

	SOIL ENGINEERING SERVICES (SES) خدمات مهندسی مکانیک خاک	
	PROJ NO: 1347-EE-PEP-GEO-001-B	REV: B
	SUBJECT: GEOTECHNICAL INVESTIGATION, PHASE I, FACTUAL REPORT, SOUTH ALUMINIUM SMELTER (SALCO) IRAN	

Annex I

Geological Description of Site

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Geological Description of Site

With reference to Figure.1, the location of the old site can be seen for which previously some geotechnical investigation was carried out. The present studies deal with the new site location.

The morphology of the site is relatively flat and the ground surface has a gentle dip of about 0.16% (1.6 m in 1000m) toward South East. The average elevation of the site is 404m above the sea water level. The general topography of the site is shown in Figure 2. There are some small flood ways and flood gullies at site. Most of the site area is covered with water for a few months in autumn or winter and the area can be assumed as a winter marsh.

According to Geological Zonation Map of Iran (Nabavi, 1976), shown in Figure 3, the area is located in Zagros mountain range. This zone includes folds and faults and its trend is North-West to South-East. The geology map of the area, produced by the National Iranian Oil Company (1965) is shown in Figure 4. According to this map and field studies, the site area is located on a syncline filled by young fine sedimentary deposits on top of Aghajari formation. This area is confined from north by Varavi anticline and from south by Assaluyah anticline. Some satellite pictures from site are shown in Figure 5 and 6.

Aghajari formation is composed of alternating marlstone and sandstone with intercalation of limestone layers dating back to Pliocene area. Figure 7 shows a schematic geological section of the region..

The site area is covered by fine grained deposits (Figure 8). There are some gypsum crystals in soil layers which do not constitute more than 3 percent in the layers. A picture from gypsum crystals is shown in Figure 9.

The fine grained deposits are estimated to be 60-80 m in depth. Water table level varies with topographical elevation and based on present drilling of boreholes is at approximately 5m below ground level.

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FIGURES

Fig.1 Site Location

Fig.2 General Site Topography

Fig.3 Geological Zonation Map of Iran

Fig.4 Geology Map of Site Area

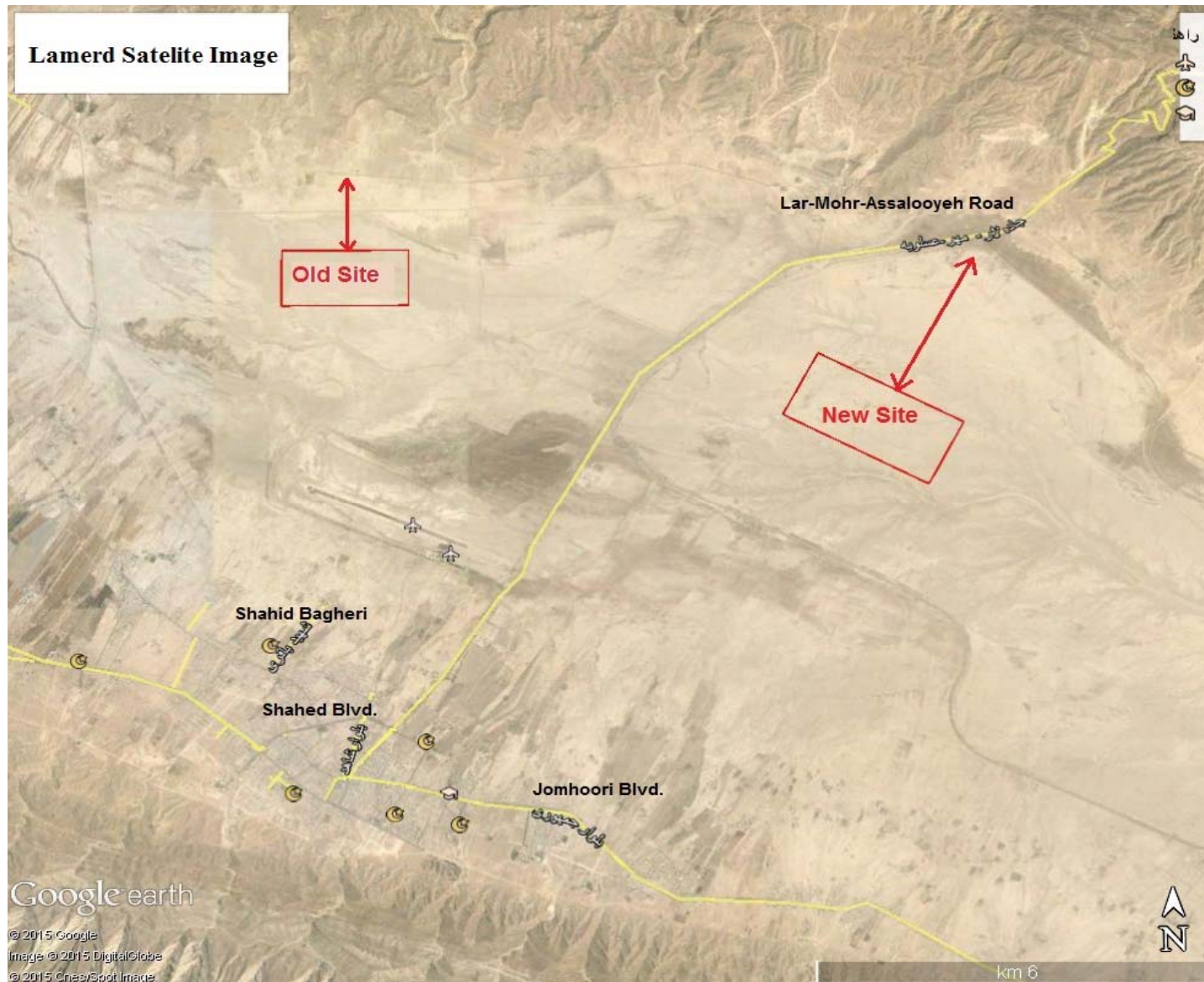
Fig.5 Arial View of Site Area

Fig.6 Arial Side View of Site Area

Fig.7 Schematic Geological Section of Site

Fig.8 Mountains at North

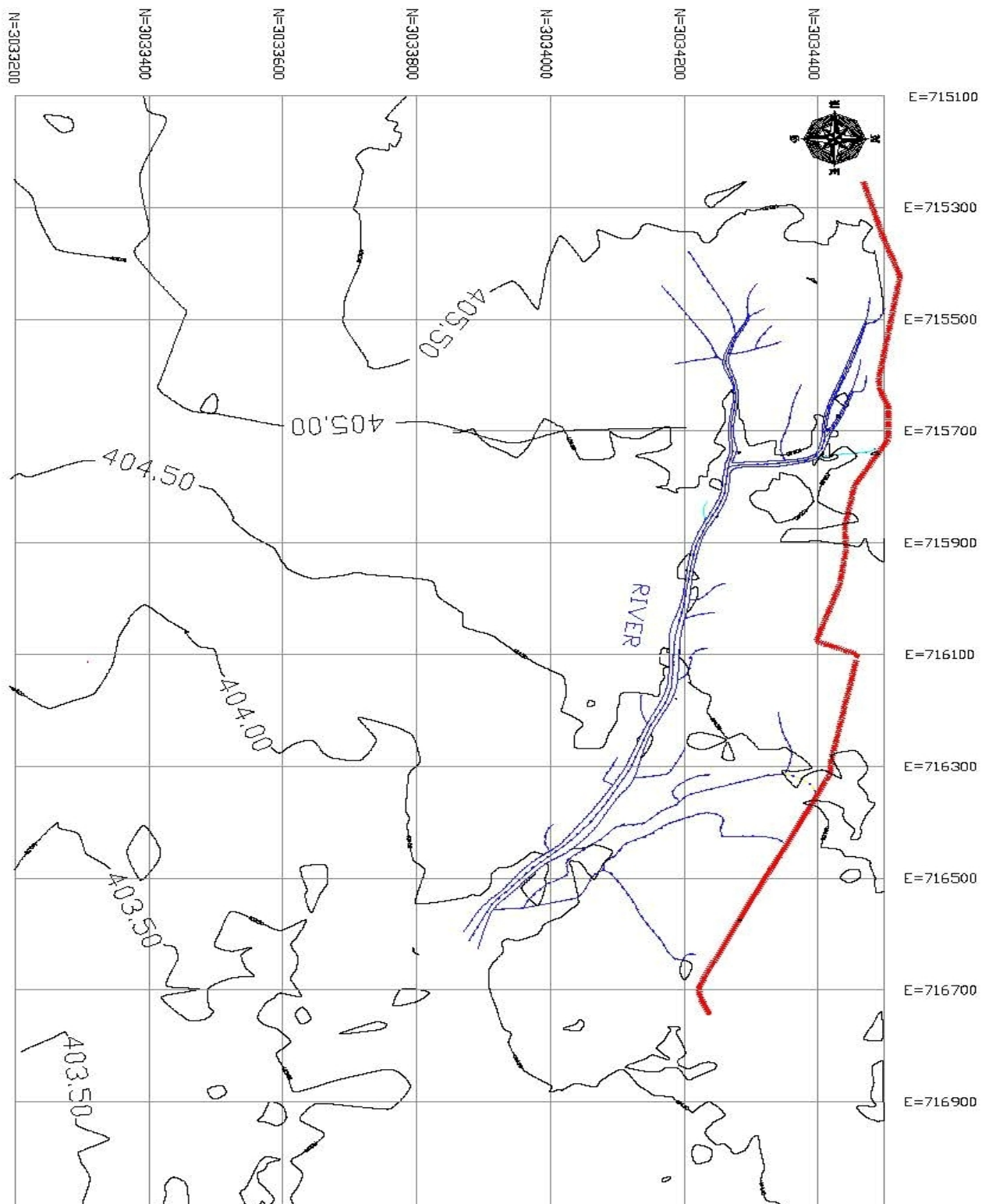
Fig.9 Gypsum Crystals



TITLE : Site Location

	PROJECT: SOUTH ALUMINUM SMELTER PLANT	FIGURE: 1
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TITLE: General Site Topography



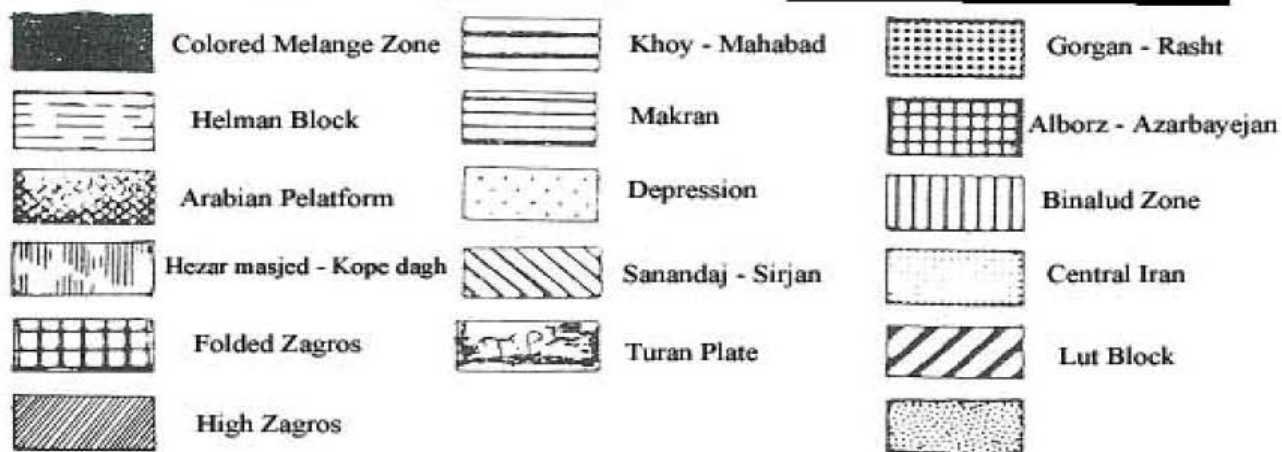
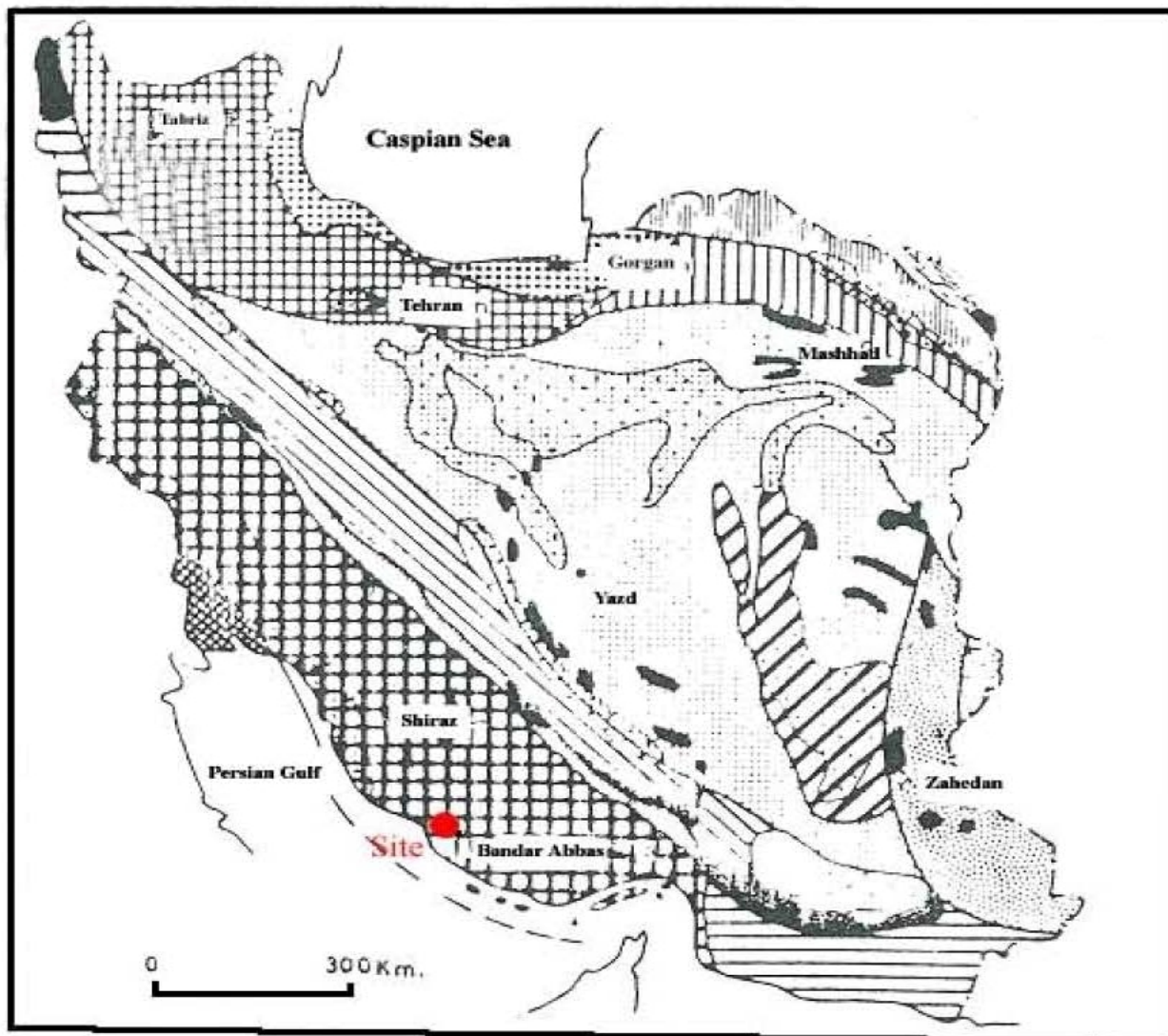
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FIGURE: 2

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TITLE: Geological Zonation Map of Iran



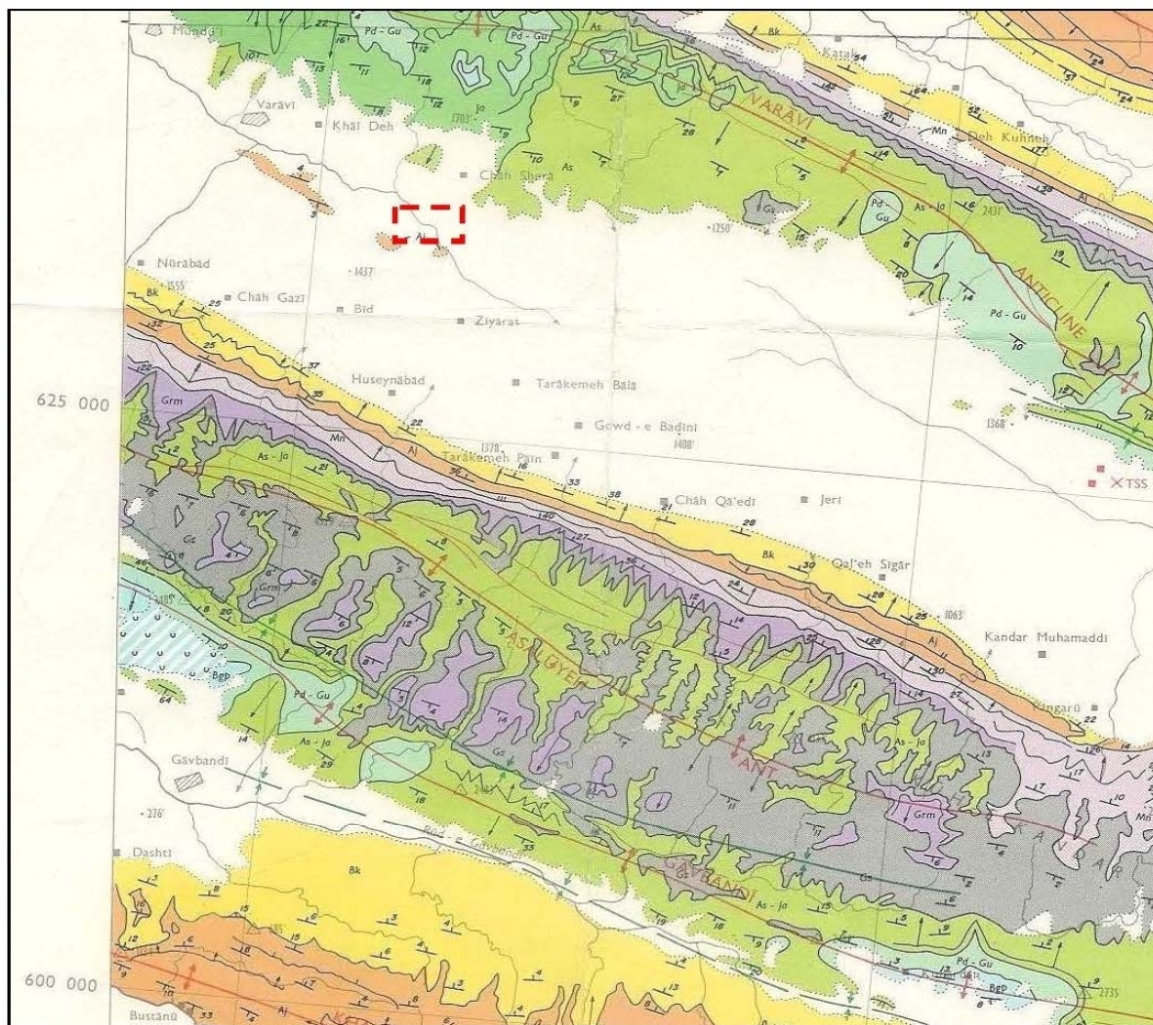
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FIGURE: 3

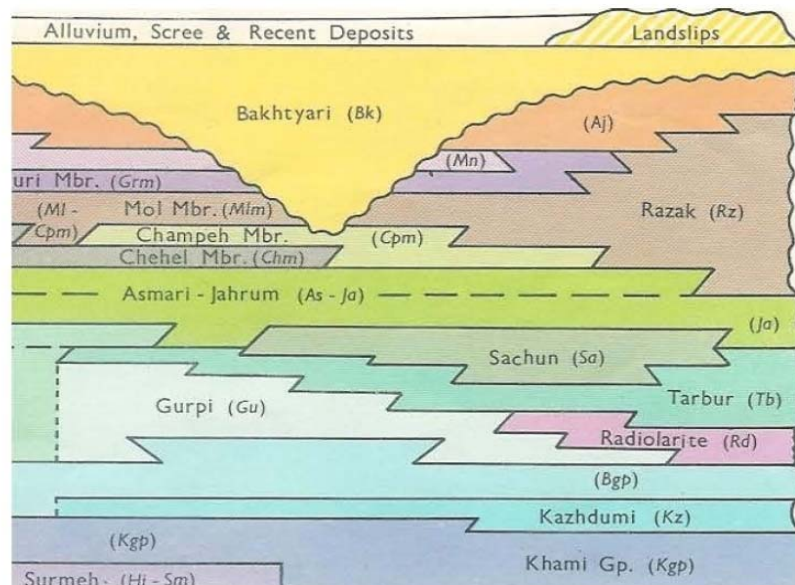
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U. Pliocene
Mio - Pliocene
Miocene
Oligocene
Eocene
Paleocene
Upper Cret.
Maestrichtian
Senonian
Turonian - Cenomanian
Lower Cretaceous
Jurassic



TITLE: Geology Map of Area



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FIGURE: 4

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TITLE: Arial View of Site Area



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FIGURE: 5

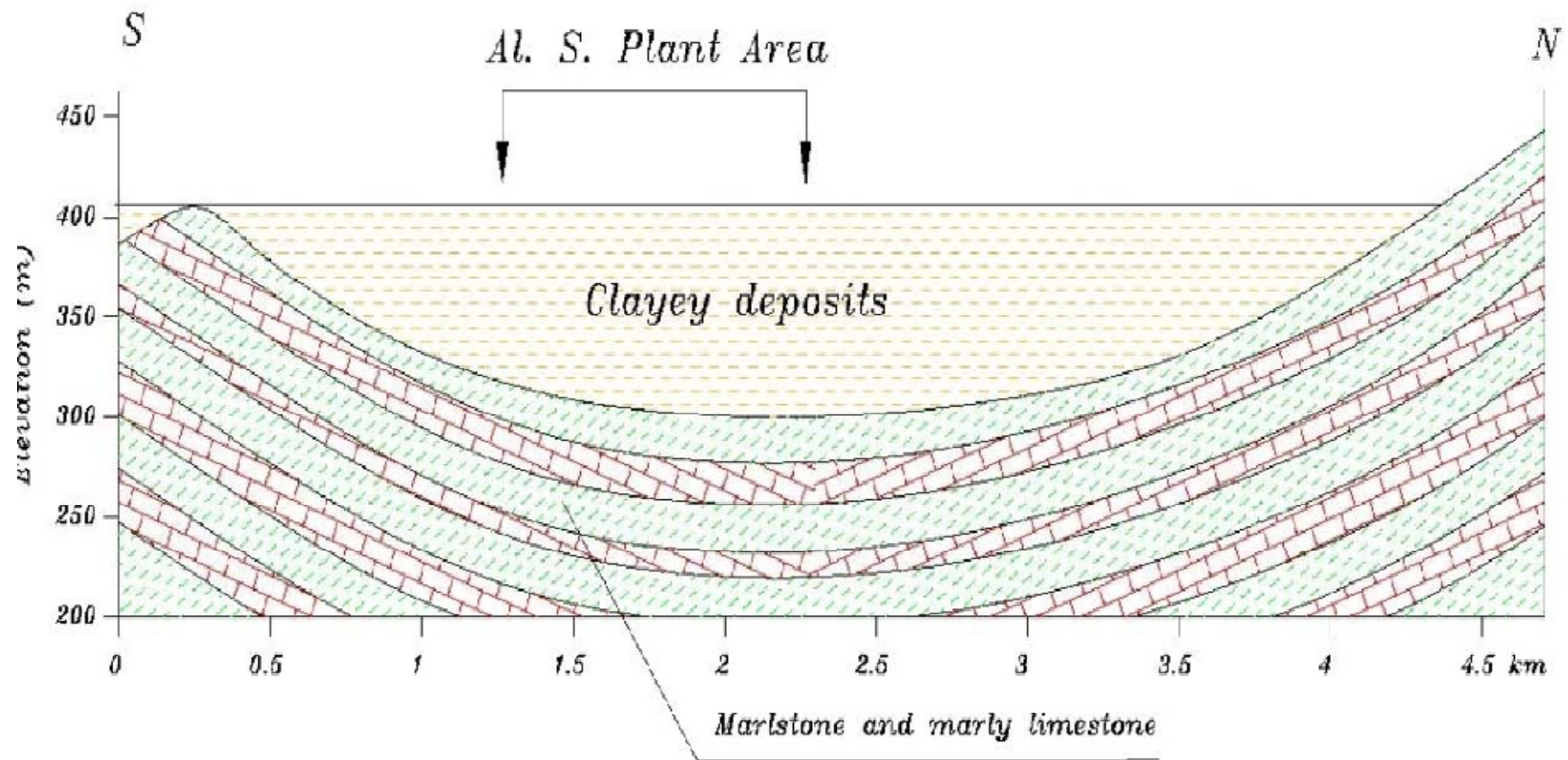
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TITLE: Arial Side View of Site Area

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TITLE: Schematic Geological Section of Site



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FIGURE: 7

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TITLE: Mountains at North

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TITLE: Gypsum Crystals



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FIGURE: 9

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