.64
P8	E006 ⁰ 25'48.66"	211 Metres	217954.0897	1054217.837	188.64
P9	E006 ⁰ 25'45.42"	208 Metres	217855.2217	1054218.571	185.64
P10	E006 ⁰ 25'42.18"	208 Metres	217756.3535	1054219.306	185.64
P11	E006 ⁰ 25'38.94"	207 Metres	217657.4853	1054220.041	184.64
P12	E006 ⁰ 25'35.07"	206 Metres	217539.3926	1054220.92	183.63
P13	E006 ⁰ 25'32.46"	200 Metres	217459.7487	1054221.512	177.63
P14	E006 ⁰ 25'29.22"	201 Metres	217360.8802	1054222.248	178.63
P15	E006 ⁰ 25'25.98"	202 Metres	217262.0117	1054222.985	179.63
P16	E006 ⁰ 25'22.74"	203 Metres	217163.1431	1054223.721	180.63
P17	E006 ⁰ 25'19.05"	202 Metres	217050.5427	1054224.56	179.63
P18	E006 ⁰ 25'16.26"	201 Metres	216965.4058	1054225.195	178.63
P19	E006 ⁰ 25'13.02"	202 Metres	216866.537	1054225.932	179.63
P20	E006 ⁰ 25'09.78"	200 Metres	216767.6682	1054226.669	177.62

P21	E006 ⁰ 25'06.54"	210 Metres	216668.7991	1054227.407	187.62
P22	E006 ⁰ 25'03.03"	212 Metres	216561.691	1054228.206	189.62
P23	E006 ⁰ 25'00.06"	211 Metres	216471.0611	1054228.883	188.62
P24	E006 ⁰ 24'56.82"	210 Metres	216372.192	1054229.622	187.62
P25	E006 ⁰ 24'53.58"	211 Metres	216273.3228	1054230.36	188.62
P26	E006 ⁰ 24'50.34"	211 Metres	216174.4536	1054231.099	188.62
P27	E006 ⁰ 24'47.01"	202 Metres	216072.838	1054231.859	179.62
P28	E006 ⁰ 24'43.86"	204 Metres	215976.715	1054232.578	181.61
P29	E006 ⁰ 24'40.62"	208 Metres	215877.8455	1054233.318	185.61
P30	E006 ⁰ 24'37.38"	206 Metres	215778.976	1054234.058	183.61
P31	E006 ⁰ 24'34.14"	211 Metres	215680.1063	1054234.798	188.61

REFERENCED LINE 25: LATITUDE: N09⁰ 31'42.96"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	202 Metres	218646.903	1054312.31	179.65
P2	E006 ⁰ 26'08.01"	202 Metres	218545.2893	1054313.063	179.65
P3	E006 ⁰ 26'04.86"	199 Metres	218449.1682	1054313.776	176.65
P4	E006 ⁰ 26'01.62"	205 Metres	218350.3006	1054314.509	182.64
P5	E006 ⁰ 25'58.38"	206 Metres	218251.433	1054315.243	183.64
P6	E006 ⁰ 25'55.14"	211 Metres	218152.5653	1054315.977	188.64
P7	E006 ⁰ 25'51.09"	211 Metres	218028.9806	1054316.895	188.64
P8	E006 ⁰ 25'48.66"	213 Metres	217954.8297	1054317.446	190.64
P9	E006 ⁰ 25'45.42"	213 Metres	217855.9619	1054318.18	190.64
P10	E006 ⁰ 25'42.18"	212 Metres	217757.094	1054318.915	189.64
P11	E006 ⁰ 25'38.94"	210 Metres	217658.226	1054319.65	187.64
P12	E006 ⁰ 25'35.07"	211 Metres	217540.1336	1054320.529	188.63
P13	E006 ⁰ 25'32.46"	210 Metres	217460.4899	1054321.122	187.63
P14	E006 ⁰ 25'29.22"	210 Metres	217361.6217	1054321.858	187.63
P15	E006 ⁰ 25'25.98"	209 Metres	217262.7534	1054322.594	186.63
P16	E006 ⁰ 25'22.74"	208 Metres	217163.8851	1054323.33	185.63

P17	E006 ⁰ 25'19.05"	208 Metres	217051.285	1054324.169	185.63
P18	E006 ⁰ 25'16.26"	209 Metres	216966.1483	1054324.804	186.63
P19	E006 ⁰ 25'13.02"	210 Metres	216867.2798	1054325.541	187.63
P20	E006 ⁰ 25'09.78"	212 Metres	216768.4111	1054326.279	189.62
P21	E006 ⁰ 25'06.54"	214 Metres	216669.5425	1054327.017	191.62
P22	E006 ⁰ 25'03.03"	217 Metres	216562.4347	1054327.816	194.62
P23	E006 ⁰ 25'00.06"	208 Metres	216471.8051	1054328.493	185.62
P24	E006 ⁰ 24'56.82"	206 Metres	216372.9362	1054329.231	183.62
P25	E006 ⁰ 24'53.58"	209 Metres	216274.0673	1054329.97	186.62
P26	E006 ⁰ 24'50.34"	210 Metres	216175.1983	1054330.709	187.62
P27	E006 ⁰ 24'47.01"	208 Metres	216073.5829	1054331.469	185.62
P28	E006 ⁰ 24'43.86"	207 Metres	215977.4602	1054332.188	184.61
P29	E006 ⁰ 24'40.62"	199 Metres	215878.5911	1054332.928	176.61
P30	E006 ⁰ 24'37.38"	202 Metres	215779.7218	1054333.668	179.61
P31	E006 ⁰ 24'34.14"	211 Metres	215680.8524	1054334.409	188.61

REFERENCED LINE 26: LATITUDE: N09⁰ 31' 46.20"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	207 Metres	218647.6412	1054411.918	184.65
P2	E006 ⁰ 26'08.01"	216 Metres	218548.7739	1054412.651	193.65
P3	E006 ⁰ 26'04.86"	212 Metres	218449.9068	1054413.384	189.65
P4	E006 ⁰ 26'01.62"	209 Metres	218351.0396	1054414.118	186.64
P5	E006 ⁰ 25'58.38"	208 Metres	218252.1723	1054414.852	185.64
P6	E006 ⁰ 25'55.14"	210 Metres	218153.3049	1054415.586	187.64
P7	E006 ⁰ 25'51.09"	214 Metres	218054.4373	1054416.32	191.64
P8	E006 ⁰ 25'48.66"	217 Metres	217955.5698	1054417.054	194.64
P9	E006 ⁰ 25'45.42"	216 Metres	217856.7022	1054417.789	193.64
P10	E006 ⁰ 25'42.18"	213 Metres	217757.8346	1054418.524	190.64
P11	E006 ⁰ 25'38.94"	211 Metres	217658.9669	1054419.259	188.64
P12	E006 ⁰ 25'35.07"	211 Metres	217560.0991	1054419.995	188.63

P13	E006 ⁰ 25'32.46"	210 Metres	217461.2312	1054420.731	187.63
P14	E006 ⁰ 25'29.22"	214 Metres	217362.3633	1054421.467	191.63
P15	E006 ⁰ 25'25.98"	209 Metres	217263.4953	1054422.203	186.63
P16	E006 ⁰ 25'22.74"	212 Metres	217164.6273	1054422.94	189.63
P17	E006 ⁰ 25'19.05"	216 Metres	217065.7591	1054423.676	193.63
P18	E006 ⁰ 25'16.26"	215 Metres	216966.8909	1054424.414	192.63
P19	E006 ⁰ 25'13.02"	217 Metres	216868.0226	1054425.151	194.63
P20	E006 ⁰ 25'09.78"	214 Metres	216769.1543	1054425.888	191.62
P21	E006 ⁰ 25'06.54"	214 Metres	216670.286	1054426.626	191.62
P22	E006 ⁰ 25'03.03"	217 Metres	216571.4175	1054427.364	194.62
P23	E006 ⁰ 25'00.06"	216 Metres	216472.5489	1054428.103	193.62
P24	E006 ⁰ 24'56.82"	211 Metres	216373.6804	1054428.841	188.62
P25	E006 ⁰ 24'53.58"	209 Metres	216274.8118	1054429.58	186.62
P26	E006 ⁰ 24'50.34"	210 Metres	216176.2482	1054430.317	187.62
P27	E006 ⁰ 24'47.01"	208 Metres	216077.0743	1054431.059	185.61
P28	E006 ⁰ 24'43.86"	199 Metres	215978.2056	1054431.798	176.61
P29	E006 ⁰ 24'40.62"	202 Metres	215879.3366	1054432.538	179.61
P30	E006 ⁰ 24'37.38"	200 Metres	215780.4676	1054433.278	177.61
P31	E006 ⁰ 24'34.14"	216 Metres	215681.5984	1054434.019	193.61

REFERENCED LINE 27: LATITUDE: N09⁰ 31' 49.44"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	212 Metres	218648.3795	1054511.527	188.65
P2	E006 ⁰ 26'08.01"	214 Metres	218549.5126	1054512.26	191.65
P3	E006 ⁰ 26'04.86"	214 Metres	218450.6456	1054512.993	191.64
P4	E006 ⁰ 26'01.62"	211 Metres	218351.7787	1054513.726	188.64
P5	E006 ⁰ 25'58.38"	214 Metres	218252.9116	1054514.46	191.64
P6	E006 ⁰ 25'55.14"	212 Metres	218154.0445	1054515.194	189.64
P7	E006 ⁰ 25'51.09"	215 Metres	218055.1772	1054515.929	192.64
P8	E006 ⁰ 25'48.66"	220 Metres	217956.3099	1054516.663	197.64

P9	E006 ⁰ 25'45.42"	221 Metres	217857.4426	1054517.398	198.64
P10	E006 ⁰ 25'42.18"	218 Metres	217758.5752	1054518.133	195.64
P11	E006 ⁰ 25'38.94"	216 Metres	217659.7078	1054518.868	192.63
P12	E006 ⁰ 25'35.07"	213 Metres	217560.8403	1054519.604	190.63
P13	E006 ⁰ 25'32.46"	216 Metres	217461.9726	1054520.34	193.63
P14	E006 ⁰ 25'29.22"	218 Metres	217363.1049	1054521.076	195.63
P15	E006 ⁰ 25'25.98"	210 Metres	217264.2373	1054521.812	187.63
P16	E006 ⁰ 25'22.74"	214 Metres	217165.3695	1054522.549	191.63
P17	E006 ⁰ 25'19.05"	213 Metres	217066.5016	1054523.286	190.63
P18	E006 ⁰ 25'16.26"	215 Metres	216967.6337	1054524.023	192.63
P19	E006 ⁰ 25'13.02"	218 Metres	216868.7656	1054524.76	195.62
P20	E006 ⁰ 25'09.78"	215 Metres	216769.8976	1054525.498	192.62
P21	E006 ⁰ 25'06.54"	215 Metres	216671.0295	1054526.236	192.62
P22	E006 ⁰ 25'03.03"	217 Metres	216572.1613	1054526.974	194.62
P23	E006 ⁰ 25'00.06"	218 Metres	216473.293	1054527.713	195.62
P24	E006 ⁰ 24'56.82"	217 Metres	216374.4247	1054528.451	194.62
P25	E006 ⁰ 24'53.58"	219 Metres	216275.5563	1054529.19	196.62
P26	E006 ⁰ 24'50.34"	217 Metres	216176.993	1054529.927	194.62
P27	E006 ⁰ 24'47.01"	206 Metres	216077.8194	1054530.669	183.61
P28	E006 ⁰ 24'43.86"	216 Metres	215978.9507	1054531.409	193.61
P29	E006 ⁰ 24'40.62"	207 Metres	215880.0822	1054532.149	184.61
P30	E006 ⁰ 24'37.38"	199 Metres	215781.2135	1054532.889	176.61
P31	E006 ⁰ 24'34.14"	217 Metres	215682.3445	1054533.629	194.61

REFERENCED LINE 28: LATITUDE: N09⁰ 31' 52.68"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	215 Metres	218649.1179	1054611.135	188.65
P2	E006 ⁰ 26'08.01"	214 Metres	218550.2513	1054611.868	191.65
P3	E006 ⁰ 26'04.86"	213 Metres	218451.3846	1054612.601	190.64
P4	E006 ⁰ 26'01.62"	212 Metres	218352.5179	1054613.335	189.64

P5	E006 ⁰ 25'58.38"	217 Metres	218253.651	1054614.069	194.64
P6	E006 ⁰ 25'55.14"	215 Metres	218154.7841	1054614.803	192.64
P7	E006 ⁰ 25'51.09"	220 Metres	218055.9171	1054615.537	197.64
P8	E006 ⁰ 25'48.66"	224 Metres	217957.0501	1054616.272	201.64
P9	E006 ⁰ 25'45.42"	223 Metres	217858.183	1054617.007	200.64
P10	E006 ⁰ 25'42.18"	226 Metres	217759.3159	1054617.742	203.64
P11	E006 ⁰ 25'38.94"	219 Metres	217660.4487	1054618.477	197.63
P12	E006 ⁰ 25'35.07"	217 Metres	217561.5815	1054619.213	194.63
P13	E006 ⁰ 25'32.46"	216 Metres	217462.7142	1054619.949	193.63
P14	E006 ⁰ 25'29.22"	220 Metres	217363.8467	1054620.685	197.63
P15	E006 ⁰ 25'25.98"	212 Metres	217264.9794	1054621.422	189.63
P16	E006 ⁰ 25'22.74"	214 Metres	217166.1118	1054622.158	191.63
P17	E006 ⁰ 25'19.05"	215 Metres	217067.2442	1054622.895	192.63
P18	E006 ⁰ 25'16.26"	218 Metres	216968.3765	1054623.632	195.63
P19	E006 ⁰ 25'13.02"	216 Metres	216869.5088	1054624.37	193.62
P20	E006 ⁰ 25'09.78"	215 Metres	216770.641	1054625.108	192.62
P21	E006 ⁰ 25'06.54"	216 Metres	216671.7731	1054625.846	193.62
P22	E006 ⁰ 25'03.03"	217 Metres	216572.9051	1054626.584	194.62
P23	E006 ⁰ 25'00.06"	220 Metres	216490.5151	1054627.199	197.62
P24	E006 ⁰ 24'56.82"	220 Metres	216375.169	1054628.061	197.62
P25	E006 ⁰ 24'53.58"	219 Metres	216276.3009	1054628.8	196.62
P26	E006 ⁰ 24'50.34"	218 Metres	216177.7379	1054629.537	195.62
P27	E006 ⁰ 24'47.01"	218 Metres	216078.5644	1054630.279	195.61
P28	E006 ⁰ 24'43.86"	219 Metres	215979.6961	1054631.019	196.61
P29	E006 ⁰ 24'40.62"	221 Metres	215880.8277	1054631.759	198.61
P30	E006 ⁰ 24'37.38"	223 Metres	215781.9592	1054632.499	200.61
P31	E006 ⁰ 24'34.14"	221 Metres	215683.0907	1054633.24	198.61

REFERENCED LINE 29: LATITUDE: N09° 31' 55.92"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26' 11.34"	212 Metres	218649.8564	1054710.743	188.65
P2	E006° 26' 08.01"	213 Metres	218550.99	1054711.476	190.65
P3	E006° 26' 04.86"	216 Metres	218452.1236	1054712.21	193.64
P4	E006° 26' 01.62"	214 Metres	218353.2571	1054712.943	191.64
P5	E006° 25' 58.38"	218 Metres	218254.3905	1054713.677	195.64
P6	E006° 25' 55.14"	218 Metres	218155.5239	1054714.412	195.64
P7	E006° 25' 51.09"	224 Metres	218056.6571	1054715.146	201.64
P8	E006° 25' 48.66"	228 Metres	217957.7903	1054715.881	205.64
P9	E006° 25' 45.42"	226 Metres	217858.9236	1054716.616	203.64
P10	E006° 25' 42.18"	227 Metres	217760.0567	1054717.351	204.64
P11	E006° 25' 38.94"	223 Metres	217661.1899	1054718.086	191.63
P12	E006° 25' 35.07"	217 Metres	217562.3228	1054718.822	194.63
P13	E006° 25' 32.46"	216 Metres	217463.4558	1054719.558	193.63
P14	E006° 25' 29.22"	218 Metres	217364.5886	1054720.294	195.63
P15	E006° 25' 25.98"	213 Metres	217265.7215	1054721.031	190.63
P16	E006° 25' 22.74"	217 Metres	217166.8541	1054721.768	194.63
P17	E006° 25' 19.05"	219 Metres	217067.9868	1054722.505	196.63
P18	E006° 25' 16.26"	218 Metres	216969.1194	1054723.242	195.63
P19	E006° 25' 13.02"	219 Metres	216870.2519	1054723.979	196.62
P20	E006° 25' 09.78"	216 Metres	216771.3844	1054724.717	193.62
P21	E006° 25' 06.54"	216 Metres	216672.5168	1054725.455	193.62
P22	E006° 25' 03.03"	218 Metres	216573.6491	1054726.194	195.62
P23	E006° 25' 00.06"	218 Metres	216474.7813	1054726.932	195.62
P24	E006° 24' 56.82"	220 Metres	216375.9135	1054727.671	197.62
P25	E006° 24' 53.58"	222 Metres	216277.0456	1054728.41	199.62
P26	E006° 24' 50.34"	219 Metres	216178.4828	1054729.147	196.62
P27	E006° 24' 47.01"	220 Metres	216079.3097	1054729.889	197.61
P28	E006° 24' 43.86"	221 Metres	215980.4416	1054730.629	198.61

P29	E006° 24'40.62"	220 Metres	215881.5735	1054731.369	197.61
P30	E006° 24'37.38"	221 Metres	215782.7052	1054732.109	198.61
P31	E006° 24'34.14"	221 Metres	215683.837	1054732.85	198.61

REFERENCED LINE 30: LATITUDE: N09° 31' 59.16"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26'11.34"	212 Metres	218650.5949	1054810.352	187.65
P2	E006° 26'08.01"	213 Metres	218551.7288	1054811.085	190.65
P3	E006° 26'04.86"	218 Metres	218452.8626	1054811.818	195.64
P4	E006° 26'01.62"	217 Metres	218353.9964	1054812.552	194.64
P5	E006° 25'58.38"	218 Metres	218255.1301	1054813.286	195.64
P6	E006° 25'55.14"	220 Metres	218156.2637	1054814.02	197.64
P7	E006° 25'51.09"	229 Metres	218057.3972	1054814.755	206.64
P8	E006° 25'48.66"	232 Metres	217958.5307	1054815.49	209.64
P9	E006° 25'45.42"	227 Metres	217859.6642	1054816.225	204.64
P10	E006° 25'42.18"	227 Metres	217760.7976	1054816.96	204.63
P11	E006° 25'38.94"	216 Metres	217661.931	1054817.695	193.63
P12	E006° 25'35.07"	221 Metres	217563.0642	1054818.431	198.63
P13	E006° 25'32.46"	219 Metres	217464.1974	1054819.167	196.63
P14	E006° 25'29.22"	218 Metres	217365.3305	1054819.904	195.63
P15	E006° 25'25.98"	213 Metres	217266.4637	1054820.64	190.63
P16	E006° 25'22.74"	219 Metres	217167.5966	1054821.377	196.63
P17	E006° 25'19.05"	221 Metres	217068.7295	1054822.114	198.63
P18	E006° 25'16.26"	221 Metres	216969.8623	1054822.851	198.62
P19	E006° 25'13.02"	220 Metres	216870.9951	1054823.589	197.62
P20	E006° 25'09.78"	217 Metres	216772.1279	1054824.327	194.62
P21	E006° 25'06.54"	217 Metres	216673.2605	1054825.065	194.62
P22	E006° 25'03.03"	218 Metres	216574.3931	1054825.803	195.62
P23	E006° 25'00.06"	223 Metres	216475.5255	1054826.542	200.62
P24	E006° 24'56.82"	224 Metres	216376.658	1054827.281	201.62

P25	E006 ⁰ 24'53.58"	222 Metres	216277.7904	1054828.02	199.62
P26	E006 ⁰ 24'50.34"	220 Metres	216179.2279	1054828.757	197.61
P27	E006 ⁰ 24'47.01"	221 Metres	216080.055	1054829.499	198.61
P28	E006 ⁰ 24'43.86"	221 Metres	215981.1872	1054830.239	198.61
P29	E006 ⁰ 24'40.62"	220 Metres	215882.3193	1054830.979	197.61
P30	E006 ⁰ 24'37.38"	210 Metres	215783.4515	1054831.72	187.61
P31	E006 ⁰ 24'34.14"	201 Metres	215684.5836	1054832.46	178.61

REFERENCED LINE 31: LATITUDE: N09⁰ 32' 02.40"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	214 Metres	218637.6666	1053065.362	187.65
P2	E006 ⁰ 26'08.01"	215 Metres	218538.7959	1053066.094	192.65
P3	E006 ⁰ 26'04.86"	215 Metres	218439.9252	1053066.826	192.65
P4	E006 ⁰ 26'01.62"	216 Metres	218341.0544	1053067.559	193.65
P5	E006 ⁰ 25'58.38"	219 Metres	218242.1835	1053068.292	196.65
P6	E006 ⁰ 25'55.14"	220 Metres	218143.3126	1053069.025	197.65
P7	E006 ⁰ 25'51.09"	227 Metres	218044.4416	1053069.758	204.65
P8	E006 ⁰ 25'48.66"	232 Metres	217945.5705	1053070.492	209.64
P9	E006 ⁰ 25'45.42"	229 Metres	217846.6994	1053071.226	206.64
P10	E006 ⁰ 25'42.18"	226 Metres	217747.8283	1053071.96	203.64
P11	E006 ⁰ 25'38.94"	217 Metres	217648.9571	1053072.694	194.64
P12	E006 ⁰ 25'35.07"	219 Metres	217550.0858	1053073.429	196.64
P13	E006 ⁰ 25'32.46"	217 Metres	217451.2145	1053074.163	194.64
P14	E006 ⁰ 25'29.22"	218 Metres	217352.343	1053074.899	195.64
P15	E006 ⁰ 25'25.98"	218 Metres	217253.4715	1053075.634	195.64
P16	E006 ⁰ 25'22.74"	222 Metres	217154.5999	1053076.37	199.63
P17	E006 ⁰ 25'19.05"	223 Metres	217055.7282	1053077.106	200.63
P18	E006 ⁰ 25'16.26"	224 Metres	216956.8565	1053077.842	201.63
P19	E006 ⁰ 25'13.02"	222 Metres	216857.9848	1053078.578	199.63
P20	E006 ⁰ 25'09.78"	220 Metres	216759.113	1053079.315	197.63

P21	E006 ⁰ 25'06.54"	218 Metres	216660.2411	1053080.052	195.63
P22	E006 ⁰ 25'03.03"	218 Metres	216561.3691	1053080.789	195.63
P23	E006 ⁰ 25'00.06"	224 Metres	216462.497	1053081.526	201.62
P24	E006 ⁰ 24'56.82"	218 Metres	216363.625	1053082.264	195.62
P25	E006 ⁰ 24'53.58"	219 Metres	216264.7528	1053083.002	196.62
P26	E006 ⁰ 24'50.34"	221 Metres	216166.1857	1053083.738	198.62
P27	E006 ⁰ 24'47.01"	219 Metres	216067.0083	1053084.479	196.62
P28	E006 ⁰ 24'43.86"	218 Metres	215968.1359	1053085.218	195.62
P29	E006 ⁰ 24'40.62"	217 Metres	215869.2635	1053085.957	194.62
P30	E006 ⁰ 24'37.38"	199 Metres	215770.3912	1053086.696	176.62
P31	E006 ⁰ 24'34.14"	218 Metres	215671.5184	1053087.435	195.61

REFRECED LINE 32: LATITUDE: N09⁰ 32' 05.64"

PROFILE	LONGITUDE	ELEVETIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	219 Metres	218652.0721	1055009.568	197.65
P2	E006 ⁰ 26'08.01"	220 Metres	218553.2066	1055010.302	197.64
P3	E006 ⁰ 26'04.86"	216 Metres	218454.341	1055011.035	193.64
P4	E006 ⁰ 26'01.62"	215 Metres	218355.4753	1055011.769	192.64
P5	E006 ⁰ 25'58.38"	218 Metres	218256.6095	1055012.503	195.64
P6	E006 ⁰ 25'55.14"	221 Metres	218157.7436	1055013.238	198.64
P7	E006 ⁰ 25'51.09"	228 Metres	218058.8776	1055013.972	205.64
P8	E006 ⁰ 25'48.66"	230 Metres	217960.0116	1055014.707	207.64
P9	E006 ⁰ 25'45.42"	228 Metres	217861.1456	1055015.442	205.64
P10	E006 ⁰ 25'42.18"	227 Metres	217762.2796	1055016.178	204.63
P11	E006 ⁰ 25'38.94"	221 Metres	217663.4135	1055016.913	198.63
P12	E006 ⁰ 25'35.07"	215 Metres	217564.5473	1055017.649	192.63
P13	E006 ⁰ 25'32.46"	219 Metres	217465.681	1055018.385	196.63
P14	E006 ⁰ 25'29.22"	220 Metres	217366.8146	1055019.122	197.63
P15	E006 ⁰ 25'25.98"	220 Metres	217267.9482	1055019.859	197.63
P16	E006 ⁰ 25'22.74"	226 Metres	217169.0816	1055020.596	203.63

P17	E006 ⁰ 25'19.05"	227 Metres	217070.215	1055021.333	204.63
P18	E006 ⁰ 25'16.26"	227 Metres	216971.3484	1055022.07	204.62
P19	E006 ⁰ 25'13.02"	224 Metres	216872.4817	1055022.808	201.62
P20	E006 ⁰ 25'09.78"	221 Metres	216773.615	1055023.546	198.62
P21	E006 ⁰ 25'06.54"	217 Metres	216674.7482	1055024.284	194.62
P22	E006 ⁰ 25'03.03"	215 Metres	216575.8814	1055025.023	192.62
P23	E006 ⁰ 25'00.06"	220 Metres	216477.0143	1055025.762	197.62
P24	E006 ⁰ 24'56.82"	221 Metres	216378.1473	1055026.501	198.62
P25	E006 ⁰ 24'53.58"	220 Metres	216279.2802	1055027.24	197.62
P26	E006 ⁰ 24'50.34"	221 Metres	216180.7182	1055027.977	198.61
P27	E006 ⁰ 24'47.01"	220 Metres	216081.5458	1055028.719	197.61
P28	E006 ⁰ 24'43.86"	220 Metres	215982.6785	1055029.459	197.61
P29	E006 ⁰ 24'40.62"	200 Metres	215883.8114	1055030.199	177.61
P30	E006 ⁰ 24'37.38"	217 Metres	215784.9438	1055030.94	194.61
P31	E006 ⁰ 24'34.14"	219 Metres	215686.0763	1055031.681	196.61

REFERENCED LINE 33: LATITUDE: N09⁰ 32' 08. 88"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	215 Metres	218652.811	1055109.177	188.65
P2	E006 ⁰ 26'08.01"	216 Metres	218553.9456	1055109.91	193.64
P3	E006 ⁰ 26'04.86"	213 Metres	218455.0803	1055110.644	190.64
P4	E006 ⁰ 26'01.62"	213 Metres	218356.2149	1055111.378	190.64
P5	E006 ⁰ 25'58.38"	215 Metres	218257.3493	1055112.112	192.64
P6	E006 ⁰ 25'55.14"	219 Metres	218158.4837	1055112.846	196.64
P7	E006 ⁰ 25'51.09"	225 Metres	218059.618	1055113.581	202.64
P8	E006 ⁰ 25'48.66"	230 Metres	217960.7522	1055114.316	207.64
P9	E006 ⁰ 25'45.42"	228 Metres	217861.8865	1055115.051	205.64
P10	E006 ⁰ 25'42.18"	225 Metres	217763.0207	1055115.787	202.63
P11	E006 ⁰ 25'38.94"	215 Metres	217664.1549	1055116.522	192.63
P12	E006 ⁰ 25'35.07"	220 Metres	217565.2889	1055117.258	197.63

P13	E006 ⁰ 25'32.46"	221 Metres	217466.4228	1055117.995	198.63
P14	E006 ⁰ 25'29.22"	223 Metres	217367.5567	1055118.731	200.63
P15	E006 ⁰ 25'25.98"	219 Metres	217268.6906	1055119.468	196.63
P16	E006 ⁰ 25'22.74"	225 Metres	217169.8243	1055120.205	202.63
P17	E006 ⁰ 25'19.05"	225 Metres	217070.958	1055120.942	202.62
P18	E006 ⁰ 25'16.26"	225 Metres	216972.0916	1055121.68	202.62
P19	E006 ⁰ 25'13.02"	225 Metres	216873.2252	1055122.418	202.62
P20	E006 ⁰ 25'09.78"	223 Metres	216774.3587	1055123.156	200.62
P21	E006 ⁰ 25'06.54"	219 Metres	216675.4922	1055123.894	196.62
P22	E006 ⁰ 25'03.03"	219 Metres	216576.6255	1055124.633	196.62
P23	E006 ⁰ 25'00.06"	219 Metres	216477.7588	1055125.371	196.62
P24	E006 ⁰ 24'56.82"	225 Metres	216378.892	1055126.11	202.62
P25	E006 ⁰ 24'53.58"	223 Metres	216280.0252	1055126.85	200.61
P26	E006 ⁰ 24'50.34"	222 Metres	216181.4634	1055127.587	199.61
P27	E006 ⁰ 24'47.01"	20 Metres	216082.2913	1055128.329	197.61
P28	E006 ⁰ 24'43.86"	222 Metres	215983.4243	1055129.069	199.61
P29	E006 ⁰ 24'40.62"	219 Metres	215884.5572	1055129.81	196.61
P30	E006 ⁰ 24'37.38"	218 Metres	215785.6901	1055130.55	195.61
P31	E006 ⁰ 24'34.14"	222 Metres	215686.8228	1055131.291	199.61

REFERENCED LINE 34: LATITUDE: N09⁰ 32' 12.12"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	216 Metres	218653.5498	1055208.785	191.64
P2	E006 ⁰ 26'08.01"	217 Metres	218554.6847	1055209.518	194.64
P3	E006 ⁰ 26'04.86"	220 Metres	218455.8196	1055210.252	197.64
P4	E006 ⁰ 26'01.62"	212 Metres	218356.9545	1055210.986	189.64
P5	E006 ⁰ 25'58.38"	220 Metres	218258.0891	1055211.72	197.64
P6	E006 ⁰ 25'55.14"	224 Metres	218159.2238	1055212.455	201.64
P7	E006 ⁰ 25'51.09"	225 Metres	218060.3584	1055213.19	202.64
P8	E006 ⁰ 25'48.66"	230 Metres	217961.4929	1055213.925	207.64

P9	E006 ⁰ 25'45.42"	228 Metres	217862.6274	1055214.66	205.63
P10	E006 ⁰ 25'42.18"	227 Metres	217763.7618	1055215.396	204.63
P11	E006 ⁰ 25'38.94"	221 Metres	217664.8963	1055216.131	198.63
P12	E006 ⁰ 25'35.07"	221 Metres	217566.0305	1055216.867	198.63
P13	E006 ⁰ 25'32.46"	224 Metres	217467.1647	1055217.604	201.63
P14	E006 ⁰ 25'29.22"	225 Metres	217368.2989	1055218.34	202.63
P15	E006 ⁰ 25'25.98"	219 Metres	217269.433	1055219.077	196.63
P16	E006 ⁰ 25'22.74"	226 Metres	217170.567	1055219.814	203.63
P17	E006 ⁰ 25'19.05"	228 Metres	217071.7009	1055220.552	205.62
P18	E006 ⁰ 25'16.26"	225 Metres	216972.8348	1055221.289	202.62
P19	E006 ⁰ 25'13.02"	222 Metres	216873.9687	1055222.027	199.62
P20	E006 ⁰ 25'09.78"	221 Metres	216775.1025	1055222.765	198.62
P21	E006 ⁰ 25'06.54"	221 Metres	216676.2362	1055223.504	198.62
P22	E006 ⁰ 25'03.03"	218 Metres	216577.3698	1055224.242	195.62
P23	E006 ⁰ 25'00.06"	223 Metres	216478.5033	1055224.981	200.62
P24	E006 ⁰ 24'56.82"	224 Metres	216379.6368	1055225.72	201.62
P25	E006 ⁰ 24'53.58"	222 Metres	216280.7703	1055226.46	199.61
P26	E006 ⁰ 24'50.34"	223 Metres	216182.2088	1055227.197	200.61
P27	E006 ⁰ 24'47.01"	220 Metres	216083.0369	1055227.939	197.61
P28	E006 ⁰ 24'43.86"	222 Metres	215984.1701	1055228.68	199.61
P29	E006 ⁰ 24'40.62"	223 Metres	215885.3033	1055229.42	200.61
P30	E006 ⁰ 24'37.38"	219 Metres	215786.4364	1055230.161	196.61
P31	E006 ⁰ 24'34.14"	224 Metres	215687.5694	1055230.902	201.61

REFERENCED LINE 35: LATITUDE: N09⁰ 32' 15.35"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	218 Metres	218654.2887	1055308.393	190.64
P2	E006 ⁰ 26'08.01"	219 Metres	218555.4238	1055309.127	196.64
P3	E006 ⁰ 26'04.86"	119 Metres	218456.5603	1055309.86	96.64
P4	E006 ⁰ 26'01.62"	213 Metres	218357.6941	1055310.595	190.64

P5	E006 ⁰ 25'58.38"	223 Metres	218258.829	1055311.329	200.64
P6	E006 ⁰ 25'55.14"	224 Metres	218159.964	1055312.064	201.64
P7	E006 ⁰ 25'51.09"	226 Metres	218061.0988	1055312.798	203.64
P8	E006 ⁰ 25'48.66"	230 Metres	217962.2336	1055313.534	207.64
P9	E006 ⁰ 25'45.42"	228 Metres	217863.3684	1055314.269	205.63
P10	E006 ⁰ 25'42.18"	229 Metres	217764.503	1055315.005	206.63
P11	E006 ⁰ 25'38.94"	221 Metres	217665.6378	1055315.74	198.63
P12	E006 ⁰ 25'35.07"	227 Metres	217566.7722	1055316.477	204.63
P13	E006 ⁰ 25'32.46"	222 Metres	217467.9068	1055317.213	199.63
P14	E006 ⁰ 25'29.22"	226 Metres	217369.0411	1055317.95	203.63
P15	E006 ⁰ 25'25.98"	220 Metres	217270.1756	1055318.686	197.63
P16	E006 ⁰ 25'22.74"	225 Metres	217171.3098	1055319.424	202.63
P17	E006 ⁰ 25'19.05"	227 Metres	217072.444	1055320.161	204.62
P18	E006 ⁰ 25'16.26"	227 Metres	216973.5781	1055320.899	204.62
P19	E006 ⁰ 25'13.02"	225 Metres	216874.7123	1055321.637	202.62
P20	E006 ⁰ 25'09.78"	220 Metres	216775.8463	1055322.375	197.62
P21	E006 ⁰ 25'06.54"	216 Metres	216676.9803	1055323.113	193.62
P22	E006 ⁰ 25'03.03"	218 Metres	216578.1142	1055323.852	195.62
P23	E006 ⁰ 25'00.06"	220 Metres	216479.248	1055324.591	197.62
P24	E006 ⁰ 24'56.82"	218 Metres	216380.3818	1055325.33	195.62
P25	E006 ⁰ 24'53.58"	222 Metres	216281.5154	1055326.07	199.61
P26	E006 ⁰ 24'50.34"	221 Metres	216182.9542	1055326.807	198.61
P27	E006 ⁰ 24'47.01"	224 Metres	216083.7826	1055327.549	201.61
P28	E006 ⁰ 24'43.86"	223 Metres	215984.9161	1055328.29	200.61
P29	E006 ⁰ 24'40.62"	227 Metres	215886.0494	1055329.03	204.61
P30	E006 ⁰ 24'37.38"	224 Metres	215787.1828	1055329.771	201.61
P31	E006 ⁰ 24'34.14"	223 Metres	215688.3161	1055330.512	200.61

REFERENCED LINE 36: LATITUDE: N09° 32' 18.60"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26' 11.34"	219 Metres	218655.0049	1055404.927	189.64
P2	E006° 26' 08.01"	220 Metres	218556.1402	1055405.661	197.64
P3	E006° 26' 04.86"	222 Metres	218457.2756	1055406.395	199.64
P4	E006° 26' 01.62"	214 Metres	218358.411	1055407.129	191.64
P5	E006° 25' 58.38"	221 Metres	218259.5462	1055407.863	198.64
P6	E006° 25' 55.14"	224 Metres	218160.6814	1055408.598	201.64
P7	E006° 25' 51.09"	227 Metres	218061.8165	1055409.333	204.64
P8	E006° 25' 48.66"	228 Metres	217962.9515	1055410.068	205.64
P9	E006° 25' 45.42"	227 Metres	217864.0866	1055410.803	204.63
P10	E006° 25' 42.18"	229 Metres	217765.2215	1055411.539	206.63
P11	E006° 25' 38.94"	224 Metres	217666.3564	1055412.275	201.63
P12	E006° 25' 35.07"	223 Metres	217567.4912	1055413.011	200.63
P13	E006° 25' 32.46"	224 Metres	217468.6259	1055413.748	201.63
P14	E006° 25' 29.22"	227 Metres	217369.7606	1055414.484	204.63
P15	E006° 25' 25.98"	223 Metres	217270.8952	1055415.221	200.63
P16	E006° 25' 22.74"	226 Metres	217172.0297	1055415.959	203.63
P17	E006° 25' 19.05"	228 Metres	217073.1642	1055416.696	205.62
P18	E006° 25' 16.26"	228 Metres	216974.2986	1055417.434	205.62
P19	E006° 25' 13.02"	225 Metres	216875.433	1055418.172	202.62
P20	E006° 25' 09.78"	220 Metres	216776.5673	1055418.91	197.62
P21	E006° 25' 06.54"	216 Metres	216677.7015	1055419.649	193.62
P22	E006° 25' 03.03"	219 Metres	216578.8356	1055420.387	196.62
P23	E006° 25' 00.06"	219 Metres	216479.9697	1055421.126	196.62
P24	E006° 24' 56.82"	220 Metres	216381.1037	1055421.866	197.61
P25	E006° 24' 53.58"	222 Metres	216282.2376	1055422.605	199.61
P26	E006° 24' 50.34"	220 Metres	216183.6767	1055423.343	197.61
P27	E006° 24' 47.01"	226 Metres	216084.5052	1055424.085	203.61
P28	E006° 24' 43.86"	224 Metres	215985.639	1055424.825	201.61

P29	E006° 24' 40.62"	225 Metres	215886.7727	1055425.566	202.61
P30	E006° 24' 37.38"	226 Metres	215787.9063	1055426.307	203.61
P31	E006° 24' 34.14"	226 Metres	215689.0398	1055427.048	203.61

REFERENCED LINE 37: LATITUDE: N09° 32' 21.84"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26' 11.34"	221 Metres	218655.7666	1055507.61	198.64
P2	E006° 26' 08.01"	222 Metres	218556.9023	1055508.344	199.64
P3	E006° 26' 04.86"	223 Metres	218458.038	1055509.078	200.64
P4	E006° 26' 01.62"	214 Metres	218359.1737	1055509.812	191.64
P5	E006° 25' 58.38"	216 Metres	218260.3092	1055510.546	193.64
P6	E006° 25' 55.14"	218 Metres	218161.4446	1055511.281	195.64
P7	E006° 25' 51.09"	227 Metres	218062.5799	1055512.016	204.64
P8	E006° 25' 48.66"	226 Metres	217963.7153	1055512.751	203.63
P9	E006° 25' 45.42"	229 Metres	217864.8505	1055513.487	206.63
P10	E006° 25' 42.18"	230 Metres	217765.9857	1055514.222	207.63
P11	E006° 25' 38.94"	226 Metres	217667.1209	1055514.958	203.63
P12	E006° 25' 35.07"	228 Metres	217568.2559	1055515.695	205.63
P13	E006° 25' 32.46"	228 Metres	217469.391	1055516.431	205.63
P14	E006° 25' 29.22"	230 Metres	217370.5259	1055517.168	207.63
P15	E006° 25' 25.98"	224 Metres	217271.6608	1055517.905	201.63
P16	E006° 25' 22.74"	228 Metres	217172.7956	1055518.642	205.62
P17	E006° 25' 19.05"	229 Metres	217073.9303	1055519.38	206.62
P18	E006° 25' 16.26"	228 Metres	216975.065	1055520.118	205.62
P19	E006° 25' 13.02"	227 Metres	216876.1996	1055520.856	204.62
P20	E006° 25' 09.78"	219 Metres	216777.3342	1055521.594	196.62
P21	E006° 25' 06.54"	218 Metres	216678.4687	1055522.333	195.62
P22	E006° 25' 03.03"	219 Metres	216579.6031	1055523.072	196.62
P23	E006° 25' 00.06"	221 Metres	216480.7374	1055523.811	198.62
P24	E006° 24' 56.82"	224 Metres	216381.8717	1055524.55	201.61

P25	E006 ⁰ 24'53.58"	226 Metres	216283.0059	1055525.29	203.61
P26	E006 ⁰ 24'50.34"	224 Metres	216184.4452	1055526.027	201.61
P27	E006 ⁰ 24'47.01"	227 Metres	216085.2741	1055526.77	204.61
P28	E006 ⁰ 24'43.86"	228 Metres	215986.4081	1055527.51	205.61
P29	E006 ⁰ 24'40.62"	227 Metres	215887.542	1055528.251	204.61
P30	E006 ⁰ 24'37.38"	228 Metres	215788.6759	1055528.992	205.61
P31	E006 ⁰ 24'34.14"	227 Metres	215689.8097	1055529.733	204.61

REFERENCED LINE 38: LATITUDE: N09⁰ 32' 25.08"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	221 Metres	218656.5057	1055607.218	198.64
P2	E006 ⁰ 26'08.01"	222 Metres	218557.6417	1055607.952	199.64
P3	E006 ⁰ 26'04.86"	224 Metres	218458.7776	1055608.686	201.64
P4	E006 ⁰ 26'01.62"	215 Metres	218359.9136	1055609.42	192.64
P5	E006 ⁰ 25'58.38"	217 Metres	218261.0493	1055610.155	194.64
P6	E006 ⁰ 25'55.14"	216 Metres	218162.1851	1055610.89	193.64
P7	E006 ⁰ 25'51.09"	227 Metres	218063.3206	1055611.625	204.64
P8	E006 ⁰ 25'48.66"	225 Metres	217964.4562	1055612.36	202.63
P9	E006 ⁰ 25'45.42"	227 Metres	217865.5917	1055613.096	204.63
P10	E006 ⁰ 25'42.18"	229 Metres	217766.7272	1055613.831	206.63
P11	E006 ⁰ 25'38.94"	228 Metres	217667.8626	1055614.567	205.63
P12	E006 ⁰ 25'35.07"	229 Metres	217568.9979	1055615.304	206.63
P13	E006 ⁰ 25'32.46"	230 Metres	217470.1332	1055616.04	207.63
P14	E006 ⁰ 25'29.22"	233 Metres	217371.2683	1055616.777	210.63
P15	E006 ⁰ 25'25.98"	227 Metres	217272.4035	1055617.514	204.63
P16	E006 ⁰ 25'22.74"	230 Metres	217173.5386	1055618.252	207.62
P17	E006 ⁰ 25'19.05"	230 Metres	217074.6736	1055618.989	207.62
P18	E006 ⁰ 25'16.26"	228 Metres	216975.8085	1055619.727	205.62
P19	E006 ⁰ 25'13.02"	226 Metres	216876.9434	1055620.465	203.62
P20	E006 ⁰ 25'09.78"	221 Metres	216778.0783	1055621.204	198.62

P21	E006 ⁰ 25'06.54"	221 Metres	216679.213	1055621.942	198.62
P22	E006 ⁰ 25'03.03"	220 Metres	216580.3477	1055622.681	197.62
P23	E006 ⁰ 25'00.06"	221 Metres	216481.4823	1055623.42	198.62
P24	E006 ⁰ 24'56.82"	220 Metres	216382.6168	1055624.16	197.61
P25	E006 ⁰ 24'53.58"	221 Metres	216283.7513	1055624.9	198.61
P26	E006 ⁰ 24'50.34"	220 Metres	216185.1908	1055625.637	197.61
P27	E006 ⁰ 24'47.01"	228 Metres	216086.0199	1055626.38	205.61
P28	E006 ⁰ 24'43.86"	229 Metres	215987.1542	1055627.12	206.61
P29	E006 ⁰ 24'40.62"	226 Metres	215888.2884	1055627.861	203.61
P30	E006 ⁰ 24'37.38"	224 Metres	215789.4226	1055628.602	201.61
P31	E006 ⁰ 24'34.14"	225 Metres	215690.5566	1055629.343	202.61

REFERENCED LINE 39: LATITUDE: N09⁰ 32' 28.32"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	220Metres	218657.2449	1055706.827	197.64
P2	E006 ⁰ 26'08.01"	221 Metres	218558.3811	1055707.561	198.64
P3	E006 ⁰ 26'04.86"	222 Metres	218459.5173	1055708.295	199.64
P4	E006 ⁰ 26'01.62"	215 Metres	218360.6535	1055709.029	192.64
P5	E006 ⁰ 25'58.38"	220 Metres	218261.7895	1055709.764	197.64
P6	E006 ⁰ 25'55.14"	222 Metres	218162.9255	1055710.498	199.64
P7	E006 ⁰ 25'51.09"	225 Metres	218064.0614	1055711.233	202.64
P8	E006 ⁰ 25'48.66"	223 Metres	217965.1972	1055711.969	200.63
P9	E006 ⁰ 25'45.42"	223 Metres	217866.333	1055712.704	200.63
P10	E006 ⁰ 25'42.18"	228 Metres	217767.4687	1055713.44	205.63
P11	E006 ⁰ 25'38.94"	225 Metres	217668.6044	1055714.176	202.63
P12	E006 ⁰ 25'35.07"	231 Metres	217569.7399	1055714.913	208.63
P13	E006 ⁰ 25'32.46"	233 Metres	217470.8754	1055715.65	210.63
P14	E006 ⁰ 25'29.22"	234 Metres	217372.0109	1055716.386	211.63
P15	E006 ⁰ 25'25.98"	229 Metres	217273.1463	1055717.124	206.63
P16	E006 ⁰ 25'22.74"	230 Metres	217174.2816	1055717.861	207.62

P17	E006 ⁰ 25'19.05"	229 Metres	217075.4169	1055718.599	206.62
P18	E006 ⁰ 25'16.26"	226 Metres	216976.5521	1055719.337	203.62
P19	E006 ⁰ 25'13.02"	226 Metres	216877.6873	1055720.075	203.62
P20	E006 ⁰ 25'09.78"	222 Metres	216778.8224	1055720.813	199.62
P21	E006 ⁰ 25'06.54"	222 Metres	216679.9574	1055721.552	199.62
P22	E006 ⁰ 25'03.03"	223 Metres	216581.0923	1055722.291	200.62
P23	E006 ⁰ 25'00.06"	220 Metres	216482.2272	1055723.03	197.62
P24	E006 ⁰ 24'56.82"	222 Metres	216383.362	1055723.77	199.61
P25	E006 ⁰ 24'53.58"	218 Metres	216284.4967	1055724.51	195.61
P26	E006 ⁰ 24'50.34"	219 Metres	216185.9365	1055725.247	196.61
P27	E006 ⁰ 24'47.01"	223 Metres	216086.7659	1055725.99	200.61
P28	E006 ⁰ 24'43.86"	224 Metres	215987.9004	1055726.73	201.61
P29	E006 ⁰ 24'40.62"	226 Metres	215889.0349	1055727.471	203.61
P30	E006 ⁰ 24'37.38"	225 Metres	215790.1693	1055728.212	202.61
P31	E006 ⁰ 24'34.14"	225 Metres	215691.3036	1055728.954	202.6

REFERENCED LINE 40: LATITUDE: N09⁰ 32'31.56"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	223 Metres	218657.9841	1055806.435	198.64
P2	E006 ⁰ 26'08.01"	225 Metres	218559.1206	1055807.169	202.64
P3	E006 ⁰ 26'04.86"	226 Metres	218460.257	1055807.903	203.64
P4	E006 ⁰ 26'01.62"	218 Metres	218361.3935	1055808.637	195.64
P5	E006 ⁰ 25'58.38"	225 Metres	218262.5297	1055809.372	202.64
P6	E006 ⁰ 25'55.14"	222 Metres	218163.666	1055810.107	199.64
P7	E006 ⁰ 25'51.09"	230 Metres	218064.8021	1055810.842	207.64
P8	E006 ⁰ 25'48.66"	223 Metres	217965.9383	1055811.578	200.63
P9	E006 ⁰ 25'45.42"	227 Metres	217867.0743	1055812.313	204.63
P10	E006 ⁰ 25'42.18"	227 Metres	217768.2103	1055813.049	204.63
P11	E006 ⁰ 25'38.94"	226 Metres	217669.3462	1055813.786	203.63
P12	E006 ⁰ 25'35.07"	230 Metres	217570.482	1055814.522	207.63

P13	E006 ⁰ 25'32.46"	235 Metres	217471.6178	1055815.259	212.63
P14	E006 ⁰ 25'29.22"	236 Metres	217372.7535	1055815.996	213.63
P15	E006 ⁰ 25'25.98"	230 Metres	217273.8892	1055816.733	207.62
P16	E006 ⁰ 25'22.74"	231 Metres	217175.0248	1055817.47	208.62
P17	E006 ⁰ 25'19.05"	230 Metres	217076.1603	1055818.208	207.62
P18	E006 ⁰ 25'16.26"	230 Metres	216977.2958	1055818.946	207.62
P19	E006 ⁰ 25'13.02"	228 Metres	216878.4312	1055819.684	205.62
P20	E006 ⁰ 25'09.78"	225 Metres	216779.5665	1055820.423	202.62
P21	E006 ⁰ 25'06.54"	222 Metres	216680.7018	1055821.162	199.62
P22	E006 ⁰ 25'03.03"	225 Metres	216581.837	1055821.901	202.62
P23	E006 ⁰ 25'00.06"	225 Metres	216482.9721	1055822.64	202.61
P24	E006 ⁰ 24'56.82"	224 Metres	216384.1072	1055823.38	201.61
P25	E006 ⁰ 24'53.58"	223 Metres	216285.2422	1055824.12	200.61
P26	E006 ⁰ 24'50.34"	220 Metres	216186.6823	1055824.857	197.61
P27	E006 ⁰ 24'47.01"	224 Metres	216087.5119	1055825.6	201.61
P28	E006 ⁰ 24'43.86"	225 Metres	215988.6467	1055826.341	202.61
P29	E006 ⁰ 24'40.62"	226 Metres	215889.7814	1055827.081	203.61
P30	E006 ⁰ 24'37.38"	225 Metres	215790.9161	1055827.823	202.61
P31	E006 ⁰ 24'34.14"	225 Metres	215692.0507	1055828.564	202.6

REFERENCED LINE 41: LATITUDE: N09⁰ 32' 34.80"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	225 Metres	218658.7234	1055906.043	199.64
P2	E006 ⁰ 26'08.01"	226 Metres	218559.8601	1055906.777	203.64
P3	E006 ⁰ 26'04.86"	227 Metres	218460.9968	1055907.512	204.64
P4	E006 ⁰ 26'01.62"	217 Metres	218362.1336	1055908.246	194.64
P5	E006 ⁰ 25'58.38"	227 Metres	218263.2701	1055908.981	204.64
P6	E006 ⁰ 25'55.14"	222 Metres	218164.4066	1055909.716	199.64
P7	E006 ⁰ 25'51.09"	231 Metres	218065.543	1055910.451	208.63
P8	E006 ⁰ 25'48.66"	227 Metres	217966.6794	1055911.187	204.63

P9	E006 ⁰ 25'45.42"	227 Metres	217867.8157	1055911.922	204.63
P10	E006 ⁰ 25'42.18"	228 Metres	217768.9519	1055912.658	205.63
P11	E006 ⁰ 25'38.94"	227 Metres	217670.0881	1055913.395	204.63
P12	E006 ⁰ 25'35.07"	231 Metres	217571.2242	1055914.131	208.63
P13	E006 ⁰ 25'32.46"	234 Metres	217472.3602	1055914.868	211.63
P14	E006 ⁰ 25'29.22"	237 Metres	217373.4961	1055915.605	214.62
P15	E006 ⁰ 25'25.98"	233 Metres	217274.6321	1055916.342	210.62
P16	E006 ⁰ 25'22.74"	233 Metres	217175.768	1055917.08	210.62
P17	E006 ⁰ 25'19.05"	233 Metres	217076.9037	1055917.818	210.62
P18	E006 ⁰ 25'16.26"	234 Metres	216978.0394	1055918.556	211.62
P19	E006 ⁰ 25'13.02"	233 Metres	216879.1751	1055919.294	210.62
P20	E006 ⁰ 25'09.78"	228 Metres	216780.3108	1055920.033	205.62
P21	E006 ⁰ 25'06.54"	223 Metres	216681.4463	1055920.771	200.62
P22	E006 ⁰ 25'03.03"	224 Metres	216582.5818	1055921.511	201.62
P23	E006 ⁰ 25'00.06"	224 Metres	216483.7171	1055922.25	201.61
P24	E006 ⁰ 24'56.82"	223 Metres	216384.8525	1055922.99	200.61
P25	E006 ⁰ 24'53.58"	225 Metres	216285.9877	1055923.729	202.61
P26	E006 ⁰ 24'50.34"	220 Metres	216187.4281	1055924.467	197.61
P27	E006 ⁰ 24'47.01"	224 Metres	216088.258	1055925.21	201.61
P28	E006 ⁰ 24'43.86"	223 Metres	215989.3931	1055925.951	200.61
P29	E006 ⁰ 24'40.62"	225 Metres	215890.528	1055926.692	202.61
P30	E006 ⁰ 24'37.38"	228 Metres	215791.6629	1055927.433	205.61
P31	E006 ⁰ 24'34.14"	229 Metres	215692.7977	1055928.174	206.6

REFERENCED LINE 42: LATITUDE: N09⁰ 32' 38.04"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	227 Metres	218659.4628	1056005.652	202.64
P2	E006 ⁰ 26'08.01"	228 Metres	218560.5998	1056006.386	205.64
P3	E006 ⁰ 26'04.86"	227 Metres	218461.7367	1056007.12	204.64
P4	E006 ⁰ 26'01.62"	217 Metres	218362.8738	1056007.855	194.64

P5	E006 ⁰ 25°58.38"	224 Metres	218264.0105	1056008.589	201.64
P6	E006 ⁰ 25°55.14"	223 Metres	218165.1473	1056009.324	200.64
P7	E006 ⁰ 25°51.09"	233 Metres	218066.2839	1056010.06	210.63
P8	E006 ⁰ 25°48.66"	226 Metres	217967.4206	1056010.795	203.63
P9	E006 ⁰ 25°45.42"	226 Metres	217868.5572	1056011.531	199.63
P10	E006 ⁰ 25°42.18"	229 Metres	217769.6937	1056012.267	206.63
P11	E006 ⁰ 25°38.94"	231 Metres	217670.8301	1056013.004	208.63
P12	E006 ⁰ 25°35.07"	234 Metres	217571.9664	1056013.74	211.63
P13	E006 ⁰ 25°32.46"	236 Metres	217473.1027	1056014.477	213.63
P14	E006 ⁰ 25°29.22"	238 Metres	217374.2389	1056015.214	215.63
P15	E006 ⁰ 25°25.98"	234 Metres	217275.3751	1056015.952	211.62
P16	E006 ⁰ 25°22.74"	234 Metres	217176.5112	1056016.689	211.62
P17	E006 ⁰ 25°19.05"	235 Metres	217077.6473	1056017.427	212.62
P18	E006 ⁰ 25°16.26"	235 Metres	216978.7832	1056018.165	212.62
P19	E006 ⁰ 25°13.02"	232 Metres	216879.9192	1056018.904	209.62
P20	E006 ⁰ 25°09.78"	228 Metres	216781.0551	1056019.642	205.62
P21	E006 ⁰ 25°06.54"	223 Metres	216682.1909	1056020.381	200.62
P22	E006 ⁰ 25°03.03"	220 Metres	216583.3267	1056021.12	197.62
P23	E006 ⁰ 25°00.06"	221 Metres	216484.4623	1056021.86	198.61
P24	E006 ⁰ 24°56.82"	224 Metres	216385.5978	1056022.6	201.61
P25	E006 ⁰ 24°53.58"	225 Metres	216286.7333	1056023.339	202.61
P26	E006 ⁰ 24°50.34"	221 Metres	216188.174	1056024.077	198.61
P27	E006 ⁰ 24°47.01"	228 Metres	216089.0041	1056024.82	205.61
P28	E006 ⁰ 24°43.86"	227 Metres	215990.1394	1056025.561	204.61
P29	E006 ⁰ 24°40.62"	229 Metres	215891.2746	1056026.302	206.61
P30	E006 ⁰ 24°37.38"	224 Metres	215792.4099	1056027.043	201.61
P31	E006 ⁰ 24°34.14"	225 Metres	215693.545	1056027.785	202.6

REFERENCED LINE 43: LATITUDE: N09° 32' 41.28"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E0060 26'11.34"	226 Metres	218660.2022	1056105.26	202.64
P2	E0060 26'08.01"	228 Metres	218561.3395	1056105.994	205.64
P3	E0060 26'04.86"	228 Metres	218462.4767	1056106.729	205.64
P4	E0060 26'01.62"	222 Metres	218363.6139	1056107.463	199.64
P5	E0060 25'58.38"	228 Metres	218264.751	1056108.198	205.64
P6	E0060 25'55.14"	225 Metres	218165.888	1056108.933	202.64
P7	E0060 25'51.09"	233 Metres	218067.0249	1056109.669	210.63
P8	E0060 25'48.66"	229 Metres	217968.1618	1056110.404	206.63
P9	E0060 25'45.42"	228 Metres	217869.2987	1056111.14	205.63
P10	E0060 25'42.18"	232 Metres	217770.4354	1056111.876	209.63
P11	E0060 25'38.94"	229 Metres	217671.5722	1056112.613	206.63
P12	E0060 25'35.07"	236 Metres	217572.7087	1056113.349	213.63
P13	E0060 25'32.46"	240 Metres	217473.8453	1056114.086	217.63
P14	E0060 25'29.22"	240 Metres	217374.9817	1056114.823	217.63
P15	E0060 25'25.98"	234 Metres	217276.1182	1056115.561	211.62
P16	E0060 25'22.74"	236 Metres	217177.2546	1056116.299	213.62
P17	E0060 25'19.05"	238 Metres	217078.3908	1056117.037	215.62
P18	E0060 25'16.26"	236 Metres	216979.5271	1056117.775	213.62
P19	E006025'13.02"	236 Metres	216880.6633	1056118.513	213.62
P20	E0060 25'09.78"	228 Metres	216781.7995	1056119.252	205.62
P21	E0060 25'06.54"	221 Metres	216682.9356	1056119.991	198.62
P22	E0060 25'03.03"	222 Metres	216584.0716	1056120.73	199.61
P23	E0060 25'00.06"	222 Metres	216485.2075	1056121.47	199.61
P24	E0060 24'56.82"	223 Metres	216447.3706	1056121.753	200.61
P25	E0060 24'53.58"	221 Metres	216287.4791	1056122.949	198.61
P26	E0060 24'50.34"	223 Metres	216188.9199	1056123.687	200.61
P27	E0060 24'47.01"	228 Metres	216089.7503	1056124.43	205.61
P28	E0060 24'43.86"	230 Metres	215990.8859	1056125.171	207.61

P29	E0060 24'40.62"	229 Metres	215892.0214	1056125.912	206.61
P30	E0060 24'37.38"	226 Metres	215793.1569	1056126.653	203.6
P31	E0060 24'34.14"	228 Metres	215694.2922	1056127.395	205.6

REFERENCED LINE 44: LATITUDE: N09° 32' 44.52"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26'11.34"	230 Metres	218660.9417	1056204.869	207.64
P2	E006° 26'08.01"	231 Metres	218562.0792	1056205.603	208.64
P3	E006° 26'04.86"	230 Metres	218463.2167	1056206.337	207.64
P4	E006° 26'01.62"	223 Metres	218364.3542	1056207.072	200.64
P5	E006° 25'58.38"	230 Metres	218265.4915	1056207.807	207.64
P6	E006° 25'55.14"	227 Metres	218166.6288	1056208.542	204.63
P7	E006° 25'51.09"	231 Metres	218067.766	1056209.277	208.63
P8	E006° 25'48.66"	233 Metres	217968.9031	1056210.013	210.63
P9	E006° 25'45.42"	229 Metres	217870.0403	1056210.749	206.63
P10	E006° 25'42.18"	229 Metres	217771.1773	1056211.485	206.63
P11	E006° 25'38.94"	226 Metres	217672.3143	1056212.222	203.63
P12	E006° 25'35.07"	238 Metres	217573.4511	1056212.958	215.63
P13	E006° 25'32.46"	241 Metres	217474.5878	1056213.695	218.63
P14	E006° 25'29.22"	242 Metres	217375.7246	1056214.433	219.62
P15	E006° 25'25.98"	237 Metres	217276.8614	1056215.17	214.62
P16	E006° 25'22.74"	239 Metres	217177.998	1056215.908	216.62
P17	E006° 25'19.05"	238 Metres	217079.1345	1056216.646	215.62
P18	E006° 25'16.26"	236 Metres	216980.2711	1056217.384	213.62
P19	E006° 25'13.02"	234 Metres	216881.4075	1056218.123	211.62
P20	E006° 25'09.78"	228 Metres	216782.5439	1056218.862	205.62
P21	E006° 25'06.54"	222 Metres	216683.6803	1056219.601	199.62
P22	E006° 25'03.03"	223 Metres	216584.8165	1056220.34	200.61
P23	E006° 25'00.06"	224 Metres	216485.9527	1056221.08	201.61
P24	E006° 24'56.82"	223 Metres	216387.0888	1056221.819	200.61

P25	E006 ⁰ 24'53.58"	223 Metres	216288.2248	1056222.559	200.61
P26	E006 ⁰ 24'50.34"	222 Metres	216189.6659	1056223.297	199.61
P27	E006 ⁰ 24'47.01"	229 Metres	216090.4966	1056224.04	206.61
P28	E006 ⁰ 24'43.86"	224 Metres	215991.6325	1056224.781	201.61
P29	E006 ⁰ 24'40.62"	226 Metres	215892.7682	1056225.522	203.61
P30	E006 ⁰ 24'37.38"	226 Metres	215793.9039	1056226.264	203.6
P31	E006 ⁰ 24'34.14"	228 Metres	215695.0395	1056227.005	205.6

REFERENCED LINE 45: LATITUDE: N09⁰ 32' 47.76"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	230 Metres	218661.6813	1056304.477	205.64
P2	E006 ⁰ 26'08.01"	232 Metres	218562.819	1056305.211	209.64
P3	E006 ⁰ 26'04.86"	232 Metres	218463.9568	1056305.946	209.64
P4	E006 ⁰ 26'01.62"	230 Metres	218365.0945	1056306.68	207.64
P5	E006 ⁰ 25'58.38"	230 Metres	218266.2321	1056307.415	207.64
P6	E006 ⁰ 25'55.14"	232 Metres	218167.3697	1056308.151	209.63
P7	E006 ⁰ 25'51.09"	231 Metres	218068.5072	1056308.886	208.63
P8	E006 ⁰ 25'48.66"	236 Metres	217969.6445	1056309.622	213.63
P9	E006 ⁰ 25'45.42"	233 Metres	217870.7819	1056310.358	210.63
P10	E006 ⁰ 25'42.18"	233 Metres	217771.9192	1056311.094	210.63
P11	E006 ⁰ 25'38.94"	233 Metres	217673.0564	1056311.831	210.63
P12	E006 ⁰ 25'35.07"	237 Metres	217574.1935	1056312.568	214.63
P13	E006 ⁰ 25'32.46"	242 Metres	217475.3305	1056313.305	219.63
P14	E006 ⁰ 25'29.22"	243 Metres	217376.4676	1056314.042	220.62
P15	E006 ⁰ 25'25.98"	239 Metres	217277.6046	1056314.78	216.62
P16	E006 ⁰ 25'22.74"	239 Metres	217178.7415	1056315.517	216.62
P17	E006 ⁰ 25'19.05"	235 Metres	217079.8783	1056316.255	212.62
P18	E006 ⁰ 25'16.26"	232 Metres	216981.0151	1056316.994	209.62
P19	E006 ⁰ 25'13.02"	227 Metres	216882.1519	1056317.732	204.62
P20	E006 ⁰ 25'09.78"	226 Metres	216783.2885	1056318.471	203.62

P21	E006 ⁰ 25'06.54"	222 Metres	216684.4251	1056319.21	199.62
P22	E006 ⁰ 25'03.03"	223 Metres	216585.5616	1056319.95	200.61
P23	E006 ⁰ 25'00.06"	224 Metres	216486.698	1056320.689	201.61
P24	E006 ⁰ 24'56.82"	223 Metres	216387.8344	1056321.429	200.61
P25	E006 ⁰ 24'53.58"	222 Metres	216288.9707	1056322.169	199.61
P26	E006 ⁰ 24'50.34"	223 Metres	216190.412	1056322.908	200.61
P27	E006 ⁰ 24'47.01"	226 Metres	216091.243	1056323.651	203.61
P28	E006 ⁰ 24'43.86"	227 Metres	215992.3791	1056324.391	204.61
P29	E006 ⁰ 24'40.62"	229 Metres	215893.5151	1056325.133	206.61
P30	E006 ⁰ 24'37.38"	225 Metres	215794.6511	1056325.874	202.6
P31	E006 ⁰ 24'34.14"	227 Metres	215695.787	1056326.616	204.6

REFERENCED LINE 46: LATITUDE: N09° 32' 51.00"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	232 Metres	218662.4209	1056404.085	208.64
P2	E006 ⁰ 26'08.01"	233 Metres	218563.559	1056404.82	210.64
P3	E006 ⁰ 26'04.86"	235 Metres	218464.6969	1056405.554	212.64
P4	E006 ⁰ 26'01.62"	229 Metres	218365.835	1056406.289	206.64
P5	E006 ⁰ 25'58.38"	230 Metres	218266.9728	1056407.024	207.64
P6	E006 ⁰ 25'55.14"	234 Metres	218168.1106	1056407.759	211.63
P7	E006 ⁰ 25'51.09"	236 Metres	218069.2483	1056408.495	213.63
P8	E006 ⁰ 25'48.66"	236 Metres	217970.386	1056409.231	213.63
P9	E006 ⁰ 25'45.42"	236 Metres	217871.5236	1056409.967	213.63
P10	E006 ⁰ 25'42.18"	236 Metres	217772.6612	1056410.703	213.63
P11	E006 ⁰ 25'38.94"	238 Metres	217673.7986	1056411.44	215.63
P12	E006 ⁰ 25'35.07"	236 Metres	217574.9361	1056412.177	213.63
P13	E006 ⁰ 25'32.46"	244 Metres	217476.0734	1056412.914	213.63
P14	E006 ⁰ 25'29.22"	246 Metres	217377.2106	1056413.651	223.62
P15	E006 ⁰ 25'25.98"	241 Metres	217278.3478	1056414.389	218.62
P16	E006 ⁰ 25'22.74"	241 Metres	217179.485	1056415.127	218.62

P17	E006 ⁰ 25'19.05"	239 Metres	217080.6221	1056415.865	216.62
P18	E006 ⁰ 25'16.26"	238 Metres	216981.7591	1056416.603	215.62
P19	E006 ⁰ 25'13.02"	230 Metres	216882.8962	1056417.342	207.62
P20	E006 ⁰ 25'09.78"	229 Metres	216784.0331	1056418.081	206.62
P21	E006 ⁰ 25'06.54"	219 Metres	216685.17	1056418.82	196.62
P22	E006 ⁰ 25'03.03"	224 Metres	216586.3067	1056419.56	201.61
P23	E006 ⁰ 25'00.06"	222 Metres	216487.4434	1056420.299	199.61
P24	E006 ⁰ 24'56.82"	223 Metres	216388.58	1056421.039	200.61
P25	E006 ⁰ 24'53.58"	223 Metres	216289.7166	1056421.779	200.61
P26	E006 ⁰ 24'50.34"	225 Metres	216191.1582	1056422.518	202.61
P27	E006 ⁰ 24'47.01"	224 Metres	216091.9895	1056423.261	201.61
P28	E006 ⁰ 24'43.86"	228 Metres	215993.1258	1056424.002	205.61
P29	E006 ⁰ 24'40.62"	229 Metres	215894.262	1056424.743	206.6
P30	E006 ⁰ 24'37.38"	224 Metres	215795.3983	1056425.484	201.6
P31	E006 ⁰ 24'34.14"	228 Metres	215696.5344	1056426.226	205.6

REFERENCED LINE 47: LATITUDE: N09⁰ 32' 54.24"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	235 Metres	218663.1606	1056503.694	212.64
P2	E006 ⁰ 26'08.01"	237 Metres	218564.2989	1056504.428	214.64
P3	E006 ⁰ 26'04.86"	238 Metres	218465.4371	1056505.163	215.64
P4	E006 ⁰ 26'01.62"	231 Metres	218366.5754	1056505.898	208.64
P5	E006 ⁰ 25'58.38"	229 Metres	218267.7136	1056506.633	206.64
P6	E006 ⁰ 25'55.14"	235 Metres	218168.8516	1056507.368	212.63
P7	E006 ⁰ 25'51.09"	241 Metres	218069.9895	1056508.104	218.63
P8	E006 ⁰ 25'48.66"	238 Metres	217971.1275	1056508.84	215.63
P9	E006 ⁰ 25'45.42"	238 Metres	217872.2654	1056509.576	215.63
P10	E006 ⁰ 25'42.18"	240 Metres	217773.4032	1056510.312	217.63
P11	E006 ⁰ 25'38.94"	242 Metres	217674.5409	1056511.049	219.63
P12	E006 ⁰ 25'35.07"	239 Metres	217575.6786	1056511.786	216.63

P13	E006 ⁰ 25'32.46"	248 Metres	217476.8161	1056512.523	225.62
P14	E006 ⁰ 25'29.22"	248 Metres	217377.9536	1056513.261	225.62
P15	E006 ⁰ 25'25.98"	243 Metres	217279.0912	1056513.998	220.62
P16	E006 ⁰ 25'22.74"	242 Metres	217180.2286	1056514.736	219.62
P17	E006 ⁰ 25'19.05"	240 Metres	217081.366	1056515.474	217.62
P18	E006 ⁰ 25'16.26"	238 Metres	216982.5033	1056516.213	215.62
P19	E006 ⁰ 25'13.02"	234 Metres	216883.6405	1056516.952	211.62
P20	E006 ⁰ 25'09.78"	228 Metres	216784.7778	1056517.691	205.62
P21	E006 ⁰ 25'06.54"	217 Metres	216685.915	1056518.43	194.61
P22	E006 ⁰ 25'03.03"	226 Metres	216587.0519	1056519.169	203.61
P23	E006 ⁰ 25'00.06"	226 Metres	216488.1888	1056519.909	203.61
P24	E006 ⁰ 24'56.82"	227 Metres	216389.3257	1056520.649	204.61
P25	E006 ⁰ 24'53.58"	224 Metres	216290.4625	1056521.389	201.61
P26	E006 ⁰ 24'50.34"	224 Metres	216191.9044	1056522.128	201.61
P27	E006 ⁰ 24'47.01"	225 Metres	216092.736	1056522.871	202.61
P28	E006 ⁰ 24'43.86"	226 Metres	215993.8726	1056523.612	203.61
P29	E006 ⁰ 24'40.62"	227 Metres	215895.0091	1056524.353	204.6
P30	E006 ⁰ 24'37.38"	224 Metres	215796.1456	1056525.095	201.6
P31	E006 ⁰ 24'34.14"	226 Metres	215697.282	1056525.837	203.6

REFERENCED LINE 48: LATITUDE: N09⁰ 32' 57.48"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	236 Metres	218663.9004	1056603.302	208.64
P2	E006 ⁰ 26'08.01"	238 Metres	218565.0389	1056604.037	215.64
P3	E006 ⁰ 26'04.86"	241 Metres	218466.1774	1056604.771	218.64
P4	E006 ⁰ 26'01.62"	234 Metres	218367.316	1056605.506	211.64
P5	E006 ⁰ 25'58.38"	232 Metres	218268.4544	1056606.241	209.63
P6	E006 ⁰ 25'55.14"	237 Metres	218169.5927	1056606.977	214.63
P7	E006 ⁰ 25'51.09"	243 Metres	218070.7309	1056607.713	220.63
P8	E006 ⁰ 25'48.66"	240 Metres	217971.8691	1056608.449	217.63

P9	E006 ⁰ 25'45.42"	239 Metres	217873.0073	1056609.185	216.63
P10	E006 ⁰ 25'42.18"	243 Metres	217774.1453	1056609.921	220.63
P11	E006 ⁰ 25'38.94"	244 Metres	217675.2833	1056610.658	221.63
P12	E006 ⁰ 25'35.07"	245 Metres	217576.4212	1056611.395	222.63
P13	E006 ⁰ 25'32.46"	250 Metres	217477.559	1056612.132	227.62
P14	E006 ⁰ 25'29.22"	250 Metres	217378.6968	1056612.87	227.62
P15	E006 ⁰ 25'25.98"	244 Metres	217279.8346	1056613.608	221.62
P16	E006 ⁰ 25'22.74"	242 Metres	217180.9723	1056614.346	219.62
P17	E006 ⁰ 25'19.05"	240 Metres	217082.1099	1056615.084	217.62
P18	E006 ⁰ 25'16.26"	237 Metres	216983.2475	1056615.822	214.62
P19	E006 ⁰ 25'13.02"	234 Metres	216884.385	1056616.561	211.62
P20	E006 ⁰ 25'09.78"	230 Metres	216785.5225	1056617.3	207.62
P21	E006 ⁰ 25'06.54"	224 Metres	216686.6599	1056618.04	201.61
P22	E006 ⁰ 25'03.03"	227 Metres	216587.7971	1056618.779	204.61
P23	E006 ⁰ 25'00.06"	225 Metres	216488.9344	1056619.519	202.61
P24	E006 ⁰ 24'56.82"	226 Metres	216390.0715	1056620.259	203.61
P25	E006 ⁰ 24'53.58"	224 Metres	216291.2086	1056620.999	201.61
P26	E006 ⁰ 24'50.34"	227 Metres	216192.6507	1056621.738	204.61
P27	E006 ⁰ 24'47.01"	227 Metres	216093.4825	1056622.481	204.61
P28	E006 ⁰ 24'43.86"	225 Metres	215995.5348	1056623.215	202.61
P29	E006 ⁰ 24'40.62"	228 Metres	215895.7562	1056623.963	205.6
P30	E006 ⁰ 24'37.38"	226 Metres	215796.8929	1056624.705	203.6
P31	E006 ⁰ 24'34.14"	227 Metres	215698.0296	1056625.447	204.6

REFERENCED LINE 49: LATITUDE: N09⁰ 33' 00.72"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006 ⁰ 26'11.34"	243 Metres	218664.6379	1056702.603	217.64
P2	E006 ⁰ 26'08.01"	242 Metres	218565.7767	1056703.338	219.64
P3	E006 ⁰ 26'04.86"	246 Metres	218466.9155	1056704.072	223.64
P4	E006 ⁰ 26'01.62"	240 Metres	218368.0543	1056704.807	217.64

P5	E006 ⁰ 25'58.38"	235 Metres	218269.193	1056705.543	212.63
P6	E006 ⁰ 25'55.14"	237 Metres	218170.3316	1056706.278	214.63
P7	E006 ⁰ 25'51.09"	241 Metres	218071.47	1056707.014	218.63
P8	E006 ⁰ 25'48.66"	241 Metres	217972.6085	1056707.75	218.63
P9	E006 ⁰ 25'45.42"	243 Metres	217873.7469	1056708.486	220.63
P10	E006 ⁰ 25'42.18"	244 Metres	217774.8852	1056709.223	221.63
P11	E006 ⁰ 25'38.94"	241 Metres	217676.0235	1056709.96	218.63
P12	E006 ⁰ 25'35.07"	247 Metres	217577.1616	1056710.697	224.63
P13	E006 ⁰ 25'32.46"	250 Metres	217478.2997	1056711.434	227.62
P14	E006 ⁰ 25'29.22"	251 Metres	217379.4378	1056712.172	228.62
P15	E006 ⁰ 25'25.98"	1243 Metres	217280.5759	1056712.909	220.62
P16	E006 ⁰ 25'22.74"	243 Metres	217181.7138	1056713.648	220.62
P17	E006 ⁰ 25'19.05"	239 Metres	217082.8517	1056714.386	216.62
P18	E006 ⁰ 25'16.26"	238 Metres	216983.9895	1056715.124	215.62
P19	E006 ⁰ 25'13.02"	234 Metres	216885.1273	1056715.863	211.62
P20	E006 ⁰ 25'09.78"	231 Metres	216786.265	1056716.602	208.62
P21	E006 ⁰ 25'06.54"	222 Metres	216687.4027	1056717.342	199.61
P22	E006 ⁰ 25'03.03"	232 Metres	216588.5401	1056718.082	209.61
P23	E006 ⁰ 25'00.06"	230 Metres	216489.6776	1056718.821	207.61
P24	E006 ⁰ 24'56.82"	231 Metres	216390.815	1056719.562	208.61
P25	E006 ⁰ 24'53.58"	229 Metres	216261.4392	1056720.531	206.61
P26	E006 ⁰ 24'50.34"	230 Metres	216193.3947	1056721.04	206.61
P27	E006 ⁰ 24'47.01"	229 Metres	216094.2268	1056721.784	206.61
P28	E006 ⁰ 24'43.86"	228 Metres	215995.364	1056722.525	205.61
P29	E006 ⁰ 24'40.62"	230 Metres	215896.501	1056723.266	207.6
P30	E006 ⁰ 24'37.38"	230 Metres	215797.638	1056724.008	207.6
P31	E006 ⁰ 24'34.14"	230 Metres	215698.7749	1056724.75	207.6

REFERENCED LINE 50: LATITUDE: N09° 33' 03.96"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26' 11.34"	249 Metres	218665.38	1056802.519	222.64
P2	E006° 26' 08.01"	250 Metres	218566.5191	1056803.254	227.64
P3	E006° 26' 04.86"	250 Metres	218467.6582	1056803.988	227.64
P4	E006° 26' 01.62"	244 Metres	218368.7972	1056804.723	221.64
P5	E006° 25' 58.38"	241 Metres	218269.9362	1056805.459	218.63
P6	E006° 25' 55.14"	242 Metres	218171.075	1056806.194	219.63
P7	E006° 25' 51.09"	241 Metres	218072.2138	1056806.93	218.63
P8	E006° 25' 48.66"	244 Metres	217973.3525	1056807.666	221.63
P9	E006° 25' 45.42"	246 Metres	217874.4911	1056808.403	223.63
P10	E006° 25' 42.18"	246 Metres	217775.6297	1056809.139	223.63
P11	E006° 25' 38.94"	250 Metres	217676.7682	1056809.876	227.63
P12	E006° 25' 35.07"	250 Metres	217577.9067	1056810.613	227.63
P13	E006° 25' 32.46"	251 Metres	217479.045	1056811.351	228.62
P14	E006° 25' 29.22"	251 Metres	217380.1834	1056812.088	228.62
P15	E006° 25' 25.98"	243 Metres	217281.3217	1056812.826	220.62
P16	E006° 25' 22.74"	243 Metres	217182.4599	1056813.564	220.62
P17	E006° 25' 19.05"	240 Metres	217083.5981	1056814.303	217.62
P18	E006° 25' 16.26"	240 Metres	216984.7361	1056815.041	217.62
P19	E006° 25' 13.02"	233 Metres	216885.8742	1056815.78	210.62
P20	E006° 25' 09.78"	228 Metres	216787.0122	1056816.52	205.61
P21	E006° 25' 06.54"	227 Metres	216688.1501	1056817.259	204.61
P22	E006° 25' 03.03"	234 Metres	216589.2878	1056817.999	211.61
P23	E006° 25' 00.06"	231 Metres	216490.4256	1056818.739	208.61
P24	E006° 24' 56.82"	230 Metres	216391.5632	1056819.479	207.61
P25	E006° 24' 53.58"	234 Metres	216292.7008	1056820.219	211.61
P26	E006° 24' 50.34"	229 Metres	216194.1435	1056820.958	206.61
P27	E006° 24' 47.01"	231 Metres	216094.9758	1056821.701	208.61
P28	E006° 24' 43.86"	228 Metres	215996.1132	1056822.442	205.6

P29	E006° 24'40.62"	229 Metres	215897.2505	1056823.184	206.6
P30	E006° 24'37.38"	233 Metres	215798.3878	1056823.926	210.6
P31	E006° 24'34.14"	231 Metres	215699.525	1056824.668	208.6

REFERENCED LINE 51: LATITUDE: N09° 33'07.20"

PROFILE	LONGITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
P1	E006° 26'11.34"	248 Metres	218666.12	1056902.127	226.64
P2	E006° 26'08.01"	250 Metres	218567.2594	1056902.862	227.64
P3	E006° 26'04.86"	257 Metres	218468.3986	1056903.597	234.64
P4	E006° 26'01.62"	253 Metres	218369.5379	1056904.332	230.63
P5	E006° 25'58.38"	247 Metres	218270.6771	1056905.067	224.63
P6	E006° 25'55.14"	248 Metres	218171.8163	1056905.803	225.63
P7	E006° 25'51.09"	246 Metres	218072.9553	1056906.539	223.63
P8	E006° 25'48.66"	244 Metres	217974.0943	1056907.275	221.63
P9	E006° 25'45.42"	247 Metres	217875.2332	1056908.012	224.63
P10	E006° 25'42.18"	247 Metres	217776.3721	1056908.748	224.63
P11	E006° 25'38.94"	248 Metres	217677.5108	1056909.485	225.63
P12	E006° 25'35.07"	248 Metres	217578.6496	1056910.222	225.62
P13	E006° 25'32.46"	255 Metres	217479.7881	1056910.96	232.62
P14	E006° 25'29.22"	253 Metres	217380.9267	1056911.698	230.62
P15	E006° 25'25.98"	244 Metres	217282.0654	1056912.436	221.62
P16	E006° 25'22.74"	243 Metres	217183.2038	1056913.174	220.62
P17	E006° 25'19.05"	238 Metres	217084.3423	1056913.912	215.62
P18	E006° 25'16.26"	236 Metres	216985.4806	1056914.651	213.62
P19	E006° 25'13.02"	234 Metres	216886.6189	1056915.39	211.62
P20	E006° 25'09.78"	231 Metres	216787.7571	1056916.129	208.61
P21	E006° 25'06.54"	228 Metres	216688.8953	1056916.869	205.61
P22	E006° 25'03.03"	232 Metres	216590.0333	1056917.609	209.61
P23	E006° 25'00.06"	232 Metres	216491.1713	1056918.349	209.61
P24	E006° 24'56.82"	231 Metres	216392.3092	1056919.089	208.61

P25	E006 ⁰ 24'53.58"	234 Metres	216293.447	1056919.829	211.61
P26	E006 ⁰ 24'50.34"	233 Metres	216194.89	1056920.568	210.61
P27	E006 ⁰ 24'47.01"	223 Metres	216095.7227	1056921.311	200.61
P28	E006 ⁰ 24'43.86"	234 Metres	215996.8602	1056922.053	211.6
P29	E006 ⁰ 24'40.62"	231 Metres	215897.9978	1056922.794	208.6
P30	E006 ⁰ 24'37.38"	233 Metres	215799.1353	1056923.536	210.6
P31	E006 ⁰ 24'34.14"	231 Metres	215700.2728	1056924.278	208.6

Appendix B: Georeferenced dataset for Shea butter tree (i.e. principal economic resource) in the area of study

LONGITUDE	LATITUDE	ELEVATION	UTM (X)	UTM (Y)	UTM (Z)
006°26'01.38"	009°30'37.80"	202 metres	218328.1282	1052311.3267	179.65 metres
006°26'02.40"	009°30'40.26"	201 metres	218359.8148	1052386.7248	178.65 metres
006°26'08.40"	009°30'49.20"	199 metres	218544.9463	1052660.2144	176.65 metres
006°26'02.10"	009°30'49.44"	200 metres	218352.7502	1052669.0164	177.65 metres
006°26'02.52"	009°30'57.06"	200 metres	218367.3024	1052903.1858	177.65 metres
006°26'05.70"	009°31'14.28"	203 metres	218468.2643	1053431.8670	180.65 metres
006°26'07.68"	009°31'27.22"	199 metres	218531.6325	1053829.2379	176.65 metres
006°26'08.40"	009°31'30.54"	204 metres	218554.3596	1053931.1429	181.65 metres
006°26'05.70"	009°31'47.64"	199 metres	218370.5924	1054457.4647	176.65 metres
006°26'02.52"	009°32'45.66"	234 metres	218392.0764	1056241.9152	211.64 metres
006°25'57.00"	009°30'28.86"	210 metres	218192.4306	1052037.4710	187.65 metres
006°25'57.00"	009°30'44.04"	202 metres	218195.8882	1052504.1554	179.65 metres
006°25'57.00"	009°30'56.58"	202 metres	218198.7456	1052889.6773	179.65 metres
006°25'57.00"	009°32'45.18"	223 metres	218223.5346	1056228.4103	220.64 metres
006°25'54.66"	009°32'17.88"	231 metres	218145.8930	1055389.6459	208.64 metres
006°26'01.38"	009°32'41.52"	220 metres	218356.3456	1056114.8960	197.64 metres
006°26'01.38"	009°32'59.52"	232 metres	218360.4593	1056668.2771	209.64 metres
006°25'56.52"	009°30'32.04"	204 metres	218178.5069	1052135.3434	181.65 metres
006°25'55.86"	009°30'41.52"	201 metres	218160.5256	1054271.5433	178.65 metres
006°25'55.44"	009°30'58.44"	200 metres	218151.5648	1052947.2129	177.65 metres
006°25'54.66"	009°31'38.46"	214 metres	218136.8910	1054177.7404	191.64 metres
006°25'52.98"	009°31'08.16"	220 metres	218078.7123	1053246.5956	197.65 metres
006°25'52.32"	009°31'44.04"	228 metres	218066.7601	1054349.8189	205.64 metres
006°25'54.18"	009°32'30.06"	229 metres	218134.0301	1055764.2097	206.64 metres
006°25'54.18"	009°32'39.84"	230 metres	218136.2660	1056064.8805	207.64 metres
006°25'54.18"	009°32'53.04"	231 metres	218139.2847	1056470.6939	208.63 metres

006°25'49.26"	009°30'27.18"	203 metres	218139.2847	1056470.6939	208.63 metres
006°25'49.38"	009°30'41.52"	200 metres	217962.7803	1052428.4058	177.65 metres
006°25'49.86"	009°30'45.72"	201 metres	217978.3857	1052557.4195	178.65 metres
006°25'49.38"	009°31'02.46"	211 metres	217967.5558	1053072.1731	188.64 metres
006°25'49.86"	009°32'03.06"	222 metres	217996.0392	1054935.1168	199.64 metres
006°25'50.52"	009°32'14.40"	231 metres	218018.7701	1055283.5978	208.64 metres
006°25'49.86"	009°32'46.86"	233 metres	218006.0544	1056281.6802	210.63 metres
006°25'49.38"	009°32'55.56"	230 metres	217993.3991	1056549.2574	207.63 metres
006°25'49.86"	009°33'02.16"	236 metres	218009.5559	1056752.0553	213.63 metres
006°25'47.04"	009°30'29.28"	200 metres	217888.5814	1052052.6358	177.65 metres
006°25'47.04"	009°30'35.58"	199 metres	217890.0178	1052246.3194	176.65 metres
006°25'47.04"	009°30'41.52"	201 metres	217891.3722	1052428.9354	178.65 metres
006°25'45.72"	009°30'45.72"	200 metres	217852.0487	1052558.3567	177.64 metres
006°25'47.04"	009°30'52.08"	201 metres	217893.7808	1052753.5861	178.64 metres
006°25'47.28"	009°31'08.38"	211 metres	217904.8236	1053254.6499	188.64 metres
006°25'48.48"	009°31'28.38"	217 metres	217946.0074	1053869.2469	194.64 metres
006°25'40.44"	009°30'32.04"	200 metres	217687.8014	1052138.9818	177.64 metres
006°25'40.44"	009°31'08.16"	218 metres	217696.0463	1053249.4364	195.64 metres
006°25'40.50"	009°31'20.58"	216 metres	217700.7143	1053631.2569	193.64 metres
006°25'41.64"	009°32'00.24"	230 metres	217744.5667	1054850.2854	207.63 metres
006°25'39.66"	009°32'06.72"	232 metres	217685.6307	1055049.9528	209.63 metres
006°25'40.44"	009°32'10.92"	230 metres	217710.3927	1055178.8985	207.63 metres
006°25'36.12"	009°30'35.58"	202 metres	217556.7779	1052248.7924	179.64 metres
006°25'36.12"	009°30'45.06"	200 metres	217558.9423	1052540.2408	177.64 metres
006°25'36.12"	009°30'50.28"	202 metres	217560.1343	1052700.7219	179.64 metres
006°25'36.18"	009°31'05.04"	215 metres	217565.3366	1053154.4826	192.64 metres
006°25'36.12"	009°31'11.88"	218 metres	217565.0685	1053364.7818	195.64 metres
006°25'37.38"	009°31'22.86"	214 metres	217606.0274	1053702.0598	191.64 metres
006°25'37.38"	009°31'50.52"	218 metres	217612.3519	1054552.4255	195.63 metres

006 ^o 25'33.72"	009 ^o 30'27.18"	200 metres	217481.6204	1051991.0907	177.64 metres
006 ^o 25'51.12"	009 ^o 30'58.44"	200 metres	218019.7365	1052948.1906	177.65 metres
006 ^o 25'33.24"	009 ^o 31'09.06"	211 metres	217476.8442	1053278.7361	188.64 metres
006 ^o 25'33.72"	009 ^o 31'11.76"	214 metres	217491.8037	1053361.6370	191.64 metres
006 ^o 25'34.92"	009 ^o 31'38.46"	211 metres	217534.5271	1054182.2170	188.63 metres
006 ^o 25'33.24"	009 ^o 31'59.46"	214 metres	217488.0674	1054828.2130	191.63 metres
006 ^o 25'33.72"	009 ^o 32'06.72"	231 metres	217504.3761	1055051.3022	208.63 metres
006 ^o 25'31.38	009 ^o 31'34.98"	219 metres	217425.7077	1054076.0333	196.63 metres
006 ^o 25'31.44"	009 ^o 32'26.88"	231 metres	217439.4215	1055671.6107	208.63 metres
006 ^o 25'31.68"	009 ^o 32'36.60"	230 metres	217448.9722	1055970.3837	207.63 metres
006 ^o 25'29.46"	009 ^o 32'41.70"	229 metres	217382.4014	1056127.6811	206.63 metres
006 ^o 25'30.48"	009 ^o 33'05.10"	234 metres	217418.8913	1056846.8490	211.62 metres
006 ^o 25'28.08"	009 ^o 30'32.88"	199 metres	217310.8081	1052167.6074	176.64 metres
006 ^o 25'27.30"	009 ^o 30'38.94"	201 metres	217288.3898	1052354.0902	178.64 metres
006 ^o 25'27.30"	009 ^o 30'52.08"	203 metres	217291.3931	1052758.0607	180.64 metres
006 ^o 25'28.08"	009 ^o 31'05.04"	217 metres	217318.1586	1053156.3203	194.64 metres
006 ^o 25'27.30"	009 ^o 31'50.76"	214 metres	217304.8190	1054562.0938	191.63 metres
006 ^o 25'27.06"	009 ^o 31'44.70"	213 metres	217296.1079	1054375.8422	190.63 metres
006 ^o 25'27.06"	009 ^o 32'06.72"	230 metres	217301.1509	1055052.8161	207.63 metres
006 ^o 25'22.08"	009 ^o 30'30.06"	199 metres	217127.0636	1052082.2715	176.64 metres
006 ^o 25'13.74"	009 ^o 31'07.08"	215 metres	216881.0282	1053222.2947	192.63 metres
006 ^o 25'17.16"	009 ^o 31'11.64"	214 metres	216986.4366	1053361.7084	191.63 metres
006 ^o 25'17.16"	009 ^o 31'13.80"	214 metres	216986.9312	1053428.1146	191.63 metres
006 ^o 25'19.50"	009 ^o 31'14.76"	211 metres	217058.5577	1053457.0967	188.63 metres
006 ^o 25'16.26"	009 ^o 31'14.76"	217 metres	216959.6869	1053457.8331	194.63 metres
006 ^o 25'17.94"	009 ^o 31'27.22"	213 metres	217013.8070	1053840.5169	190.63 metres
006 ^o 25'17.04"	009 ^o 31'38.04"	210 metres	216988.8224	1054173.3678	187.63 metres
006 ^o 25'16.26"	009 ^o 31'39.84"	213 metres	216965.4331	1054228.8838	190.63 metres
006 ^o 25'13.68"	009 ^o 30'41.52"	200 metres	216873.3453	1052436.5006	177.63 metres

006 ⁰ 25'13.68''	009 ⁰ 31'12.66''	213 metres	216880.4755	1053393.8580	190.63 metres
006 ⁰ 25'13.68''	009 ⁰ 31'17.04	215 metres	216881.4789	1053528.5152	192.63 metres
006 ⁰ 25'13.74''	009 ⁰ 31'53.52''	212 metres	216891.6721	1054650.0306	189.62 metres
006 ⁰ 25'13.56''	009 ⁰ 32'17.88''	223 metres	216891.7683	1055398.9877	200.62 metres
006 ⁰ 25'10.86''	009 ⁰ 32'27.30''	230 metres	216811.5430	1055689.2086	207.62 metres
006 ⁰ 25'10.86''	009 ⁰ 32'35.82''	231 metres	216813.4998	1055951.1450	208.62 metres
006 ⁰ 25'10.32''	009 ⁰ 32'51.12''	233 metres	216800.5378	1056421.6469	210.62 metres
006 ⁰ 25'12.06''	009 ⁰ 32'56.58''	230 metres	216854.8856	1056589.1107	207.62 metres
006 ⁰ 25'10.86''	009 ⁰ 31'08.34''	213 metres	216793.4312	1053261.6866	190.63 metres
006 ⁰ 25'10.86''	009 ⁰ 31'59.46''	211 metres	216805.1525	1054833.3038	188.62 metres
006 ⁰ 25'10.86''	009 ⁰ 32'30.06''	239 metres	216812.1767	1055774.0612	216.62 metres
006 ⁰ 25'24.66''	009 ⁰ 30'59.64''	211 metres	217212.5593	1052991.0813	188.63 metres
006 ⁰ 25'23.64''	009 ⁰ 31'08.52''	218 metres	217183.4644	1053264.3160	195.63 metres
006 ⁰ 25'23.76''	009 ⁰ 31'14.70''	219 metres	217188.5404	1053454.2842	196.63 metres
006 ⁰ 25'25.86''	009 ⁰ 31'21.84''	210 metres	217254.2571	1053673.3164	187.63 metres
006 ⁰ 25'23.64''	009 ⁰ 32'23.64''	233 metres	217200.6708	1055573.7760	210.62 metres
006 ⁰ 25'22.74''	009 ⁰ 32'48.60''	230 metres	217178.9343	1056341.3419	207.62 metres
006 ⁰ 25'11.46''	009 ⁰ 30'59.64''	200 metres	216809.7479	1052994.0802	177.63 metres
006 ⁰ 25'09.00''	009 ⁰ 30'11.04''	211 metres	216723.5514	1051500.4970	188.63 metres
006 ⁰ 25'08.46''	009 ⁰ 31'36.84''	213 metres	216726.7275	1054138.4279	190.62 metres
006 ⁰ 25'08.16''	009 ⁰ 32'05.28''	231 metres	216724.0988	1055012.8474	208.62 metres
006 ⁰ 25'08.46''	009 ⁰ 32'23.76''	230 metres	216737.4965	1055580.9229	207.62 metres
006 ⁰ 25'08.16''	009 ⁰ 33'00.12''	233 metres	216736.6982	1056698.8333	207.61 metres
006 ⁰ 25'03.78''	009 ⁰ 30'51.12''	200 metres	216573.4315	1052733.8905	177.63 metres
006 ⁰ 24'59.16''	009 ⁰ 30'35.58''	211 metres	216428.8834	1052257.1841	188.63 metres
006 ⁰ 24'45.00''	009 ⁰ 31'11.76''	214 metres	216005.0749	1053372.7199	191.62 metres
006 ⁰ 24'45.12''	009 ⁰ 31'38.04''	211 metres	216014.7778	1054180.6409	188.61 metres
006 ⁰ 24'45.00''	009 ⁰ 32'29.52''	232 metres	216022.9627	1055763.3624	209.61 metres
006 ⁰ 24'41.64''	009 ⁰ 30'52.08''	211 metres	215898.0189	1052768.4472	188.62 metres

006°24'38.58"	009°30'25.20"	215 metres	215798.4635	1051942.7499	192.62 metres
006°24'38.82"	009°30'32.88"	211 metres	215807.5514	1052178.8081	188.62 metres
006°24'39.60"	009°30'56.58"	210 metres	215836.7994	1052907.2599	187.62 metres
006°24'39.00"	009°32'41.70	220 metres	215842.6861	1056139.1951	197.61 metres

Appendix C: The x, y, z attributes of recognised land use apportionment in the area of study

LONGITUDE	LATITUDE	ELEVATIONS	UTM (X)	UTM (Y)	UTM (Z)
006°26'10.08"	009°30'27.12"	202metres	218591.1908	1051981.0232	179.66
006°26'08.10"	009°30'33.78"	201 metres	218532.2830	1052186.2205	178.65
006°26'04.86"	009°30'30.06"	196 metres	218432.5636	1052072.5871	173.65
006°26'03.78"	009°30'42.84"	201 metres	218402.5145	1052465.7307	178.65
006°25'58.38"	009°30'04.14"	199 metres	218228.9172	1051277.1834	176.65
006°25'55.14"	009°30'31.68"	201 metres	218136.3123	1052124.5878	178.65
006°25'52.14"	009°30'29.64"	199 metres	218044.2980	1052062.5497	176.65
006°25'52.14"	009°30'25.20"	203 metres	218043.2864	1051926.0490	180.65
006°25'51.24"	009°30'45.06"	201 metres	218020.3475	1052536.8166	178.65
006°25'40.98"	009°30'41.64"	201 metres	217706.4708	1052433.9969	178.64
006°25'33.72"	009°30'41.64"	200 metres	217484.9221	1052435.6420	177.64
006°25'47.82"	009°30'51.12"	200 metres	217917.3643	1052723.8958	177.64
006°26'08.70"	009°30'40.12"	201 metres	218552.0351	1052380.9975	178.65
006°26'10.20"	009°30'52.26"	203 metres	218600.5712	1052753.8824	180.65
006°26'08.10"	009°31'00.06"	201 metres	218538.2634	1052994.1545	178.65
006°26'06.72"	009°31'02.52"	199 metres	218496.7118	1053070.0949	176.65
006°26'11.34"	009°30'01.44"	198 metres	218623.8054	1051191.2516	175.66
006°26'09.84"	009°31'08.10"	203 metres	218593.1908	1053240.9375	180.65
006°26'01.62"	009°31'09.36"	209 metres	218342.6403	1053281.5325	186.65
006°26'50.66"	009°30'58.80"	201 metres	219836.7203	1052945.8235	178.67
006°25'55.14"	009°31'44.40"	201 metres	218152.8941	1054360.2474	178.64
006°25'50.58"	009°30'01.86"	204 metres	217990.3641	1051208.8508	181.65
006°25'44.56"	009°30'57.60"	201 metres	217819.3607	1052923.8516	178.64
006°25'43.50"	009°31'01.88"	201 metres	217787.9907	1053055.6738	178.64
006°25'38.94"	009°30'51.12"	200 metres	217646.3816	1052725.9073	177.64
006°25'36.06"	009°31'02.04"	199 metres	217560.9895	1053062.2792	176.64

006 ⁰ 25'38.94"	009 ⁰ 31'08.58"	198 metres	217650.3689	1053262.6887	178.64
006 ⁰ 25'36.78"	009 ⁰ 31'18.06"	201 metres	217586.6213	1053554.6270	178.63
006 ⁰ 25'14.58"	009 ⁰ 31'36.58"	203 metres	216913.4207	1054129.0416	180.63
006 ⁰ 26'10.02"	009 ⁰ 31'52.80"	207 metres	216777.9921	1054628.7421	184.62
006 ⁰ 26'06.06"	009 ⁰ 31'29.16"	208 metres	218482.6401	1053889.2464	185.65
006 ⁰ 26'09.90"	009 ⁰ 31'31.44"	201 metres	218600.3371	1053958.4727	178.65
006 ⁰ 26'10.74"	009 ⁰ 31'36.48"	200 metres	218627.1178	1054113.2290	177.65
006 ⁰ 26'06.84"	009 ⁰ 31'45.84"	199 metres	218510.2437	1054401.8687	176.65
006 ⁰ 26'10.74"	009 ⁰ 31'46.20"	205 metres	218629.3325	1054412.0540	182.65
006 ⁰ 26'00.12"	009 ⁰ 31'41.64"	205 metres	218304.2274	1054274.2677	182.64
006 ⁰ 26'09.90"	009 ⁰ 31'57.06"	200 metres	218606.1758	1054746.1164	177.65
006 ⁰ 26'04.86"	009 ⁰ 31'01.80"	201 metres	218439.7887	1053048.3802	178.65
006 ⁰ 26'10.74"	009 ⁰ 32'10.08"	206 metres	218634.7763	1055146.2043	183.64
006 ⁰ 25'51.18"	009 ⁰ 31'51.06"	202 metres	218033.5769	1054565.8961	179.64
006 ⁰ 25'40.86"	009 ⁰ 31'51.84"	211 metres	217718.8447	1054592.2169	188.64
006 ⁰ 25'36.54"	009 ⁰ 31'44.04"	210 metres	217585.2374	1054353.3981	187.63
006 ⁰ 25'26.52"	009 ⁰ 31'46.20"	211 metres	217279.9733	1054422.0803	188.63
006 ⁰ 25'27.84"	009 ⁰ 31'38.52"	200 metres	217318.4949	1054185.6695	177.63
006 ⁰ 25'18.90"	009 ⁰ 31'32.94"	211 metres	217044.4120	1054016.1522	188.63
006 ⁰ 25'25.98"	009 ⁰ 31'12.00"	209 metres	217255.6675	1053370.7723	186.63
006 ⁰ 25'22.74"	009 ⁰ 31'18.90"	208 metres	217158.3760	1053583.6390	185.63
006 ⁰ 25'25.98"	009 ⁰ 31'05.64"	202 metres	217254.2128	1053175.2431	179.63
006 ⁰ 25'25.20"	009 ⁰ 30'40.02"	199 metres	217224.5521	1052387.7697	176.64
006 ⁰ 25'22.92"	009 ⁰ 30'28.86"	199 metres	217152.4234	1052045.1886	176.64
006 ⁰ 25'09.78"	009 ⁰ 30'28.44"	201 metres	216723.4530	1048283.3052	178.65
006 ⁰ 25'09.78"	009 ⁰ 30'34.92"	201 metres	216812.6292	1060236.4540	178.60
006 ⁰ 25'13.02"	009 ⁰ 30'47.88"	204 metres	216854.6602	1052632.1802	181.63
006 ⁰ 25'08.52"	009 ⁰ 30'45.60"	201 metres	216716.8144	1052563.1074	178.63
006 ⁰ 25'01.92"	009 ⁰ 30'28.86"	201 metres	216511.5701	1052049.9584	178.63

006 ⁰ 24'56.82"	009 ⁰ 30'25.20"	203 metres	216355.0950	1051938.5963	180.63
006 ⁰ 24'53.58"	009 ⁰ 30'31.68"	201 metres	216257.7057	1052138.5531	178.63
006 ⁰ 24'53.58"	009 ⁰ 30'38.16"	203 metres	216259.3109	1052353.7596	180.63
006 ⁰ 24'54.34"	009 ⁰ 30'34.92"	201 metres	216281.6414	1052237.9900	178.63
006 ⁰ 24'41.94"	009 ⁰ 30'31.68"	203 metres	215902.4888	1052141.2042	180.62
006 ⁰ 24'42.24"	009 ⁰ 30'25.20"	201 metres	215910.1563	1051941.9157	178.62
006 ⁰ 24'40.62"	009 ⁰ 30'28.44"	199 metres	215861.4625	1052041.8950	176.62
006 ⁰ 24'31.06"	009 ⁰ 30'26.04"	198 metres	215569.1678	1051970.2895	175.62
006 ⁰ 24'37.14"	009 ⁰ 30'31.80"	201 metres	215756.0350	1052145.9877	178.62
006 ⁰ 24'38.58"	009 ⁰ 30'46.20"	200 metres	215803.2875	1052588.3711	177.62
006 ⁰ 24'56.82"	009 ⁰ 30'45.00"	201 metres	216359.4048	1052516.5789	178.63
006 ⁰ 24'50.34"	009 ⁰ 30'57.18"	200 metres	216164.6824	1052923.2576	177.62
006 ⁰ 24'40.62"	009 ⁰ 31'02.88"	201 metres	215869.3740	1053100.7136	178.62
006 ⁰ 24'40.62"	009 ⁰ 31'05.46"	200 metres	215869.9670	1053180.0327	177.62
006 ⁰ 24'56.82"	009 ⁰ 31'02.76"	201 metres	216333.1917	1053093.5596	178.62
006 ⁰ 24'56.82"	009 ⁰ 31'11.94"	201 metres	216335.2984	1053375.7874	178.62
006 ⁰ 25'10.98"	009 ⁰ 31'26.40"	202 metres	216801.2322	1053816.8901	179.63
006 ⁰ 25'10.08"	009 ⁰ 31'15.06"	201 metres	216771.1690	1053468.4615	178.63
006 ⁰ 24'54.60"	009 ⁰ 31'23.04"	201 metres	216300.6174	1053717.3213	178.62
006 ⁰ 24'54.84"	009 ⁰ 30'27.12"	200 metres	216308.8781	1053842.7013	177.62
006 ⁰ 24'49.56"	009 ⁰ 31'31.86"	204 metres	216148.8453	1053989.6308	181.62
006 ⁰ 24'43.56"	009 ⁰ 31'35.04"	203 metres	215966.4841	1054088.7653	180.61
006 ⁰ 24'34.92"	009 ⁰ 31'37.86"	211 metres	215703.4801	1054177.4363	188.61
006 ⁰ 24'34.92"	009 ⁰ 31'43.92"	211 metres	215704.8753	1054363.7445	188.61
006 ⁰ 24'47.10"	009 ⁰ 31'40.06"	212 metres	216075.6624	1054242.2915	189.62
006 ⁰ 24'58.44"	009 ⁰ 31'46.20"	215 metres	216423.1147	1054428.4720	192.62
006 ⁰ 25'08.16"	009 ⁰ 31'47.10"	213 metres	216719.9267	1054453.9266	190.62
006 ⁰ 25'08.16"	009 ⁰ 31'53.46"	214 metres	216721.3861	1054649.4566	191.62
006 ⁰ 25'25.98"	009 ⁰ 31'01.14"	201 metres	217253.1836	1053036.8970	178.64

006 ⁰ 24'40.44"	009 ⁰ 30'00.12"	201 metres	215849.4696	1051171.2702	178.62
006 ⁰ 24'40.44"	009 ⁰ 31'00.24'	200 metres	215849.4972	1051174.9594	177.62
006 ⁰ 24'43.20"	009 ⁰ 32'33.78"	224 metres	215969.0189	1055894.7428	201.61
006 ⁰ 25'48.66"	009 ⁰ 32'05.64"	226 metres	217960.0117	1055014.7071	203.64
006 ⁰ 25'43.92"	009 ⁰ 32'12.12"	222 metres	217816.8564	1055215.0005	199.63
006 ⁰ 26'10.50"	009 ⁰ 32'10.08"	223 metres	218627.4528	1055146.2587	200.64
006 ⁰ 26'06.60"	009 ⁰ 32'25.60"	227 metres	218511.9899	1055624.2784	204.64
006 ⁰ 25'51.90"	009 ⁰ 32'29.76"	226 metres	218064.3906	1055755.5040	203.64
006 ⁰ 26'03.84"	009 ⁰ 32'27.60"	223 metres	218428.2291	1055686.3905	200.64
006 ⁰ 26'10.26"	009 ⁰ 32'23.04"	223 metres	218623.0856	1055544.7465	200.64
006 ⁰ 26'07.26"	009 ⁰ 32'33.24"	228 metres	218533.8728	1055859.0081	205.64
006 ⁰ 26'07.74"	009 ⁰ 32'39.24"	232 metres	218549.8889	1056043.3594	209.64
006 ⁰ 26'01.14"	009 ⁰ 32'41.64"	231 metres	218349.0497	1056118.6397	208.64
006 ⁰ 25'52.92"	009 ⁰ 32'48.78"	222 metres	218099.8640	1056340.0128	199.63
006 ⁰ 25'50.58"	009 ⁰ 32'43.92"	227 metres	218027.3513	1056191.1309	204.63
006 ⁰ 25'44.88"	009 ⁰ 32'43.92"	223 metres	217853.4259	1056192.4255	200.63
006 ⁰ 25'50.58"	009 ⁰ 32'43.92"	227 metres	218027.3513	1056191.1309	204.63
006 ⁰ 25'30.06"	009 ⁰ 32'55.92"	226 metres	217403.9703	1056564.7184	203.62
006 ⁰ 25'40.80"	009 ⁰ 32'23.76"	223 metres	217724.3161	1055573.5634	200.63
006 ⁰ 25'37.20"	009 ⁰ 32'15.36"	228 metres	217612.5433	1055316.1357	205.63
006 ⁰ 25'31.26"	009 ⁰ 32'29.64"	234 metres	217434.5614	1055756.5039	211.63
006 ⁰ 25'24.06"	009 ⁰ 32'36.60"	229 metres	217216.4589	1055972.1178	206.62
006 ⁰ 25'21.84"	009 ⁰ 32'45.54"	225 metres	217150.7702	1056247.4714	202.62
006 ⁰ 25'14.70"	009 ⁰ 33'03.24"	226 metres	216936.9707	1056793.2617	203.62
006 ⁰ 25'11.04"	009 ⁰ 32'55.80"	223 metres	216823.5830	1056565.3633	200.62
006 ⁰ 25'08.52"	009 ⁰ 32'33.78"	223 metres	216741.6292	1055888.9613	200.62
006 ⁰ 25'16.26"	009 ⁰ 32'03.12"	221 metres	216970.7705	1054944.5962	198.62
006 ⁰ 25'09.78"	009 ⁰ 32'09.36"	224 metres	216774.4689	1055137.9126	201.62
006 ⁰ 25'07.26"	009 ⁰ 32'23.04"	225 metres	216700.7144	1055559.0610	202.62

006 ⁰ 25'01.26"	009 ⁰ 32'17.64"	221 metres	216516.3891	1055394.4130	198.62
006 ⁰ 25'00.66"	009 ⁰ 31'59.16"	223 metres	216493.8343	1054826.4051	200.62
006 ⁰ 24'54.96"	009 ⁰ 31'54.00"	225 metres	216318.7147	1054669.0671	202.62
006 ⁰ 24'56.52"	009 ⁰ 31'59.16"	224 metres	216367.5036	1054827.3492	201.62
006 ⁰ 24'55.62"	009 ⁰ 32'11.64"	224 metres	216342.9092	1055211.2371	201.62
006 ⁰ 24'43.44"	009 ⁰ 32'06.84"	223 metres	215970.1386	1055066.4478	200.61
006 ⁰ 24'38.28"	009 ⁰ 32'17.64"	226 metres	215815.1710	1055399.6613	203.61
006 ⁰ 24'46.74"	009 ⁰ 32'23.04"	223 metres	216074.5653	1055563.7445	200.61
006 ⁰ 24'40.14"	009 ⁰ 32'41.96"	221 metres	215871.3105	1055316.8423	198.61
006 ⁰ 25'00.60"	009 ⁰ 32'28.80"	225 metres	216498.8150	1055737.6640	202.62
006 ⁰ 24'55.86"	009 ⁰ 32'46.62"	228 metres	216358.2790	1056286.6006	205.61

Appendix D: The x, y, z attributes of prominent arboreal resource item (i.e. trees greater 10m in height) in the area of study

	Longitude	Latitude	Elevation	UTM (X)	UTM (Y)	UTM (Z)
1	006 ⁰ 26'01.38"	009 ⁰ 30'37.80"	202 metres	218328.1282	1052311.3267	179.65
2	006 ⁰ 26'02.40"	009 ⁰ 30'40.26"	201 metres	218359.8148	1052386.7248	178.65
3	006 ⁰ 26'08.40"	009 ⁰ 30'49.20"	199 metres	218544.9463	1052660.2144	176.65
4	006 ⁰ 26'02.10"	009 ⁰ 30'49.44"	200 metres	218352.7502	1052669.0164	177.65
5	006 ⁰ 26'02.52"	009 ⁰ 30'57.06"	200 metres	218367.3024	1052903.1858	177.65
6	006 ⁰ 26'05.70"	009 ⁰ 31'14.28"	203 metres	218468.2643	1053431.8670	180.65
7	006 ⁰ 26'07.68"	009 ⁰ 31'27.22"	199 metres	218531.6325	1053829.2379	176.65
8	006 ⁰ 26'08.40"	009 ⁰ 31'30.54"	204 metres	218554.3596	1053931.1429	181.65
9	006 ⁰ 26'05.70"	009 ⁰ 31'47.64"	199 metres	218370.5924	1054457.4647	176.65
10	006 ⁰ 26'02.52"	009 ⁰ 32'45.66"	234 metres	218392.0764	1056241.9152	211.64
11	006 ⁰ 25'57.00"	009 ⁰ 30'28.86"	210 metres	218192.4306	1052037.4710	187.65
12	006 ⁰ 25'57.00"	009 ⁰ 30'44.04"	202 metres	218195.8882	1052504.1554	179.65
13	006 ⁰ 25'57.00"	009 ⁰ 30'56.58"	202 metres	218198.7456	1052889.6773	179.65
14	006 ⁰ 25'57.00"	009 ⁰ 32'45.18"	223 metres	218223.5346	1056228.4103	220.64
15	006 ⁰ 25'54.66"	009 ⁰ 32'17.88"	231 metres	218145.8930	1055389.6459	208.64
16	006 ⁰ 26'01.38"	009 ⁰ 32'41.52"	220 metres	218356.3456	1056114.8960	197.64
17	006 ⁰ 26'01.38"	009 ⁰ 32'59.52"	232 metres	218360.4593	1056668.2771	209.64
18	006 ⁰ 25'56.52"	009 ⁰ 30'32.04"	204 metres	218178.5069	1052135.3434	181.65
19	006 ⁰ 25'55.86"	009 ⁰ 30'41.52"	201 metres	218160.5256	1054271.5433	178.65
20	006 ⁰ 25'55.44"	009 ⁰ 30'58.44"	200 metres	218151.5648	1052947.2129	177.65
21	006 ⁰ 25'54.66"	009 ⁰ 31'38.46"	214 metres	218136.8910	1054177.7404	191.64
22	006 ⁰ 25'52.98"	009 ⁰ 31'08.16"	220 metres	218078.7123	1053246.5956	197.65
23	006 ⁰ 25'52.32"	009 ⁰ 31'44.04"	228 metres	218066.7601	1054349.8189	205.64
24	006 ⁰ 25'54.18"	009 ⁰ 32'30.06"	229 metres	218134.0301	1055764.2097	206.64
25	006 ⁰ 25'54.18"	009 ⁰ 32'39.84"	230 metres	218136.2660	1056064.8805	207.64
26	006 ⁰ 25'54.18"	009 ⁰ 32'53.04"	231 metres	218139.2847	1056470.6939	208.63

27	006 ⁰ 25'49.26"	009 ⁰ 30'27.18"	203 metres	218139.2847	1056470.6939	208.63
28	006 ⁰ 25'49.38"	009 ⁰ 30'41.52"	200 metres	217962.7803	1052428.4058	177.65
29	006 ⁰ 25'49.86"	009 ⁰ 30'45.72"	201 metres	217978.3857	1052557.4195	178.65
30	006 ⁰ 25'49.38"	009 ⁰ 31'02.46"	211 metres	217967.5558	1053072.1731	188.64
31	006 ⁰ 25'49.86"	009 ⁰ 32'03.06"	222 metres	217996.0392	1054935.1168	199.64
32	006 ⁰ 25'50.52"	009 ⁰ 32'14.40"	231 metres	218018.7701	1055283.5978	208.64
33	006 ⁰ 25'49.86"	009 ⁰ 32'46.86"	233 metres	218006.0544	1056281.6802	210.63
34	006 ⁰ 25'49.38"	009 ⁰ 32'55.56"	230 metres	217993.3991	1056549.2574	207.63
35	006 ⁰ 25'49.86"	009 ⁰ 33'02.16"	236 metres	218009.5559	1056752.0553	213.63
36	006 ⁰ 25'47.04"	009 ⁰ 30'29.28"	200 metres	217888.5814	1052052.6358	177.65
37	006 ⁰ 25'47.04"	009 ⁰ 30'35.58"	199 metres	217890.0178	1052246.3194	176.65
38	006 ⁰ 25'47.04"	009 ⁰ 30'41.52"	201 metres	217891.3722	1052428.9354	178.65
39	006 ⁰ 25'45.72"	009 ⁰ 30'45.72"	200 metres	217852.0487	1052558.3567	177.64
40	006 ⁰ 25'47.04"	009 ⁰ 30'52.08"	201 metres	217893.7808	1052753.5861	178.64
41	006 ⁰ 25'47.28"	009 ⁰ 31'08.38"	211 metres	217904.8236	1053254.6499	188.64
42	006 ⁰ 25'48.48"	009 ⁰ 31'28.38"	217 metres	217946.0074	1053869.2469	194.64
43	006 ⁰ 25'47.28"	009 ⁰ 31'53.52"	214 metres	217915.1321	1054642.4094	191.64
44	006 ⁰ 25'44.58"	009 ⁰ 30'58.44"	200 metres	217820.1627	1052949.6716	177.64
45	006 ⁰ 25'44.58"	009 ⁰ 31'53.52"	218 metres	217819.0397	1052798.4139	195.64
46	006 ⁰ 25'42.84"	009 ⁰ 31'12.66"	211 metres	217770.3115	1053387.2380	188.64
47	006 ⁰ 25'44.58"	009 ⁰ 31'17.76"	219 metres	217824.5729	1053543.6353	196.64
48	006 ⁰ 25'42.84"	009 ⁰ 32'53.04"	224 metres	217793.2672	1056473.2699	201.63
49	006 ⁰ 25'40.44"	009 ⁰ 30'32.04"	200 metres	217687.8014	1052138.9818	177.64
50	006 ⁰ 25'40.44"	009 ⁰ 31'08.16"	218 metres	217696.0463	1053249.4364	195.64
51	006 ⁰ 25'40.50"	009 ⁰ 31'20.58"	216 metres	217700.7143	1053631.2569	193.64
52	006 ⁰ 25'41.64"	009 ⁰ 32'00.24"	230 metres	217744.5667	1054850.2854	207.63
53	006 ⁰ 25'39.66"	009 ⁰ 32'06.72"	232 metres	217685.6307	1055049.9528	209.63
54	006 ⁰ 25'40.44"	009 ⁰ 32'10.92"	230 metres	217710.3927	1055178.8985	207.63
55	006 ⁰ 25'36.12"	009 ⁰ 30'35.58"	202 metres	217556.7779	1052248.7924	179.64

56	006 ⁰ 25'36.12"	009 ⁰ 30'45.06"	200 metres	217558.9423	1052540.2408	177.64
57	006 ⁰ 25'36.12"	009 ⁰ 30'50.28"	202 metres	217560.1343	1052700.7219	179.64
58	006 ⁰ 25'36.18"	009 ⁰ 31'05.04"	215 metres	217565.3366	1053154.4826	192.64
59	006 ⁰ 25'36.12"	009 ⁰ 31'11.88"	218 metres	217565.0685	1053364.7818	195.64
60	006 ⁰ 25'37.38"	009 ⁰ 31.22.86"	214 metres	217606.0274	1053702.0598	191.64
61	006 ⁰ 25'37.38"	009 ⁰ 31'50.52"	218 metres	217612.3519	1054552.4255	195.63
62	006 ⁰ 25'33.72"	009 ⁰ 30'27.18"	200 metres	217481.6204	1051991.0907	177.64
63	006 ⁰ 25'51.12"	009 ⁰ 30'58.44"	200 metres	218019.7365	1052948.1906	177.65
64	006 ⁰ 25'33.24"	009 ⁰ 31'09.06"	211 metres	217476.8442	1053278.7361	188.64
65	006 ⁰ 25'33.72"	009 ⁰ 31'11.76"	214 metres	217491.8037	1053361.6370	191.64
66	006 ⁰ 25'34.92"	009 ⁰ 31'38.46"	211 metres	217534.5271	1054182.2170	188.63
67	006 ⁰ 25'33.24"	009 ⁰ 31'59.46"	214 metres	217488.0674	1054828.2130	191.63
68	006 ⁰ 25'33.72"	009 ⁰ 32'06.72"	231 metres	217504.3761	1055051.3022	208.63
69	006 ⁰ 25'34.26"	009 ⁰ 32'10.68"	234 metres	217521.7603	1055172.9239	211.63
70	006 ⁰ 25'34.92"	009 ⁰ 32'14.10"	233 metres	217542.6827	1055277.9169	210.63
71	006 ⁰ 25'30.48"	009 ⁰ 30'41.88"	200 metres	217413.5667	1056132.9827	177.63
72	006 ⁰ 25'31.38"	009 ⁰ 31'18.18"	211 metres	217421.8651	1053559.5416	188.64
73	006 ⁰ 25'31.86"	009 ⁰ 31'31.20"	217 metres	217439.4903	1053959.7136	194.63
74	006 ⁰ 25'31.38"	009 ⁰ 31'34.98"	219 metres	217425.7077	1054076.0333	196.63
75	006 ⁰ 25'31.44"	009 ⁰ 32'26.88"	231 metres	217439.4215	1055671.6107	208.63
76	006 ⁰ 25'31.68"	009 ⁰ 32'36.60"	230 metres	217448.9722	1055970.3837	207.63
77	006 ⁰ 25'29.46"	009 ⁰ 32'41.70"	229 metres	217382.4014	1056127.6811	206.63
78	006 ⁰ 25'30.48"	009 ⁰ 33'05.10"	234 metres	217418.8913	1056846.8490	211.62
79	006 ⁰ 25'28.08"	009 ⁰ 30'32.88"	199 metres	217310.8081	1052167.6074	176.64
80	006 ⁰ 25'27.30"	009 ⁰ 30'38.94"	201 metres	217288.3898	1052354.0902	178.64
81	006 ⁰ 25'27.30"	009 ⁰ 30'52.08"	203 metres	217291.3931	1052758.0607	180.64
82	006 ⁰ 25'28.08"	009 ⁰ 31'05.04"	217 metres	217318.1586	1053156.3203	194.64
83	006 ⁰ 25'27.30"	009 ⁰ 31'50.76"	214 metres	217304.8190	1054562.0938	191.63
84	006 ⁰ 25'27.06"	009 ⁰ 31'44.70"	213 metres	217296.1079	1054375.8422	190.63

85	006 ⁰ 25'27.06"	009 ⁰ 32'06.72"	230 metres	217301.1509	1055052.8161	207.63
86	006 ⁰ 25'22.08"	009 ⁰ 30'30.06"	199 metres	217127.0636	1052082.2715	176.64
87	006 ⁰ 25'20.16"	009 ⁰ 30'45.00"	200 metres	217071.8880	1052542.0167	177.63
88	006 ⁰ 25'20.46"	009 ⁰ 30'49.44"	209 metres	217082.0585	1052678.4502	186.63
89	006 ⁰ 25'20.46"	009 ⁰ 31'20.28"	219 metres	217089.1164	1053626.5833	196.63
90	006 ⁰ 25'21'12"	009 ⁰ 31'23.52"	211 metres	217109.9985	1053726.0426	188.63
91	006 ⁰ 25'20.16"	009 ⁰ 31'23.52"	215 metres	217080.7037	1053726.2608	192.63
92	006 ⁰ 25'16.26"	009 ⁰ 30'27.30"	199 metres	216948.8249	1051998.7401	176.64
93	006 ⁰ 25'13.74"	009 ⁰ 31'07.08"	215 metres	216881.0282	1053222.2947	192.63
94	006 ⁰ 25'17.16"	009 ⁰ 31'11.64"	214 metres	216986.4366	1053361.7084	191.63
95	006 ⁰ 25'17.16"	009 ⁰ 31'13.80"	214 metres	216986.9312	1053428.1146	191.63
96	006 ⁰ 25'19.50"	009 ⁰ 31'14.76"	211 metres	217058.5577	1053457.0967	188.63
97	006 ⁰ 25'16.26"	009 ⁰ 31'14.76"	217 metres	216959.6869	1053457.8331	194.63
98	006 ⁰ 25'17.94"	009 ⁰ 31'27.22"	213 metres	217013.8070	1053840.5169	190.63
99	006 ⁰ 25'17.04"	009 ⁰ 31'38.04"	210 metres	216988.8224	1054173.3678	187.63
100	006 ⁰ 25'16.26"	009 ⁰ 31'39.84"	213 metres	216965.4331	1054228.8838	190.63
101	006 ⁰ 25'13.68"	009 ⁰ 30'41.52"	200 metres	216873.3453	1052436.5006	177.63
102	006 ⁰ 25'13.68"	009 ⁰ 31'12.66"	213 metres	216880.4755	1053393.8580	190.63
103	006 ⁰ 25'13.68"	009 ⁰ 31'17.04"	215 metres	216881.4789	1053528.5152	192.63
104	006 ⁰ 25'13.74"	009 ⁰ 31'53.52"	212 metres	216891.6721	1054650.0306	189.62
105	006 ⁰ 25'13.56"	009 ⁰ 32'17.88"	223 metres	216891.7683	1055398.9877	200.62
106	006 ⁰ 25'10.86"	009 ⁰ 32'27.30"	230 metres	216811.5430	1055689.2086	207.62
107	006 ⁰ 25'10.86"	009 ⁰ 32'35.82"	231 metres	216813.4998	1055951.1450	208.62
108	006 ⁰ 25'10.32"	009 ⁰ 32'51.12"	233 metres	216800.5378	1056421.6469	210.62
109	006 ⁰ 25'12.06"	009 ⁰ 32'56.58"	230 metres	216854.8856	1056589.1107	207.62
110	006 ⁰ 25'10.86"	009 ⁰ 31'08.34"	213 metres	216793.4312	1053261.6866	190.63
111	006 ⁰ 25'10.86"	009 ⁰ 31'59.46"	211 metres	216805.1525	1054833.3038	188.62
112	006 ⁰ 25'10.86"	009 ⁰ 32'30.06"	239 metres	216812.1767	1055774.0612	216.62
113	006 ⁰ 25'24.66"	009 ⁰ 30'59.64"	211 metres	217212.5593	1052991.0813	188.63

114	006 ⁰ 25'23.64"	009 ⁰ 31'08.52"	218 metres	217183.4644	1053264.3160	195.63
115	006 ⁰ 25'23.76"	009 ⁰ 31'14.70"	219 metres	217188.5404	1053454.2842	196.63
116	006 ⁰ 25'25.86"	009 ⁰ 31'21.84"	210 metres	217254.2571	1053673.3164	187.63
117	006 ⁰ 25'23.64"	009 ⁰ 32'23.64"	233 metres	217200.6708	1055573.7760	210.62
118	006 ⁰ 25'22.74"	009 ⁰ 32'48.60"	230 metres	217178.9343	1056341.3419	207.62
119	006 ⁰ 25'11.46"	009 ⁰ 30'59.64"	200 metres	216809.7479	1052994.0802	177.63
120	006 ⁰ 25'09.00"	009 ⁰ 30'11.04"	211 metres	216723.5514	1051500.4970	188.63
121	006 ⁰ 25'08.46"	009 ⁰ 31'36.84"	213 metres	216726.7275	1054138.4279	190.62
122	006 ⁰ 25'08.16"	009 ⁰ 32'05.28"	231 metres	216724.0988	1055012.8474	208.62
123	006 ⁰ 25'08.46"	009 ⁰ 32'23.76"	230 metres	216737.4965	1055580.9229	207.62
124	006 ⁰ 25'08.16"	009 ⁰ 33'00.12"	233 metres	216736.6982	1056698.8333	207.61
125	006 ⁰ 25'03.78"	009 ⁰ 30'51.12"	200 metres	216573.4315	1052733.8905	177.63
126	006 ⁰ 25'03.84"	009 ⁰ 32'45.66"	229 metres	216601.2508	1056255.2668	206.61
127	006 ⁰ 25'01.50"	009 ⁰ 30'27.18"	209 metres	216498.3681	1051998.4045	186.63
128	006 ⁰ 25'01.50"	009 ⁰ 30'30.06"	208 metres	216499.0278	1052086.9464	185.63
129	006 ⁰ 25'01.50"	009 ⁰ 30'41.88"	202 metres	216501.7363	1052450.3372	179.63
130	006 ⁰ 25'02.70"	009 ⁰ 30'45.00"	206 metres	216539.0711	1052545.9847	183.63
131	006 ⁰ 25'01.14"	009 ⁰ 31'31.80"	217 metres	216502.1994	1053985.1466	194.62

Appendix E: The x, y, z attributes of outcrops-on-land in the area of study

LONGITUDE	LATITUDE	ELEVATION	UTM (X)	UTM (Y)	UTM (Z)
E06°26' 08.88"	N09°31' 55.86"	216 Metres	218567.1290	1054718.3985	183.03
E06°26' 09.42"	N09°31' 56.58"	218 Metres	218583.7709	1054740.4116	185.03
E06°25' 51.54"	N09°30' 30.30"	194 Metres	218026.1385	1052082.9760	171.65
E06°26' 07.86"	N09°32' 27.30"	223 Metres	218550.8251	1055676.2567	200.64
E06°26' 01.68"	N09°32' 07.08"	217 Metres	218357.6348	1055056.0259	194.64
E06°26' 07.56"	N09°33' 00.03"	243 Metres	218549.1445	1056682.5546	220.64
E06°26' 00.06"	N09°32' 07.80"	221 Metres	218308.3663	1055078.5282	198.64
E06°26' 08.22"	N09°33' 03.00"	250 Metres	218569.9613	1056773.7127	227.64
E06°26' 01.62"	N09°32' 00.60"	214 Metres	218354.3250	1054856.8224	191.64
E06°26' 04.74"	N09°33' 08.22"	262 Metres	218464.9702	1056934.9824	239.64
E06°26' 01.80"	N09°33' 03.42"	245 Metres	218374.1660	1056788.0811	222.64
E06°26' 00.48"	N09°31' 57.24"	218 Metres	218318.7719	1054753.7829	195.64
E06°26' 02.64"	N09°33' 03.48"	247 Metres	218399.8104	1056789.7351	224.64
E06°25' 58.32"	N09°32' 56.76"	230 Metres	218266.4590	1056584.1197	207.63
E06°25' 58.74"	N09°32' 20.40"	219 Metres	218270.9652	1055466.1941	196.64
E06°25' 59.22"	N09°32' 09.18"	220 Metres	218283.0496	1055121.1444	197.64
E06°25' 53.88"	N09°33' 06.48"	247 Metres	218133.2056	1056883.9539	224.63
E06°25' 58.38"	N09°32' 19.08"	220 Metres	218259.6787	1055425.6944	197.64
E06°25' 54.54"	N09°32' 07.68"	218 Metres	218139.9011	1055076.0901	195.64
E06°25' 52.62"	N09°32' 17.76"	229 Metres	218083.6173	1055386.4194	206.64
E06°25' 58.56"	N09°32' 15.42"	221 Metres	218264.3353	1055313.1328	198.64
E06°25' 25.02"	N09°32' 13.68"	222 Metres	217240.4969	1055267.2555	199.63
E06°25' 51.48"	N09°32' 04.80"	232 Metres	218045.8697	1054988.2430	209.64
E06°25' 07.08"	N09°32' 36.18"	225 Metres	216698.2408	1055963.0746	202.62
E06°25' 09.06"	N09°32' 46.74"	232 Metres	216761.0844	1056287.2768	209.62

E06 ⁰ 25' 26.10"	N09 ⁰ 32' 13.02"	222 Metres	217273.3010	1055246.7191	199.63
E06 ⁰ 25' 40.26"	N09 ⁰ 31' 53.58"	230 Metres	217700.9337	1054645.8469	207.63
E06 ⁰ 25' 41.64"	N09 ⁰ 32' 14.46"	232 Metres	217747.8195	1055287.4580	209.63
E06 ⁰ 25' 09.42"	N09 ⁰ 32' 43.98"	228 Metres	216771.4350	1056202.3420	205.62
E06 ⁰ 25' 37.20"	N09 ⁰ 31' 54.60"	226 Metres	217607.7925	1054677.9000	203.63
E06 ⁰ 25' 16.68"	N09 ⁰ 31' 54.90"	224 Metres	216981.7016	1054691.7877	201.63
E06 ⁰ 25' 41.76"	N09 ⁰ 31' 50.82"	228 Metres	217746.0744	1054560.6544	205.64
E06 ⁰ 25' 46.32"	N09 ⁰ 32' 01.44"	236 Metres	217887.6482	1054886.1155	213.64
E06 ⁰ 25' 44.28"	N09 ⁰ 32' 19.08"	230 Metres	217828.8231	1055428.8980	207.63
E06 ⁰ 25' 48.54"	N09 ⁰ 33' 01.20"	241 Metres	217969.0591	1056722.8415	218.63
E06 ⁰ 25' 46.08"	N09 ⁰ 33' 06.96"	248 Metres	217895.3166	1056900.4831	225.63
E06 ⁰ 25' 48.96"	N09 ⁰ 32' 00.66"	234 Metres	217968.0277	1054861.5367	211.64
E06 ⁰ 25' 46.74"	N09 ⁰ 32' 01.50"	242 Metres	217900.4778	1054887.8648	219.64

Appendix F: The x, y, z attributes of outcrops-in-stream-channels in the area of study

Latitude	Longitude	Elevation	X	Y	Z
N09°30 38.22"	E006°25 48.84"	194	217945.5	1052327	171.65
N09°30 37.44"	E006°25 49.26"	194	217958.2	1052303	171.65
N09°30 32.40"	E006°25 48.54"	193	217935.1	1052148	170.65
N09°32 51.36"	E006°25 06.18"	200	216674.3	1056430	177.61
N09°32 57.72"	E006°25 06.84"	213	216695.9	1056625	190.61
N09°32 02.40"	E006°25 09.24"	213	216756.4	1054924	190.62
N09°32 47.04"	E006°25 30.00"	210	217400.1	1056292	187.62
N09°32 44.10"	E006°24 55.92"	210	216359.5	1056209	187.61
N09°32 36.06"	E006°24 53.04"	211	216269.8	1055963	188.61
N09°32 28.20"	E006°24 49.08"	210	216147.2	1055722	187.61
N09°32 12.66"	E006°24 46.32"	209	216059.4	1055245	186.61
N09°32 08.10"	E006°24 43.44"	209	215970.4	1055105	186.61
N09°32 01.50"	E006°24 43.80"	209	215979.9	1054902	186.61
N09°32 55.80"	E006°24 41.88"	209	215933.8	1056572	186.6

Appendix G: The x, y, z attributes of squatter settlements in the area of study

Latitude	Longitude	Elevation	X	Y	Z
N09 32 17.64	E006 25 57.96	225	218246.53	1055381.52	202.64
N09 32 13.92	E006 25 57.24	221	218223.71	1055267.32	198.64
N09 32 12.84	E006 25 55.56	223	218172.2	1055234.49	200.64
N09 32 15.00	E006 25 51.72	226	218055.52	1055301.77	203.64
N09 32 11.28	E006 25 50.34	225	218012.56	1055187.72	202.64
N09 32 06.54	E006 25 49.92	229	217998.67	1055042.09	206.64
N09 32 35.58	E006 25 13.02	232	216879.35	1055943.27	209.62
N09 32 40.62	E006 25 18.18	238	217037.96	1056097.05	215.62
N09 32 15.06	E006 25 16.08	228	216968.02	1055311.72	205.62
N09 32 07.80	E006 25 19.26	227	217063.39	1055087.79	204.63
N09 30 58.56	E006 25 57.36	205	218237.58	1056639.68	182.63
N09 32 38.10	E006 25 13.14	234	216883.59	1056020.72	211.62
N09 32 43.38	E006 25 12.00	233	216850.02	1056183.31	210.62
N09 32 02.46	E006 25 05.04	220	216628.25	1054926.86	197.62
N09 32 16.62	E006 25 36.12	225	217579.88	1055355.12	202.63
N09 32 41.34	E006 25 15.06	236	216942.92	1056119.89	213.62
N09 32 43.80	E006 25 14.58	236	216928.84	1056195.63	213.62