

UTM zone 38N Easting

100000

200000

300000

400000

500000

Legend

Geological Classification	Yield (l/sec.)	Water Quality
Qa, r	Medium - High : More than 3l/sec.	Excellent - Good : TDS Less than 750 mg/l.
Ja		
Qc, Qb, Qv	Low - Medium : 1 - 3 l/sec.	Excellent - Good : TDS Less than 750 mg/l.
Pj, PC	Poor - Low : Less than 1l/sec.	Excellent - Good : TDS Less than 750 mg/l.
Km, Jh	Medium - High : More than 3l/sec.	Partly Poor : TDS from 500 - 3,000 mg/l.
Kb, Ka, Jg	Low - Medium : 1 - 3 l/sec.	Partly Poor : TDS from 500 - 3,000 mg/l.
Ju	Poor - Low : Less than 1l/sec.	Partly Poor : TDS from 500 - 3,000 mg/l.
Kg	Low - Medium : 1 - 3 l/sec.	Poor : TDS from 2,500 - 10,000 mg/l.
Kf	Poor - Low : Less than 1l/sec.	Poor : TDS from 2,500 - 10,000 mg/l.

- ★ Regional capital ● Zonal capital ● Main cities — Profile line
- Woreda boundary — Lineament (Probably correspond to the fault)
- Perennial river — Non perennial river ○ Borehole

On the geological columnar sections of the profiles, refer to Annex of the Explanatory Text of Geological and Hydrogeological Maps.

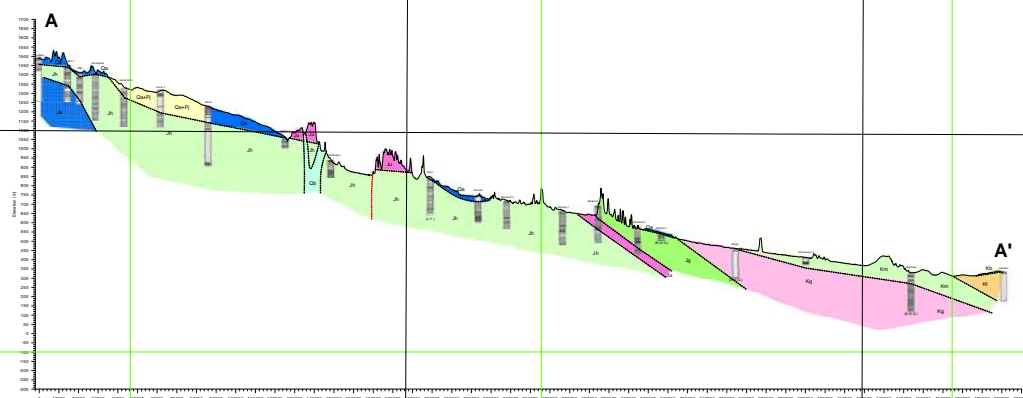
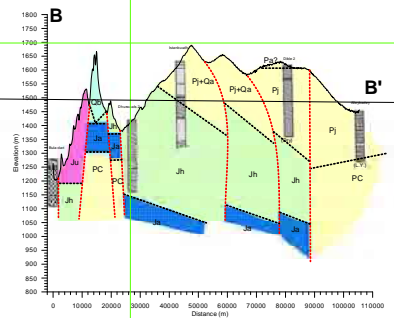
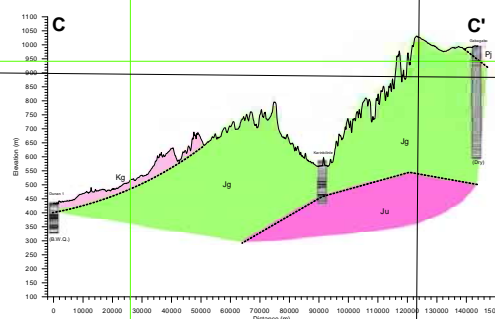
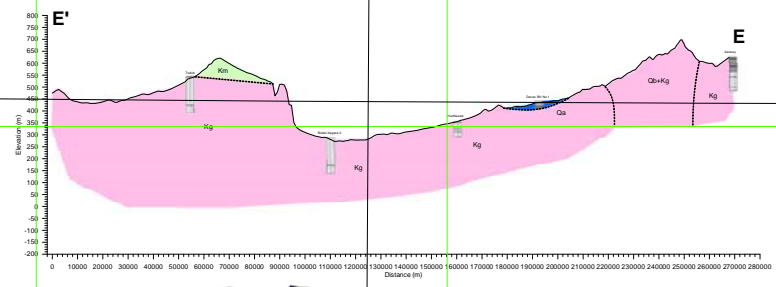
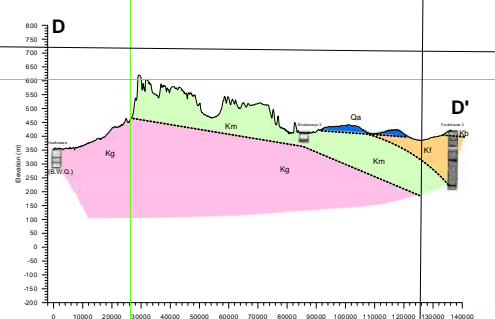
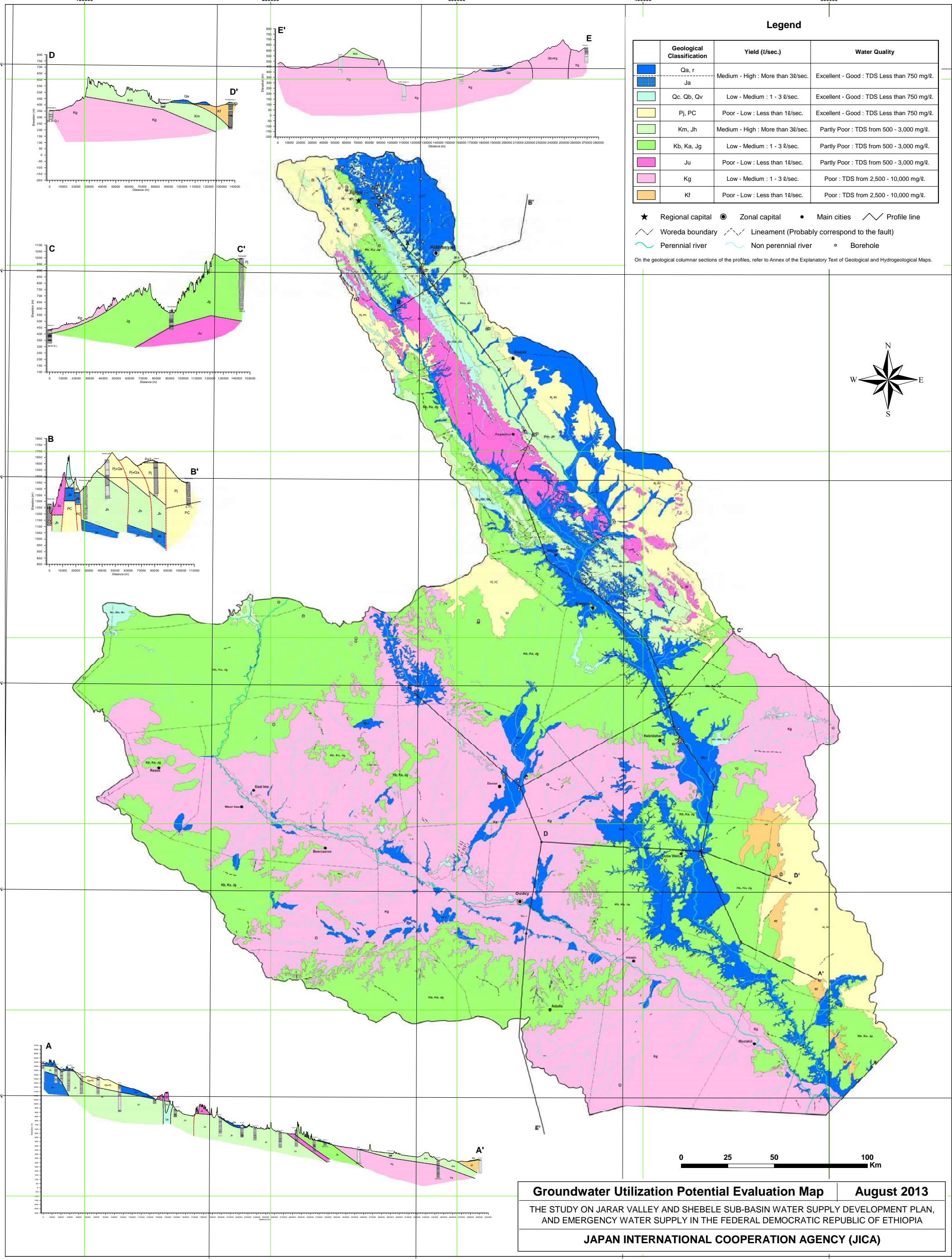


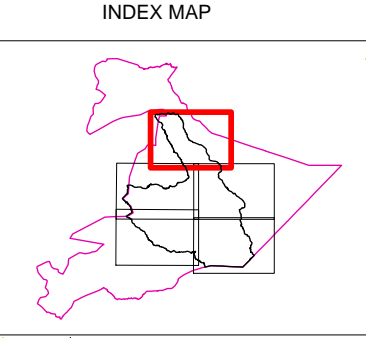
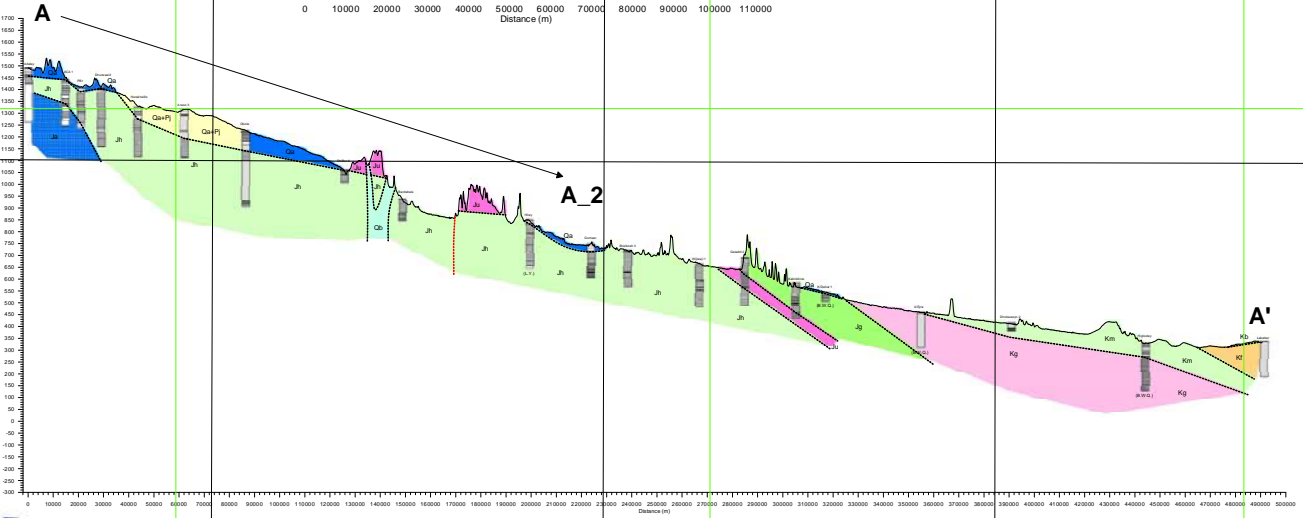
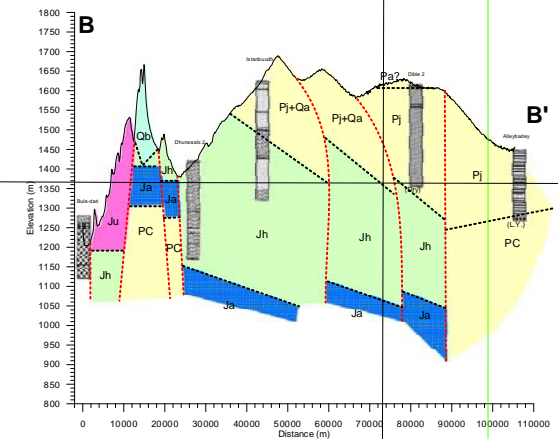
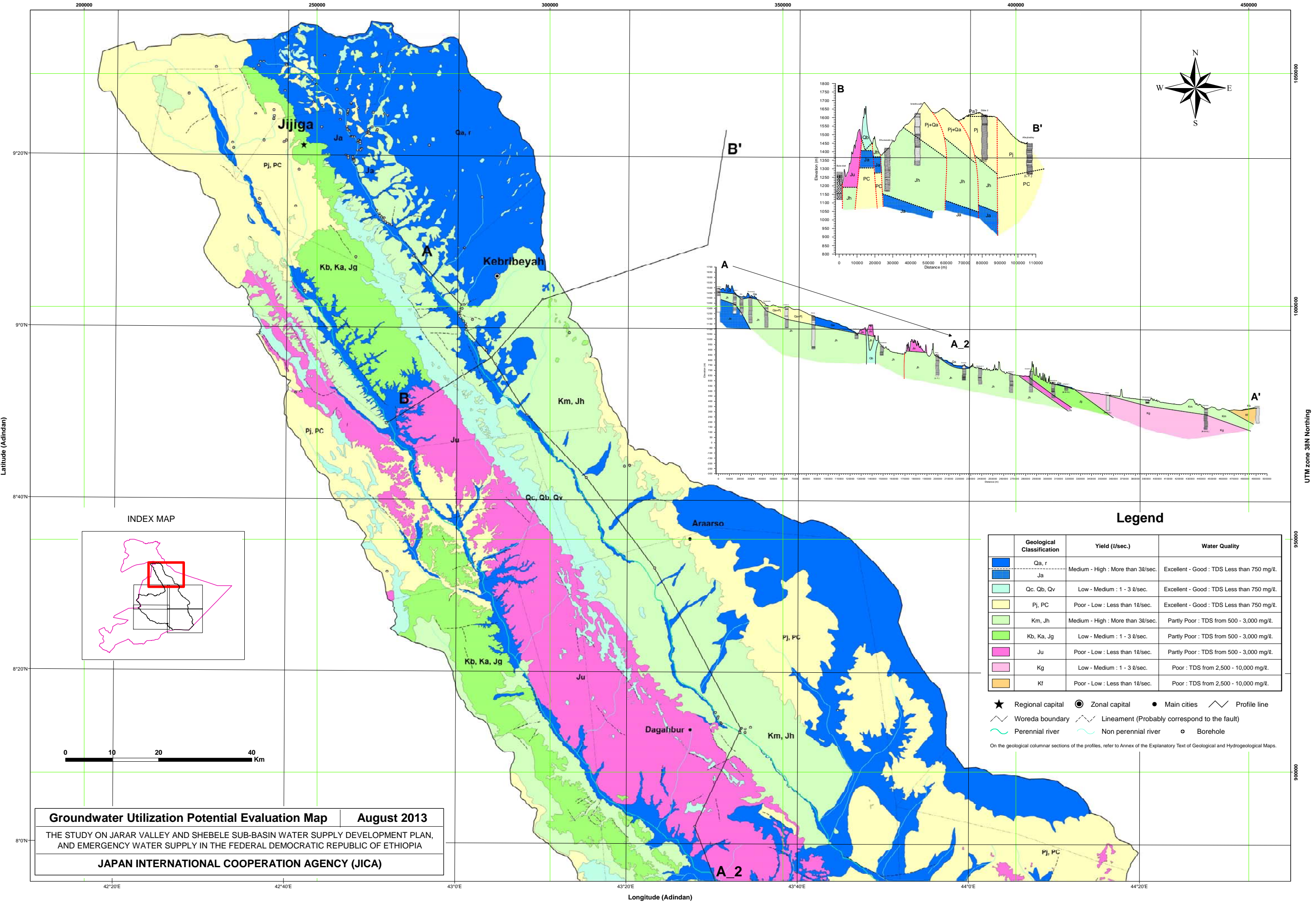
Groundwater Utilization Potential Evaluation Map **August 2013**
 THE STUDY ON JARAR VALLEY AND SHEBELE SUB-BASIN WATER SUPPLY DEVELOPMENT PLAN,
 AND EMERGENCY WATER SUPPLY IN THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Latitude (Adindan)

Longitude (Adindan)

UTM zone 38N Northing





Legend

Geological Classification	Yield (l/sec.)	Water Quality
Qa, r	Medium - High : More than 3l/sec.	Excellent - Good : TDS Less than 750 mg/l.
Ja	Medium - High : More than 3l/sec.	Excellent - Good : TDS Less than 750 mg/l.
Qc, Qb, Qv	Low - Medium : 1 - 3 l/sec.	Excellent - Good : TDS Less than 750 mg/l.
Pj, Pc	Poor - Low : Less than 1l/sec.	Excellent - Good : TDS Less than 750 mg/l.
Km, Jh	Medium - High : More than 3l/sec.	Partly Poor : TDS from 500 - 3,000 mg/l.
Kb, Ka, Jg	Low - Medium : 1 - 3 l/sec.	Partly Poor : TDS from 500 - 3,000 mg/l.
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Kg	Low - Medium : 1 - 3 l/sec.	Poor : TDS from 2,500 - 10,000 mg/l.
Kf	Poor - Low : Less than 1l/sec.	Poor : TDS from 2,500 - 10,000 mg/l.

- ★ Regional capital
- Zonal capital
- Main cities
- Profile line
- Woreda boundary
- Lineament (Probably correspond to the fault)
- Perennial river
- Non perennial river
- Borehole

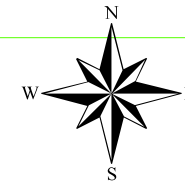
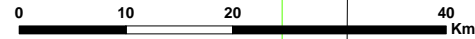
On the geological columnar sections of the profiles, refer to Annex of the Explanatory Text of Geological and Hydrogeological Maps.

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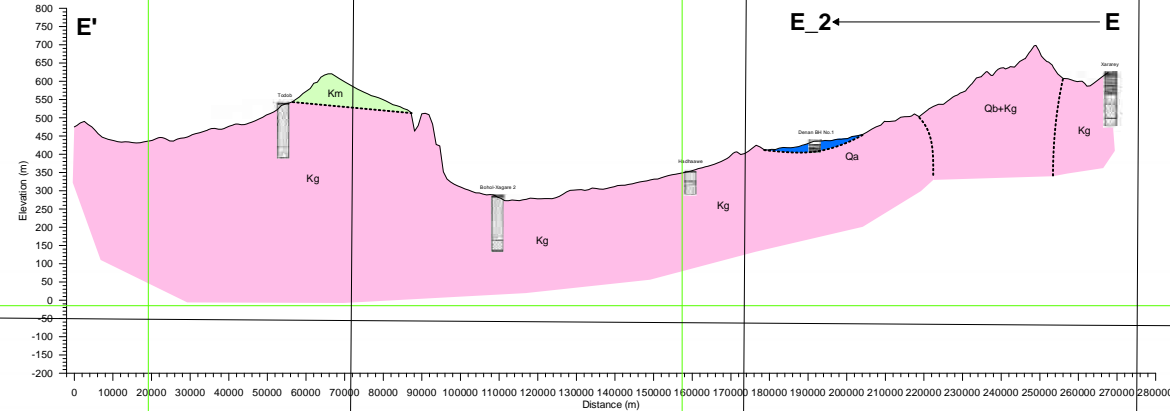
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)



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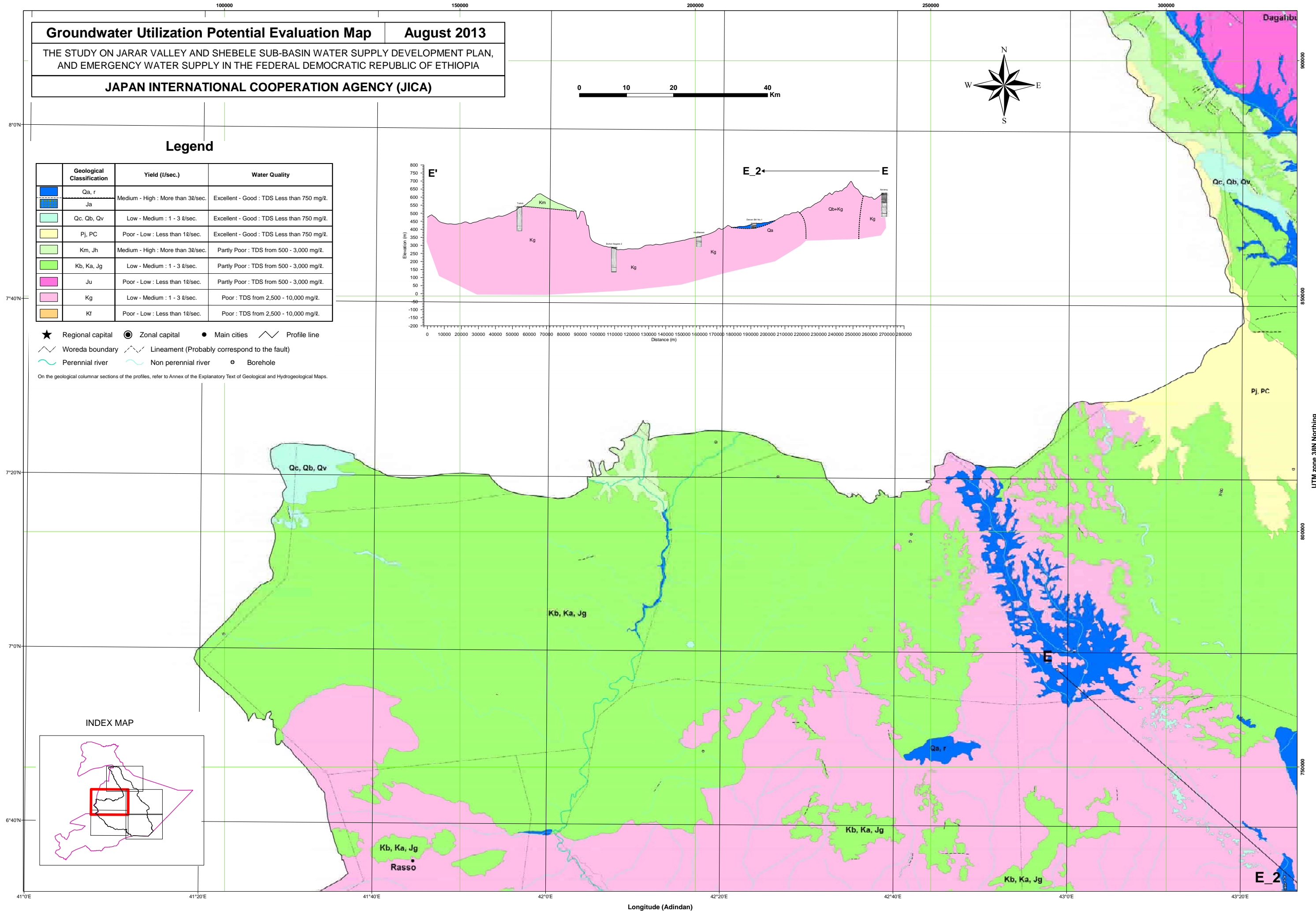
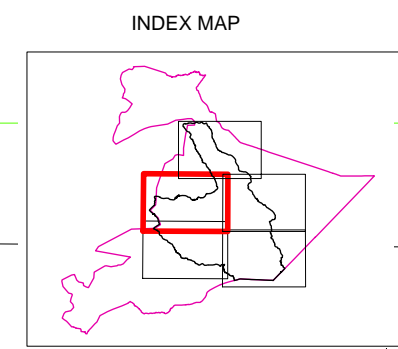
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Ja	Medium - High : More than 3l/sec.	Excellent - Good : TDS Less than 750 mg/l.
Qc, Qb, Qv	Low - Medium : 1 - 3 l/sec.	Excellent - Good : TDS Less than 750 mg/l.
Pj, PC	Poor - Low : Less than 1l/sec.	Excellent - Good : TDS Less than 750 mg/l.
Km, Jh	Medium - High : More than 3l/sec.	Partly Poor : TDS from 500 - 3,000 mg/l.
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Kf	Poor - Low : Less than 1l/sec.	Poor : TDS from 2,500 - 10,000 mg/l.

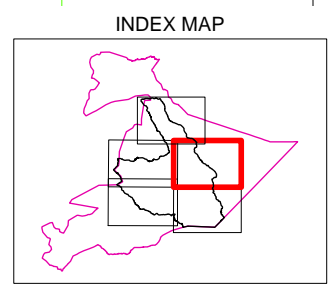
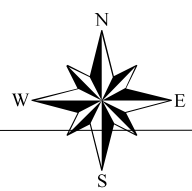
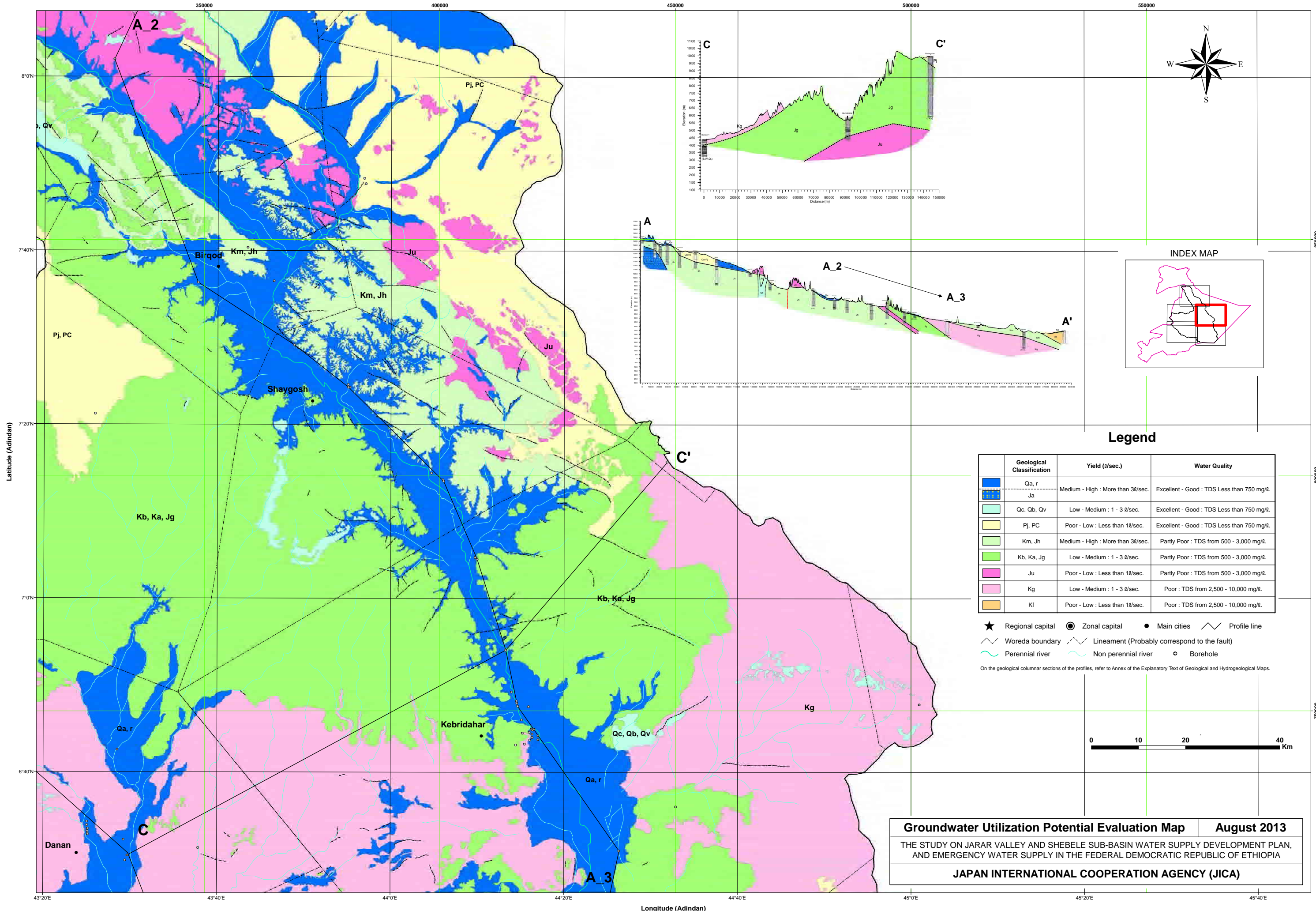
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Latitude (Adindan)

UTM zone 38N Northing



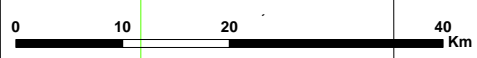


Legend

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- ★ Regional capital ● Zonal capital ● Main cities ∩ Profile line
- ∩ Woreda boundary ∩ Lineament (Probably correspond to the fault)
- ∩ Perennial river ∩ Non perennial river ○ Borehole

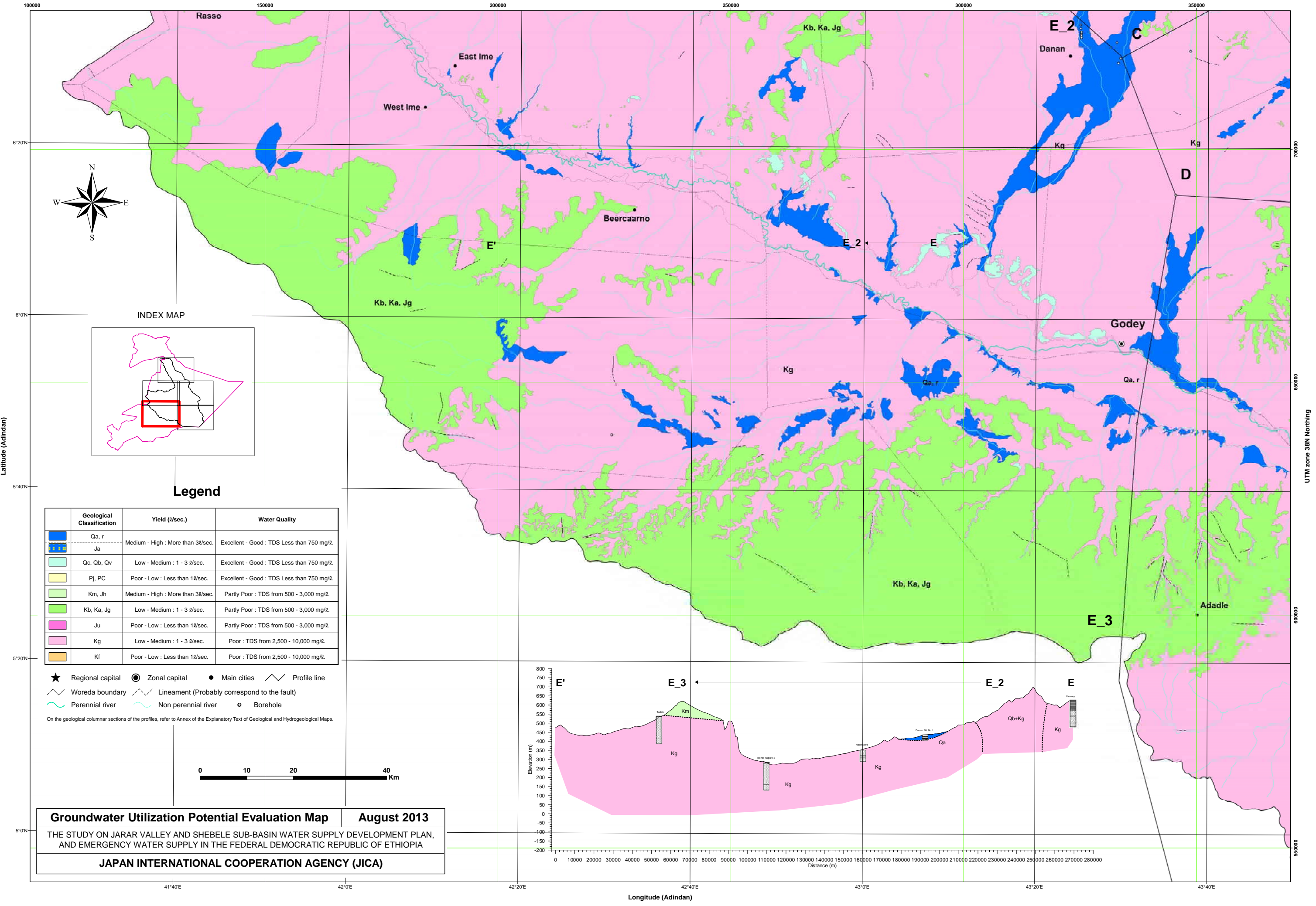
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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

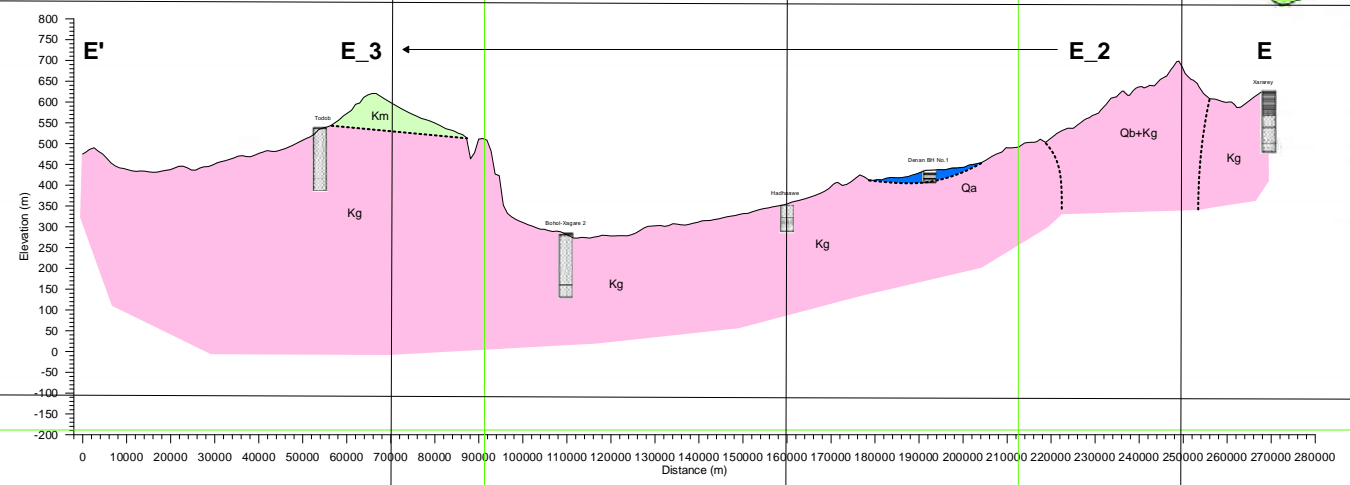
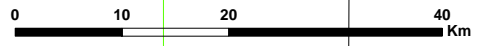


INDEX MAP

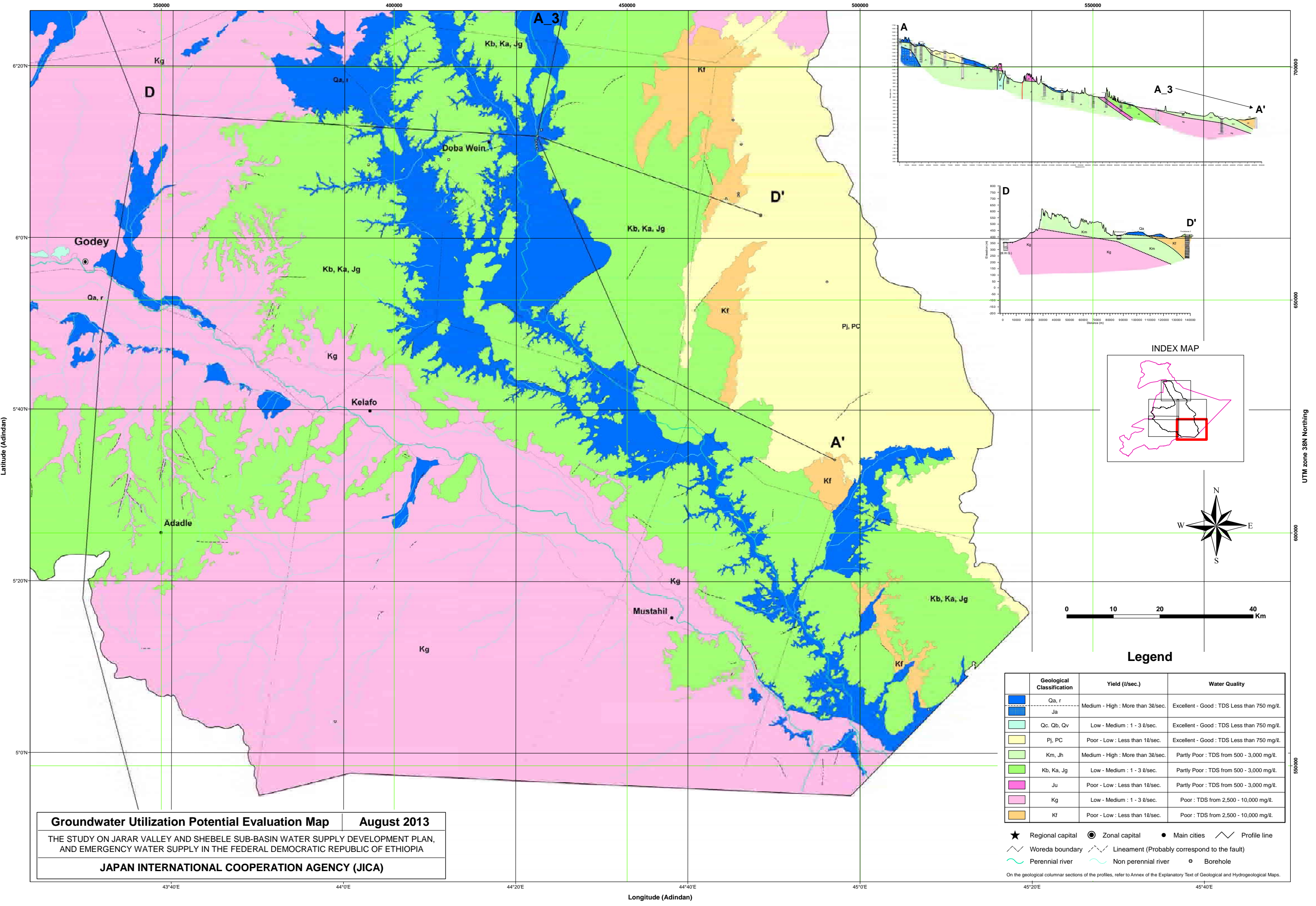
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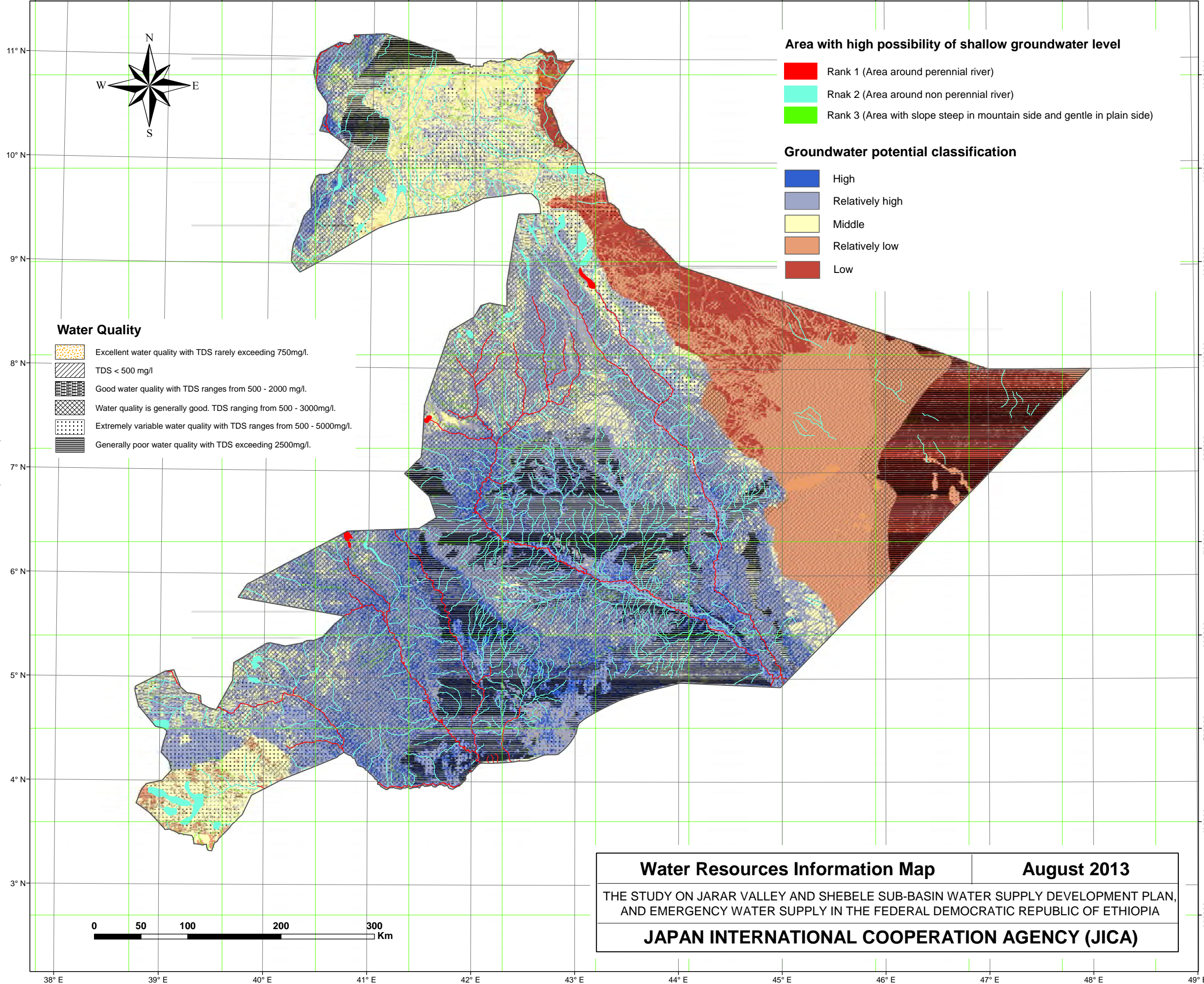
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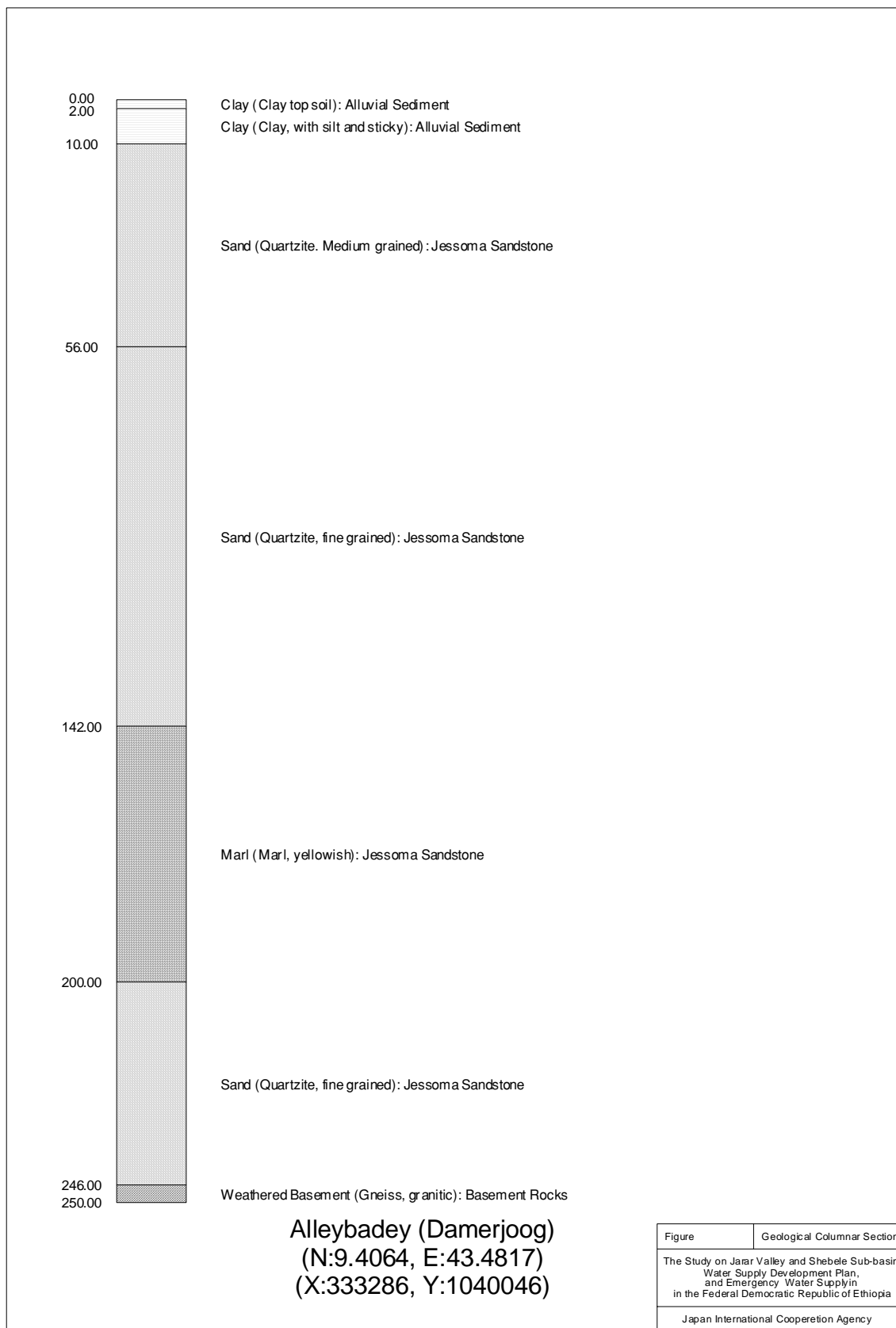
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UTM zone 38N Easting

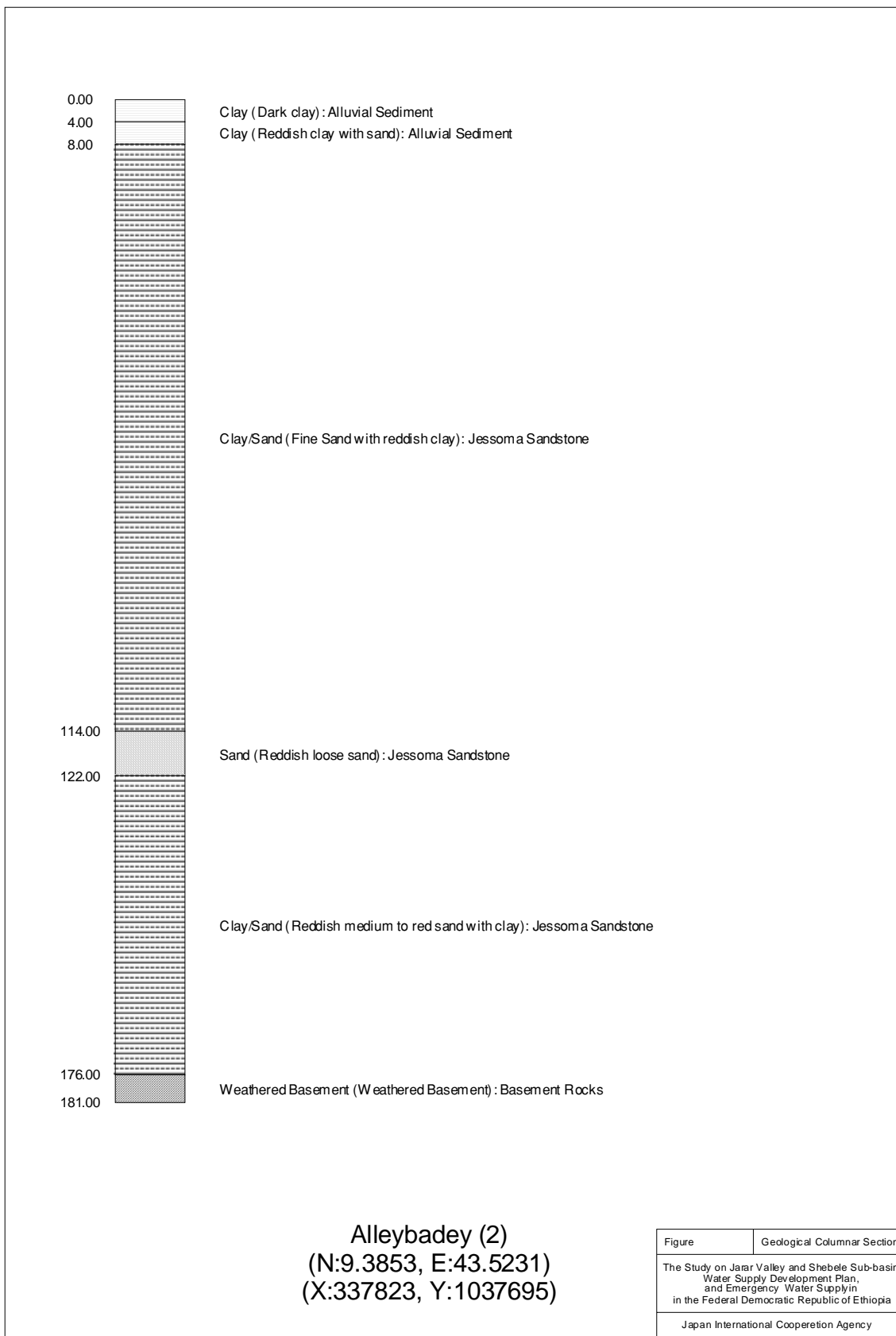
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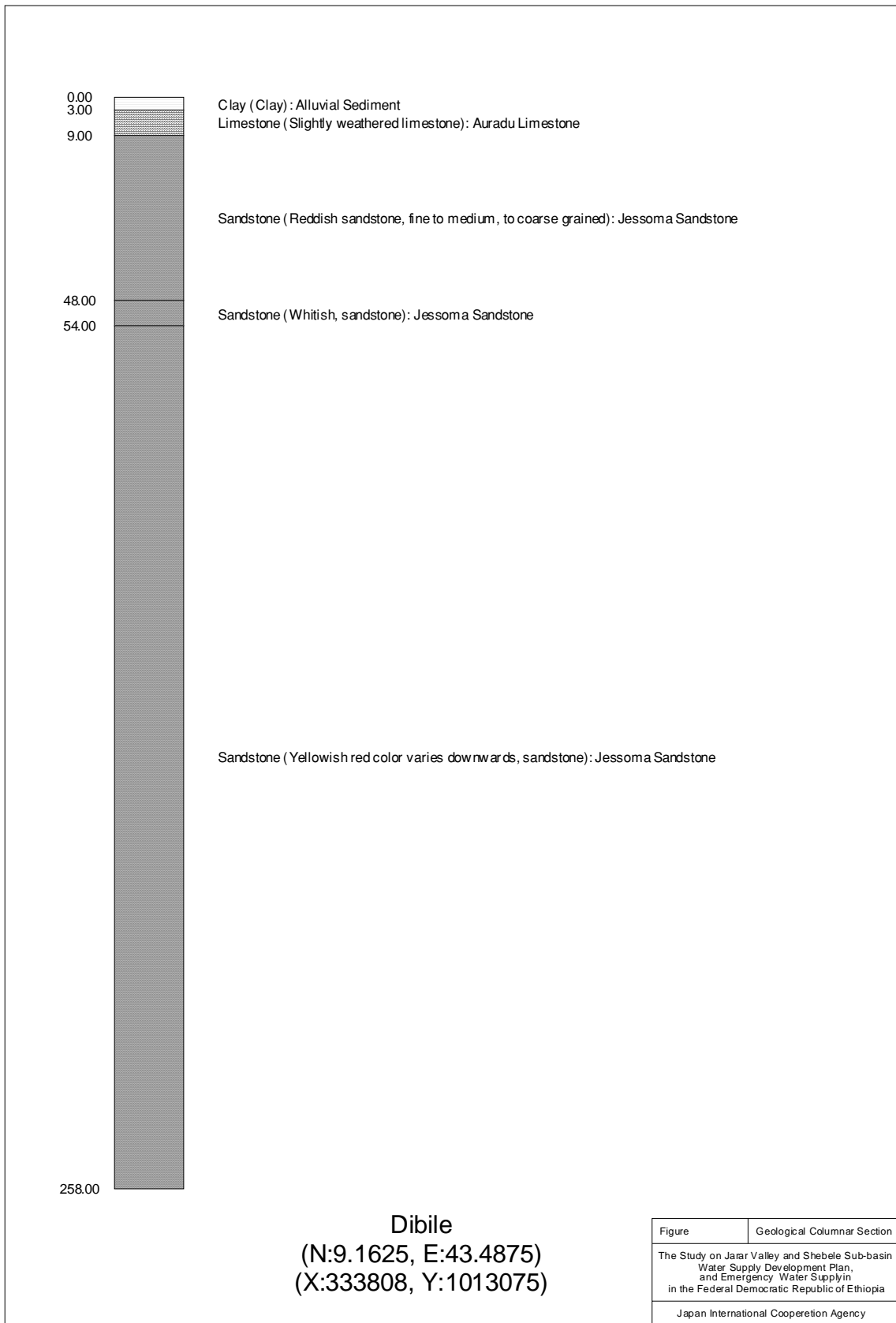
Data 1.2.4 : ソマリ州の主な地質柱状図 (1/41)



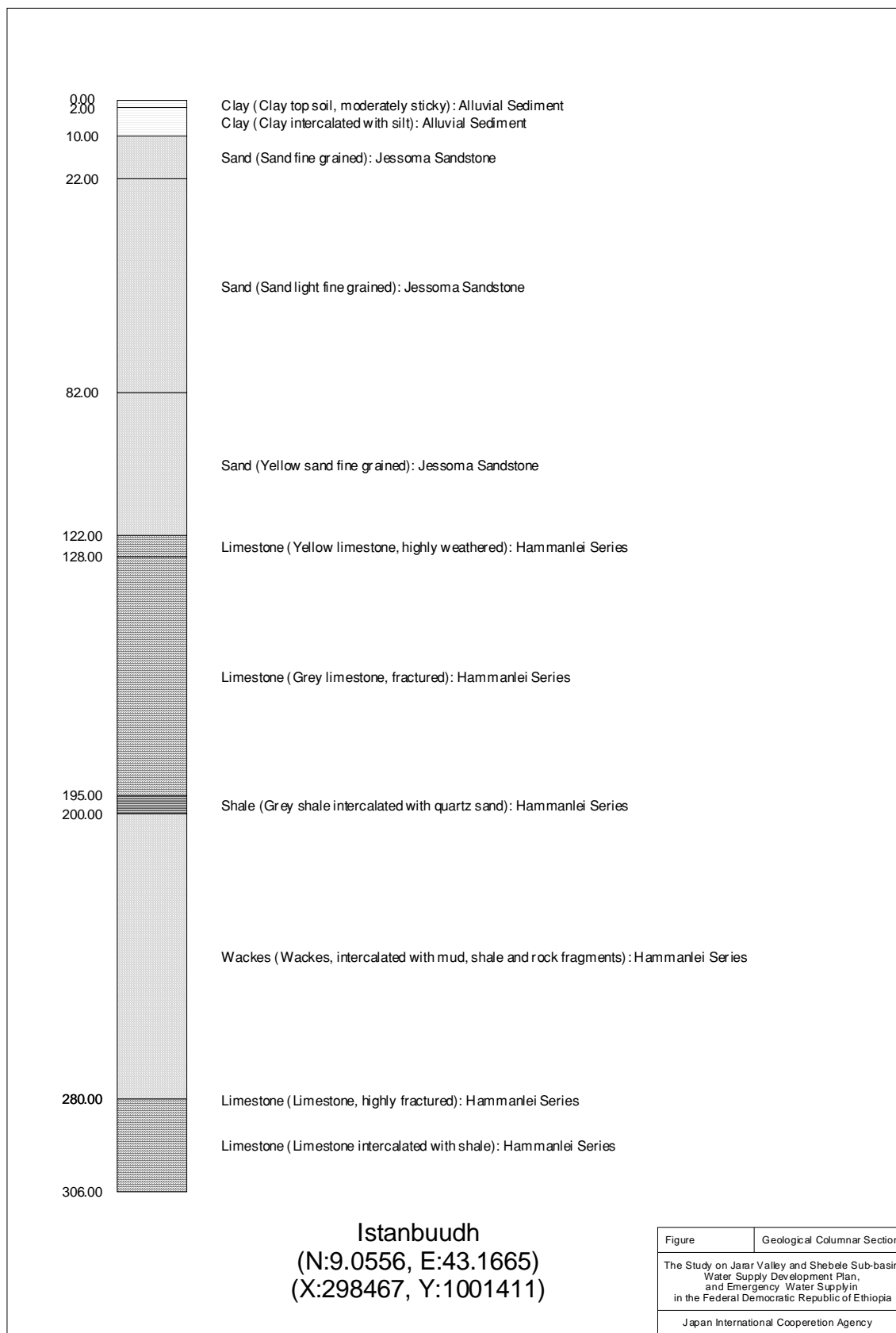
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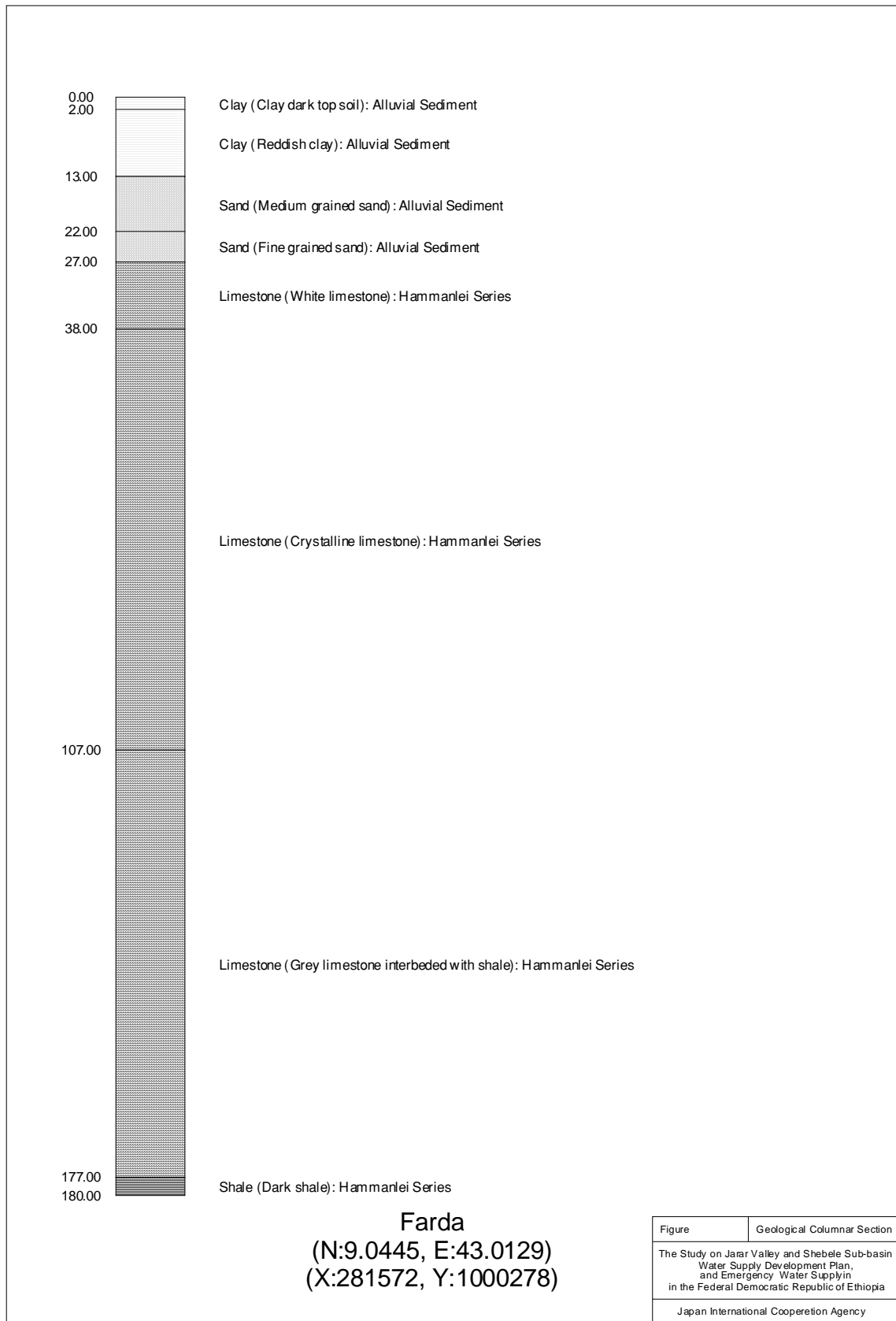
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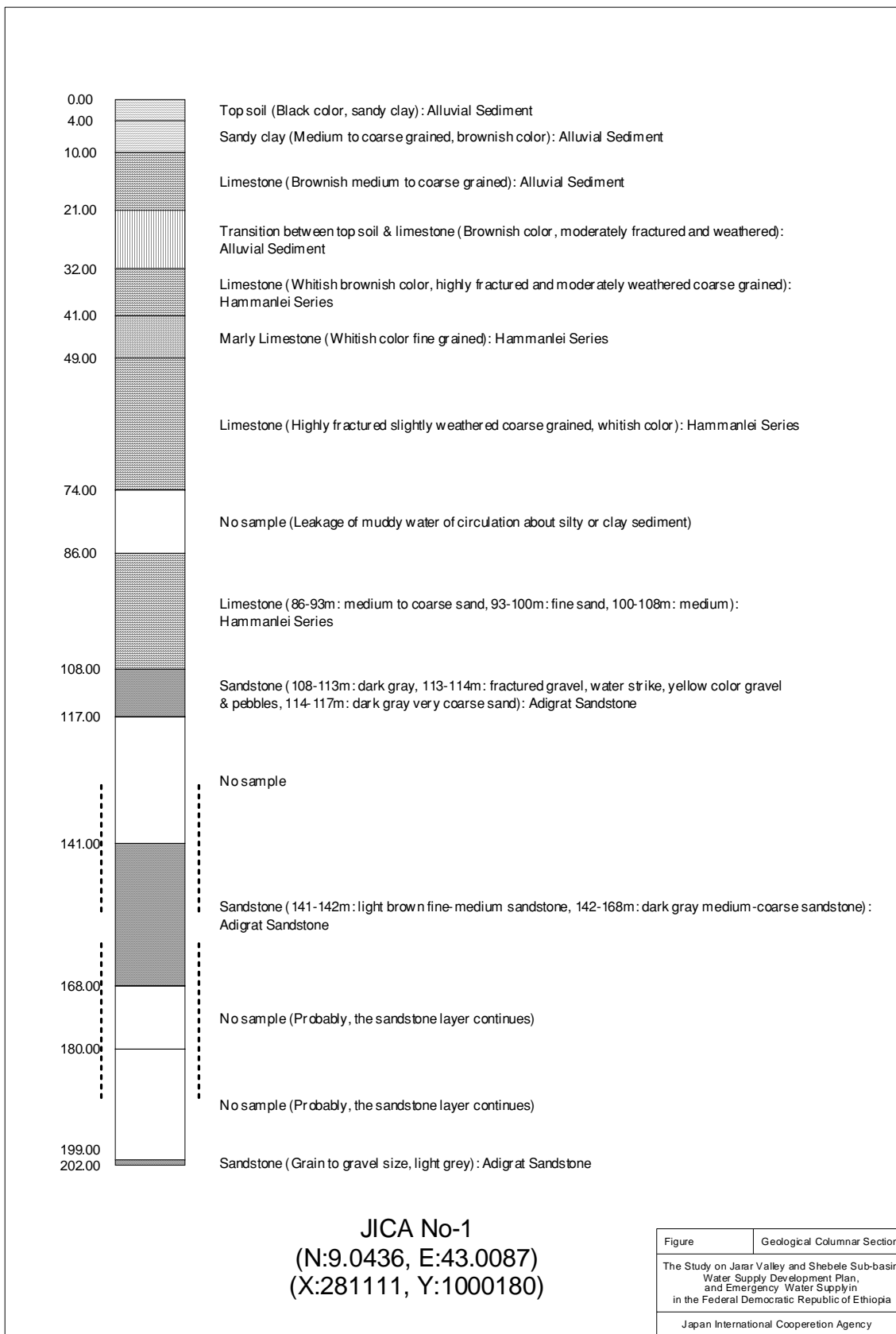
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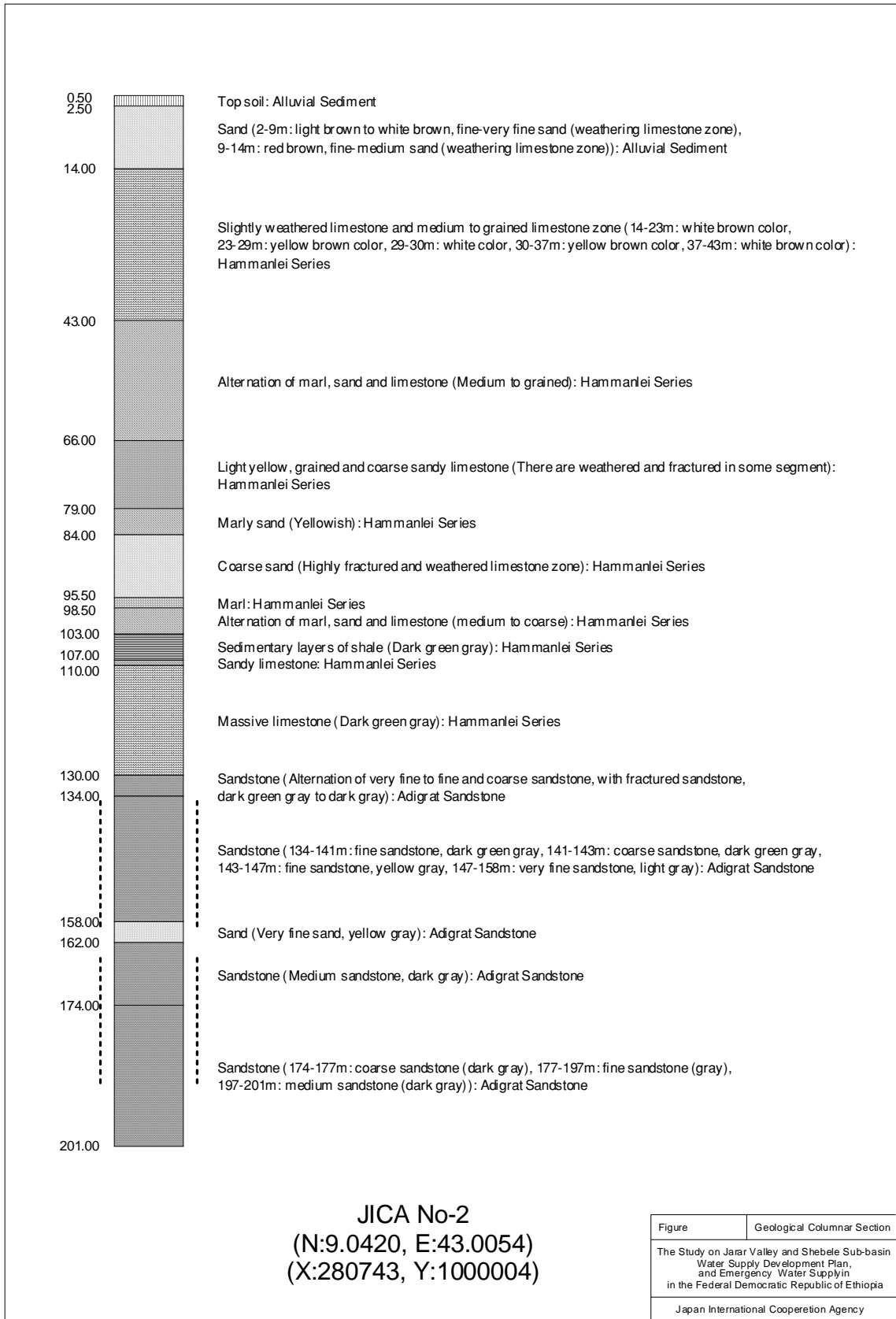
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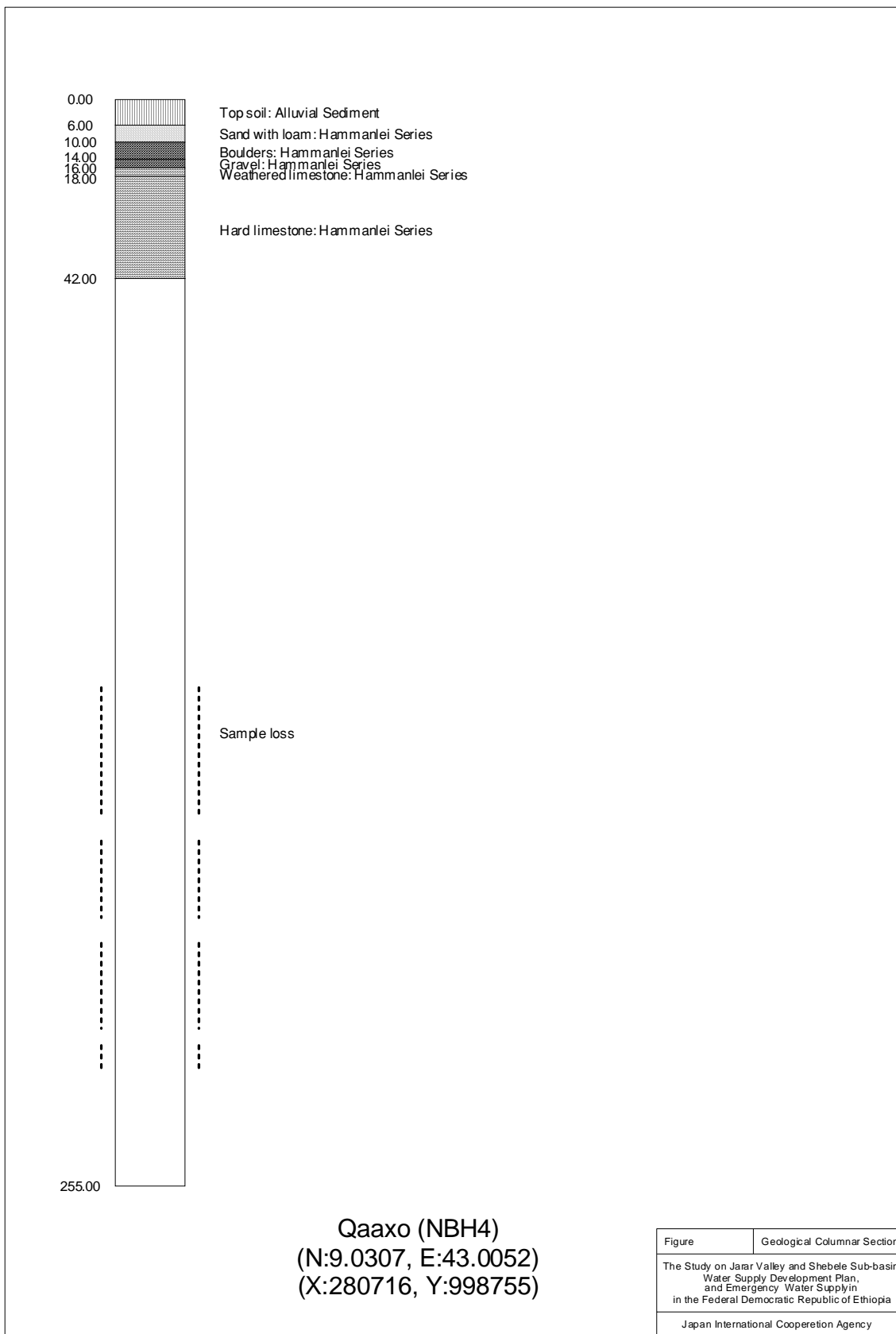
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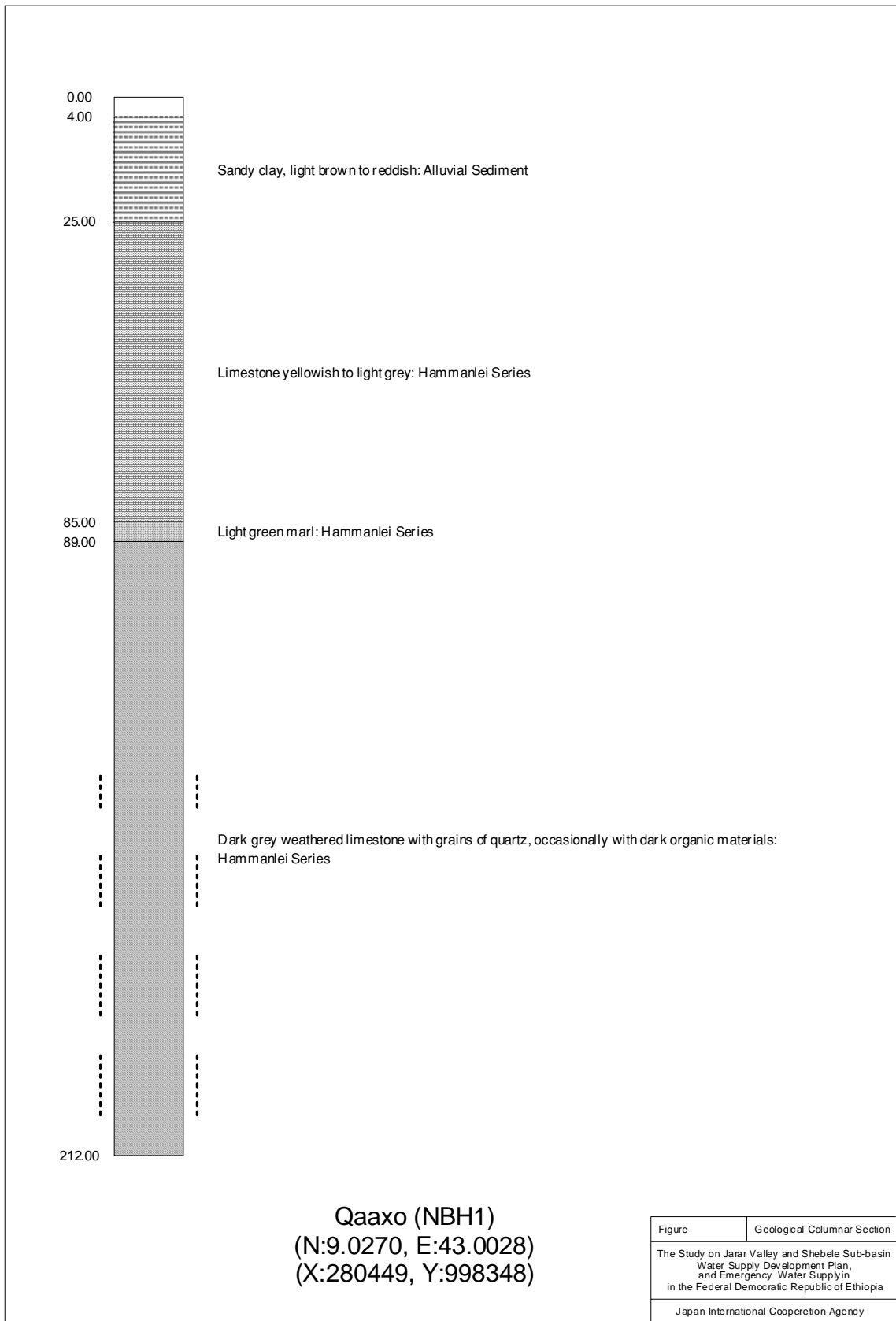
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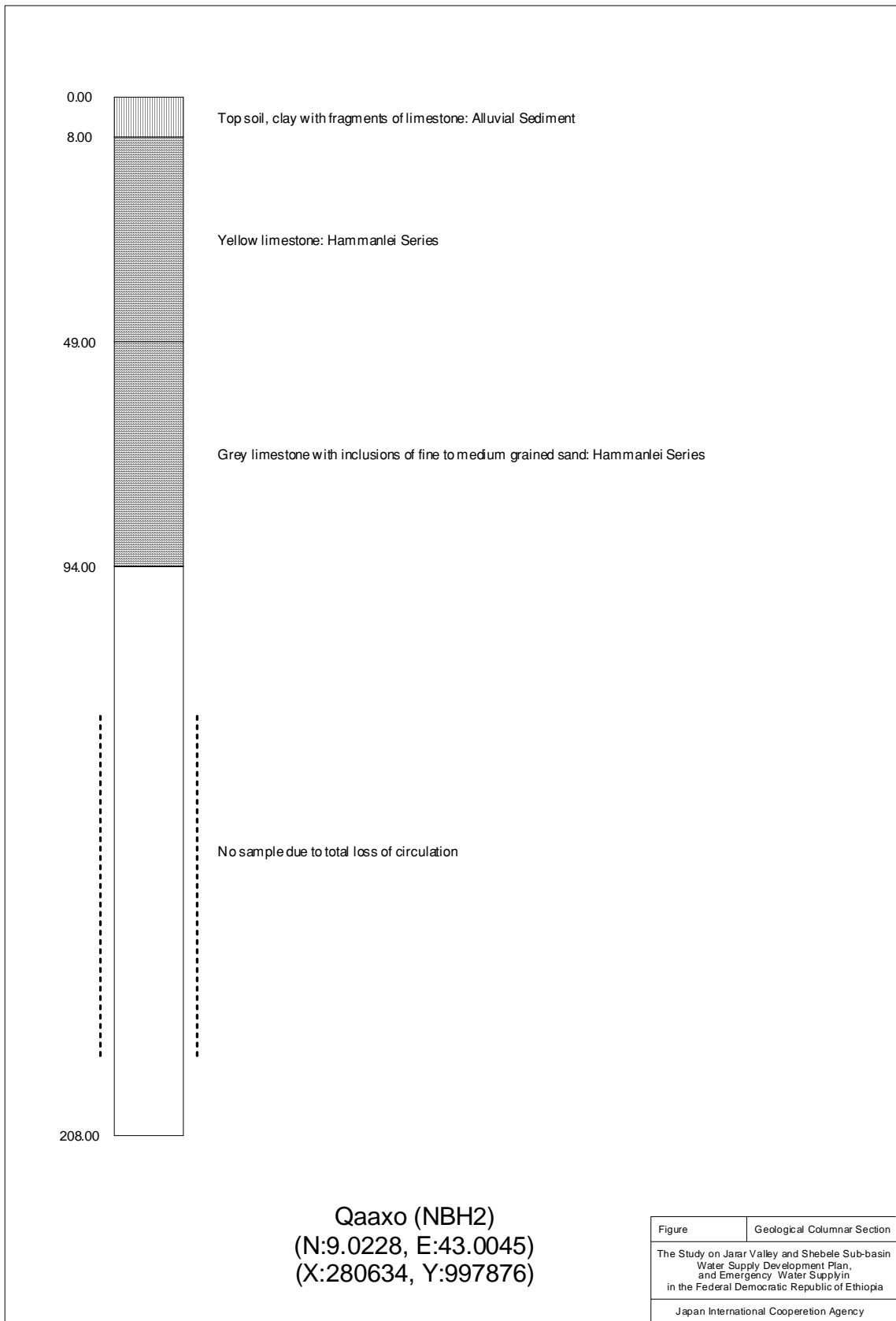
Data 1.2.4 : ソマリ州の主な地質柱状図 (8/41)



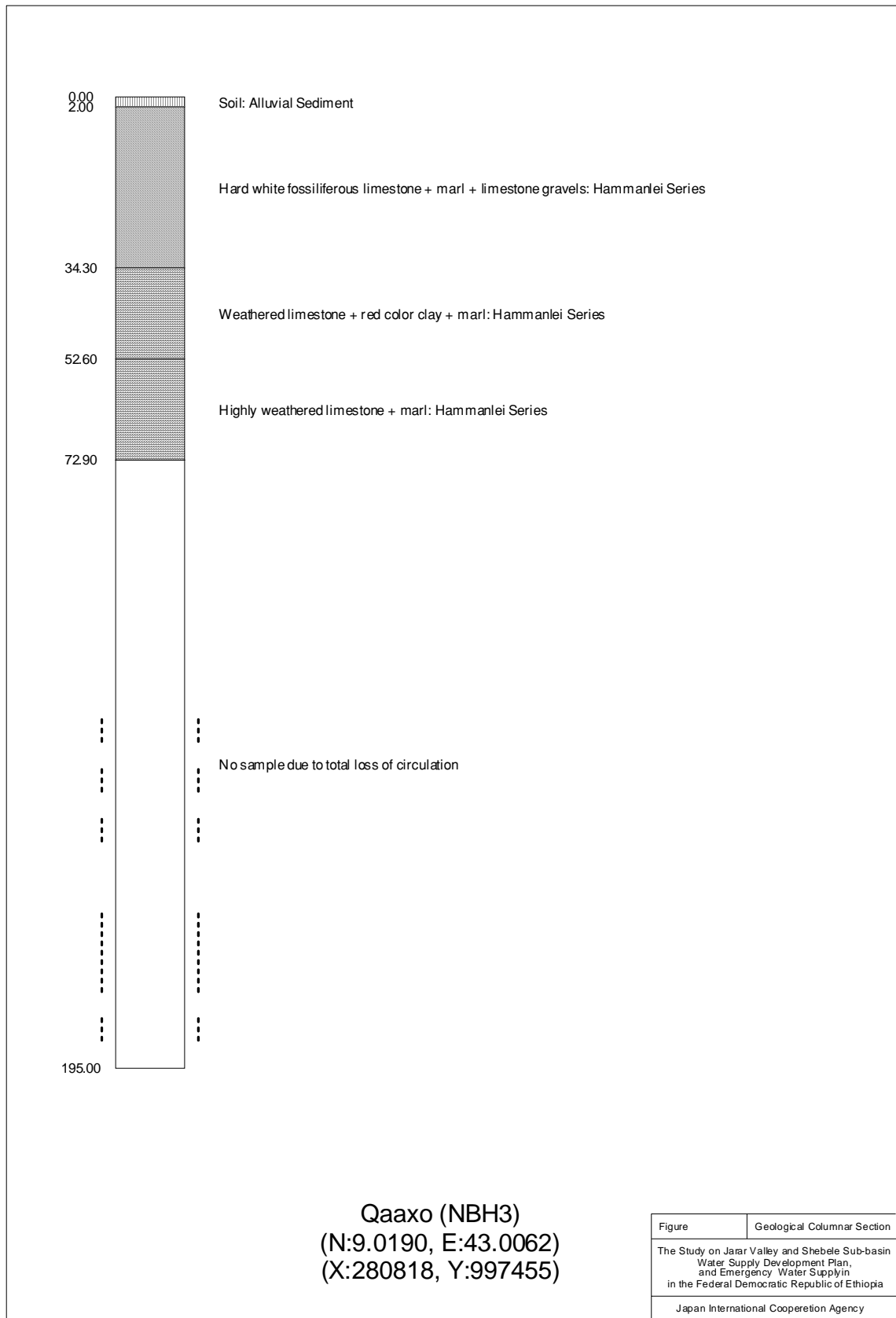
Data 1.2.4 : ソマリ州の主な地質柱状図 (9/41)



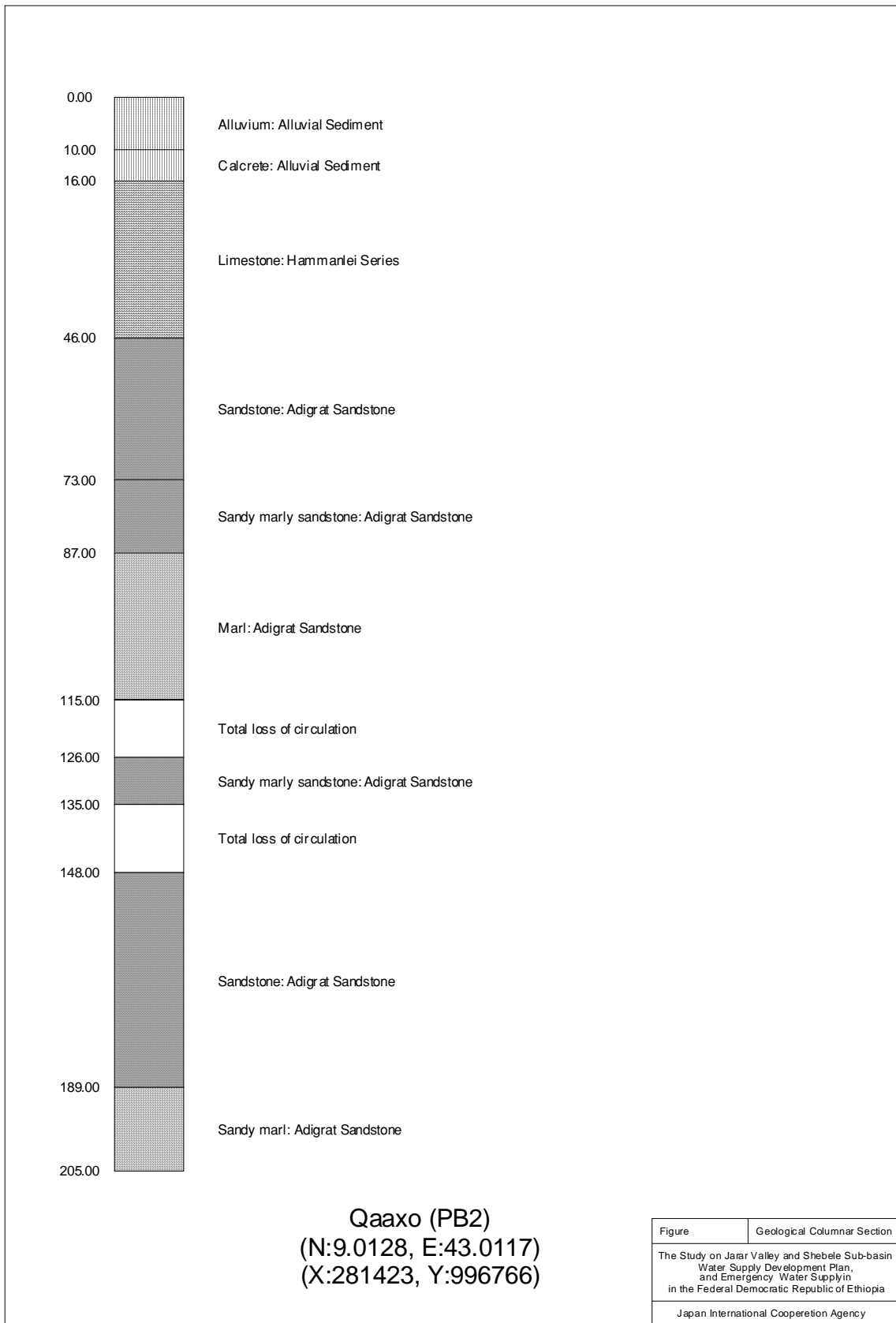
Data 1.2.4: ソマリ州の主な地質柱状図 (10/41)



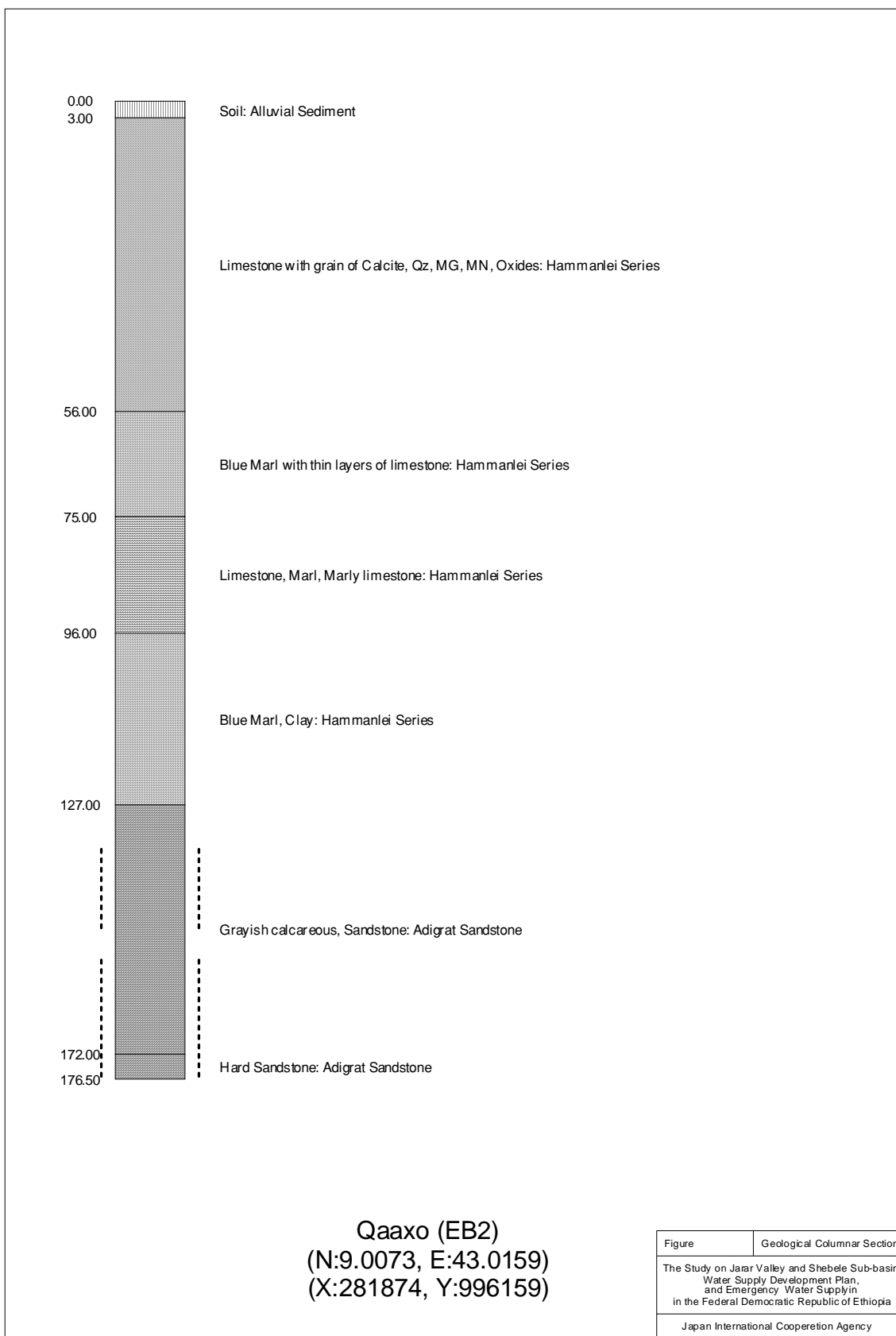
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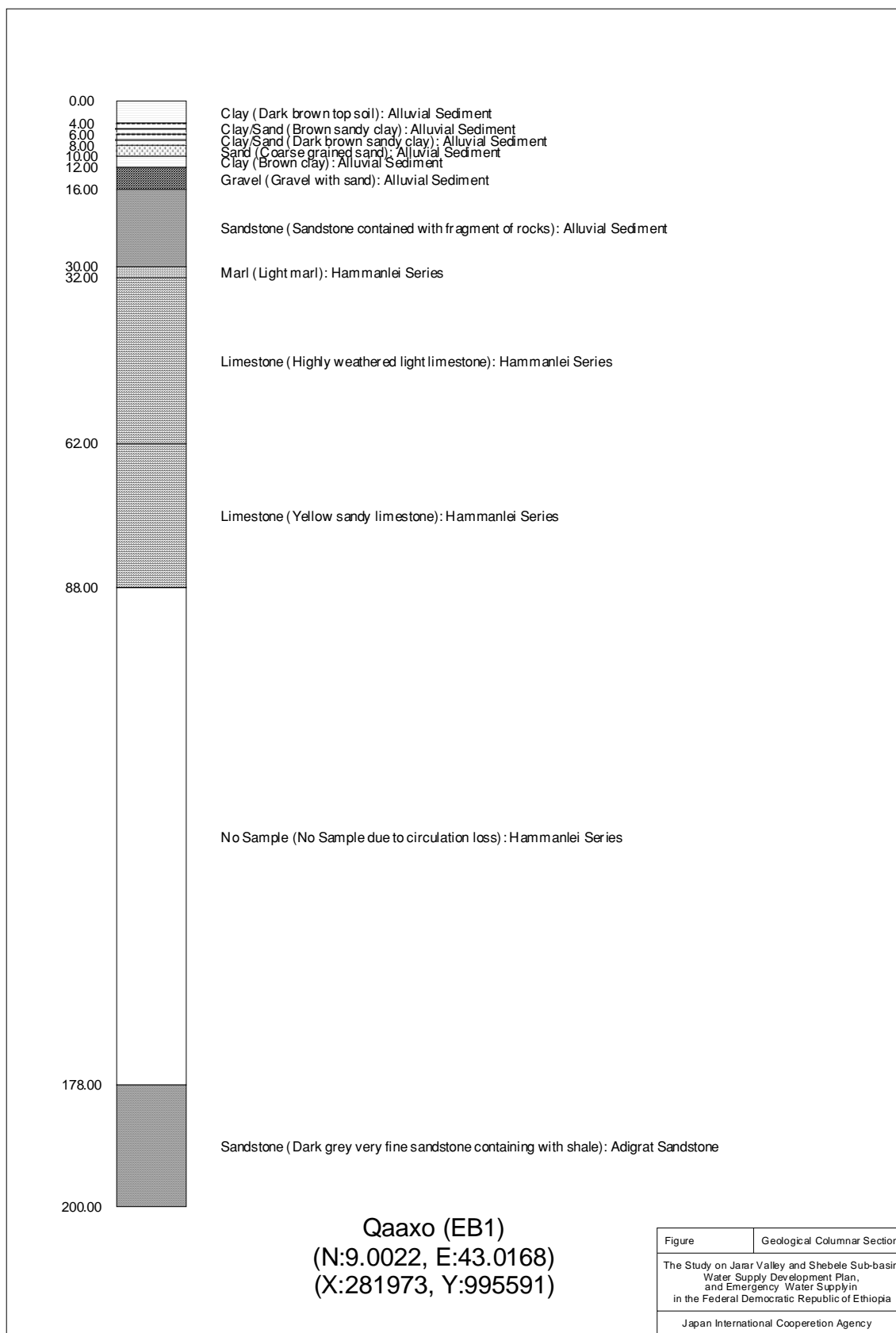
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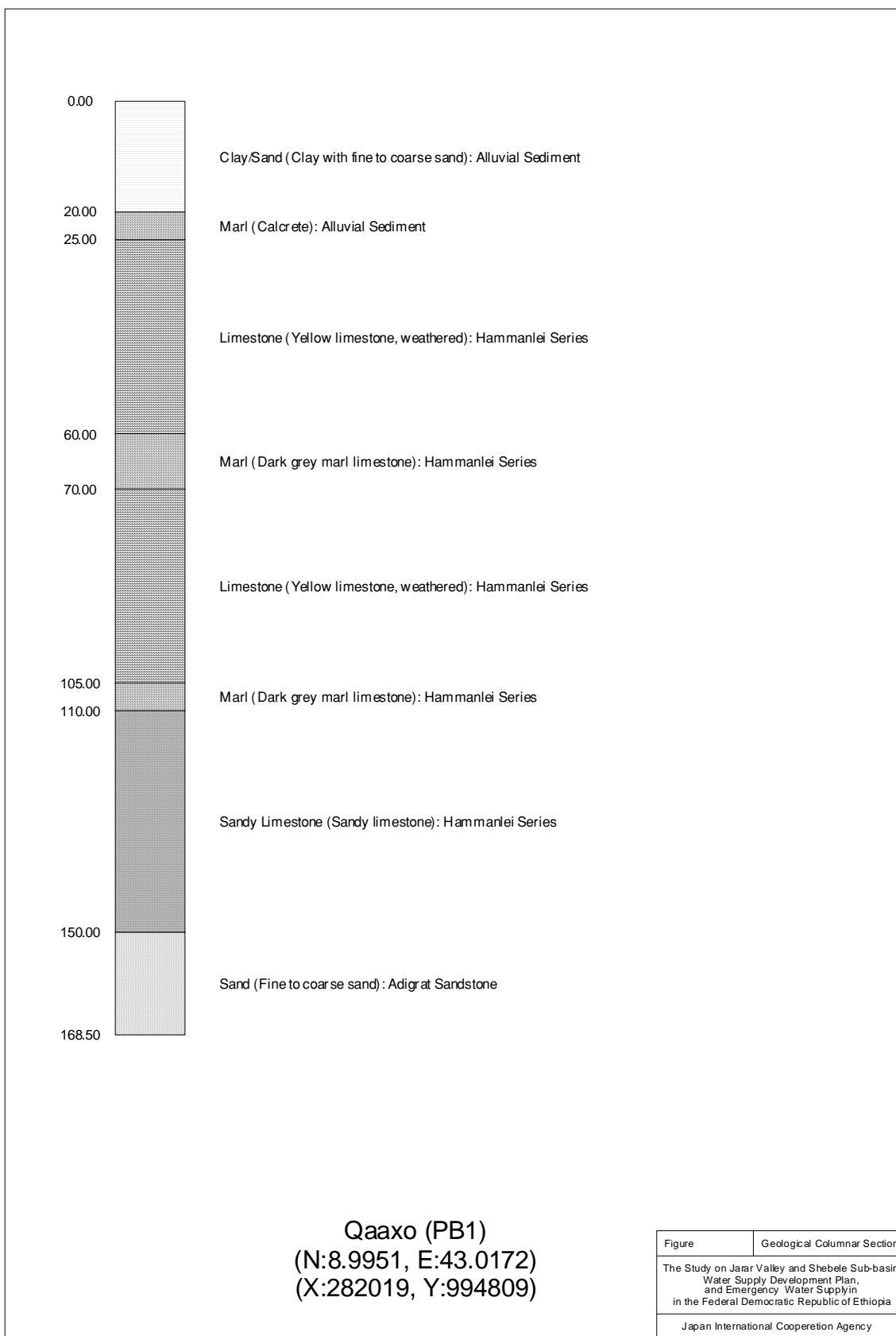
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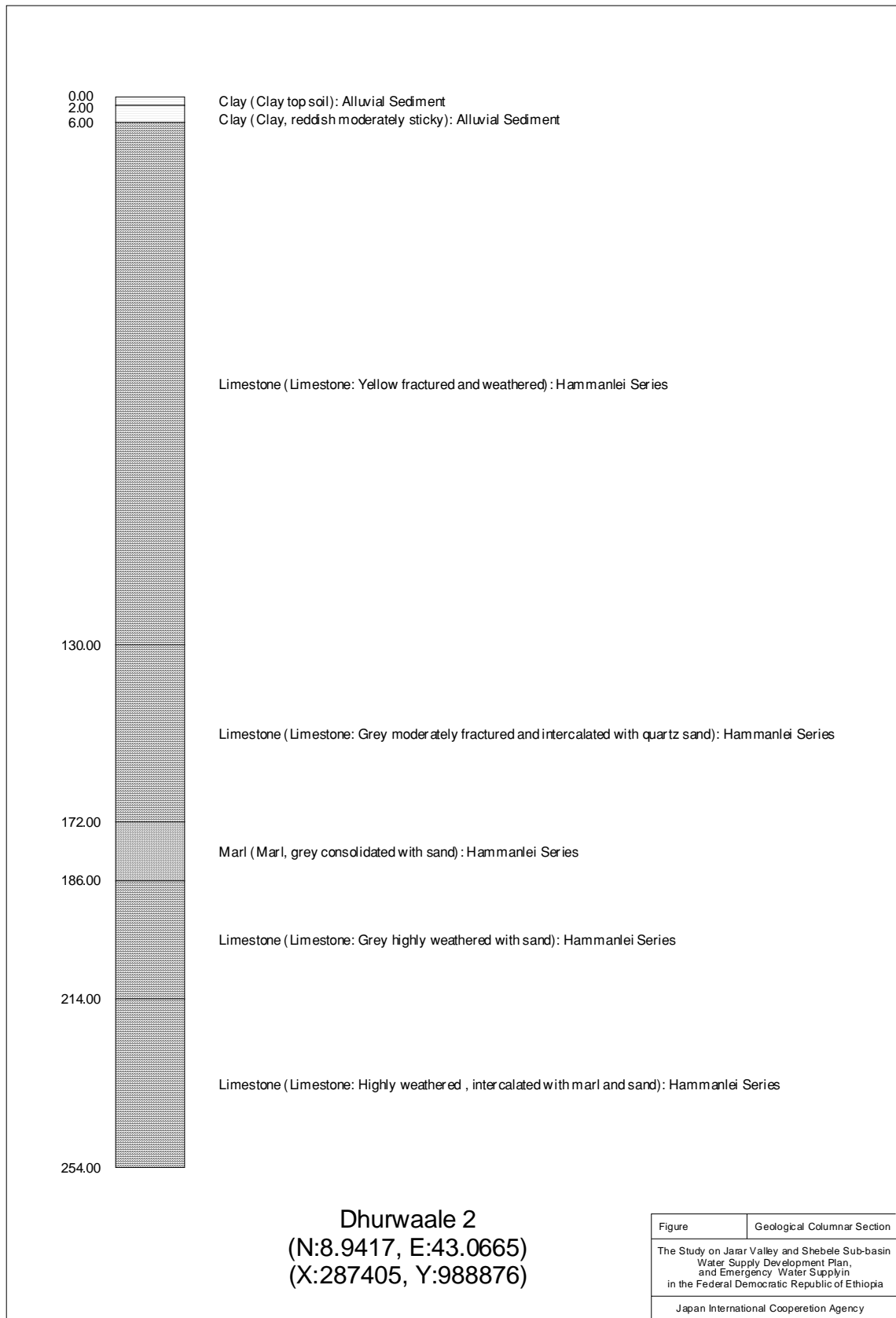
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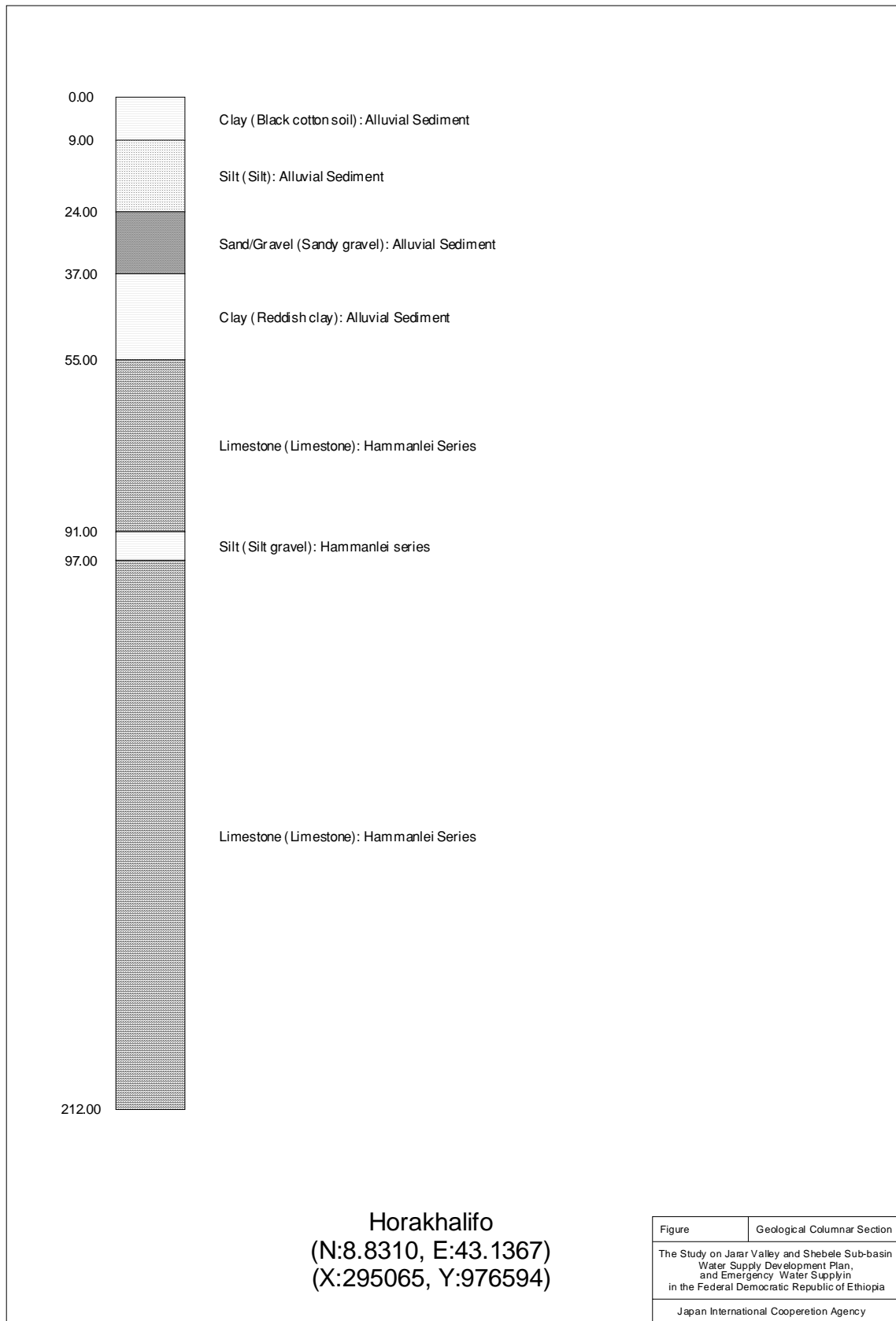
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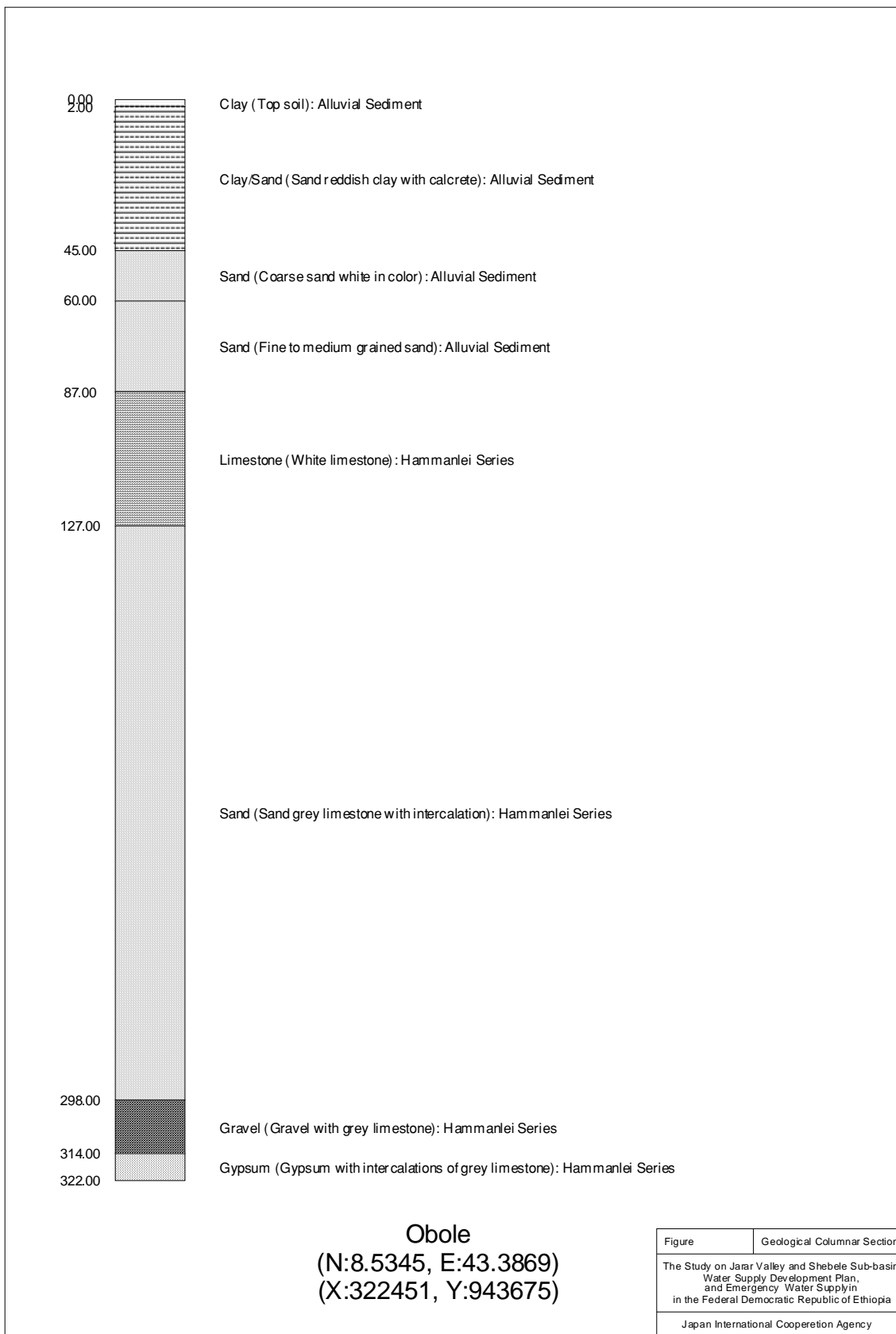
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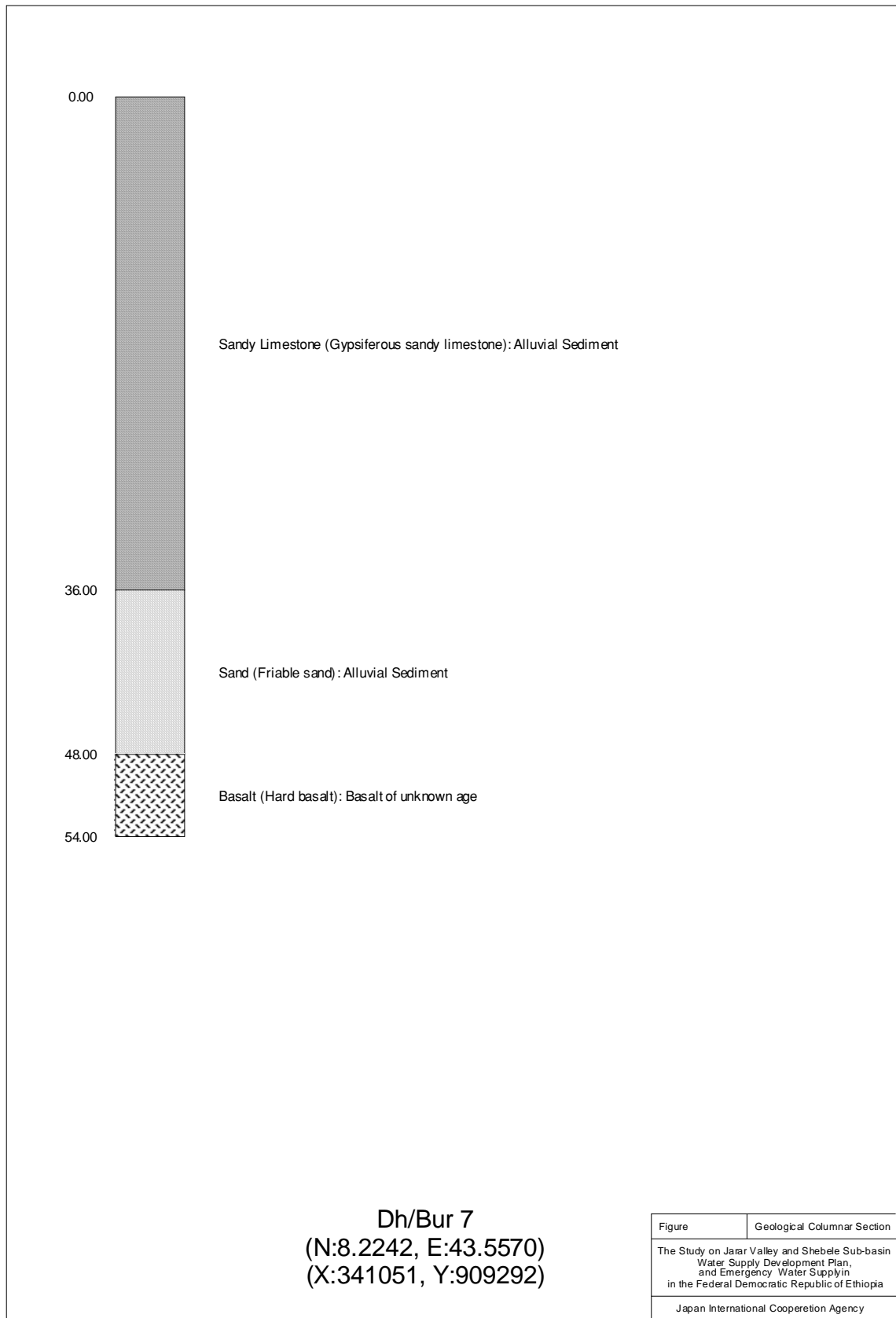
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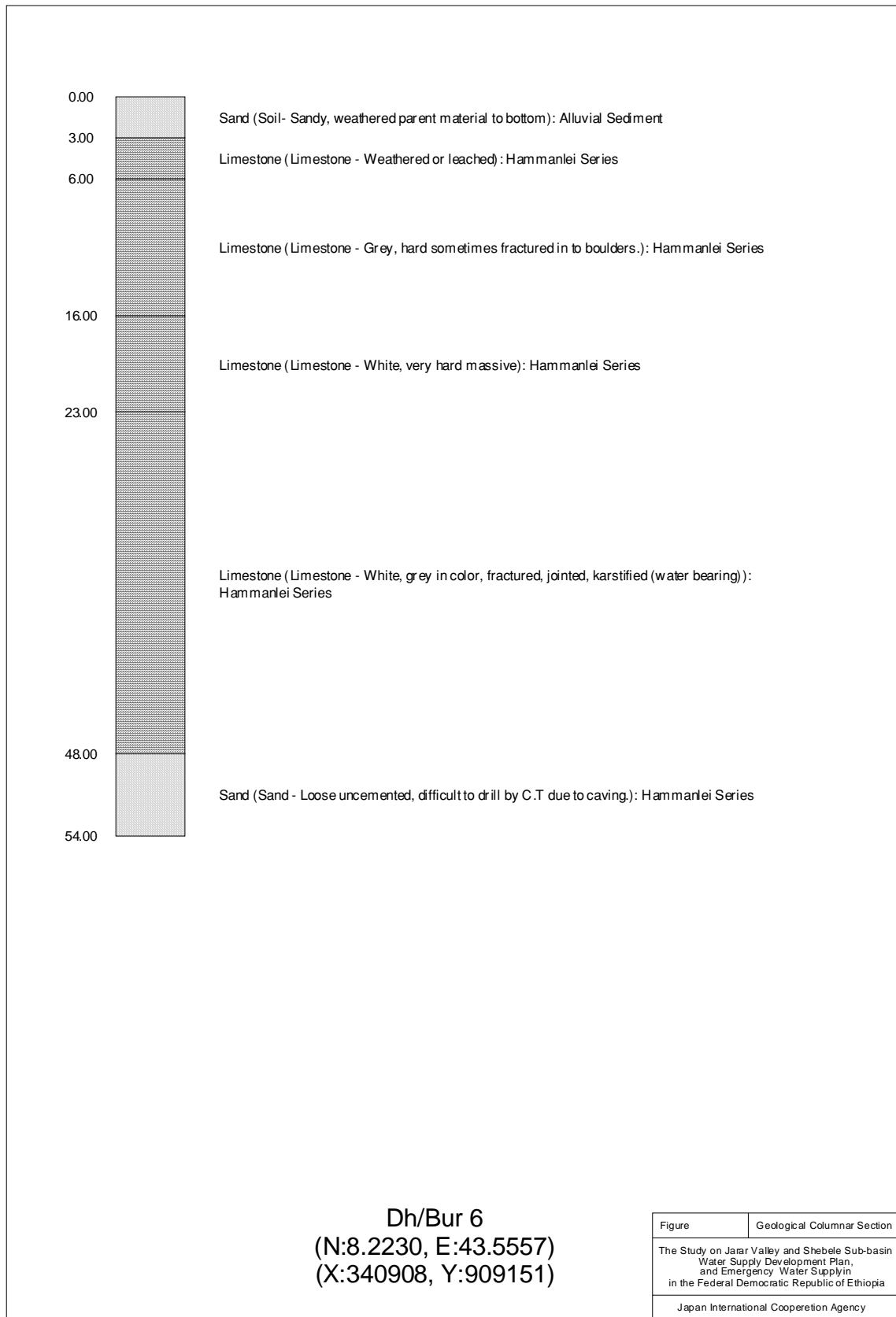
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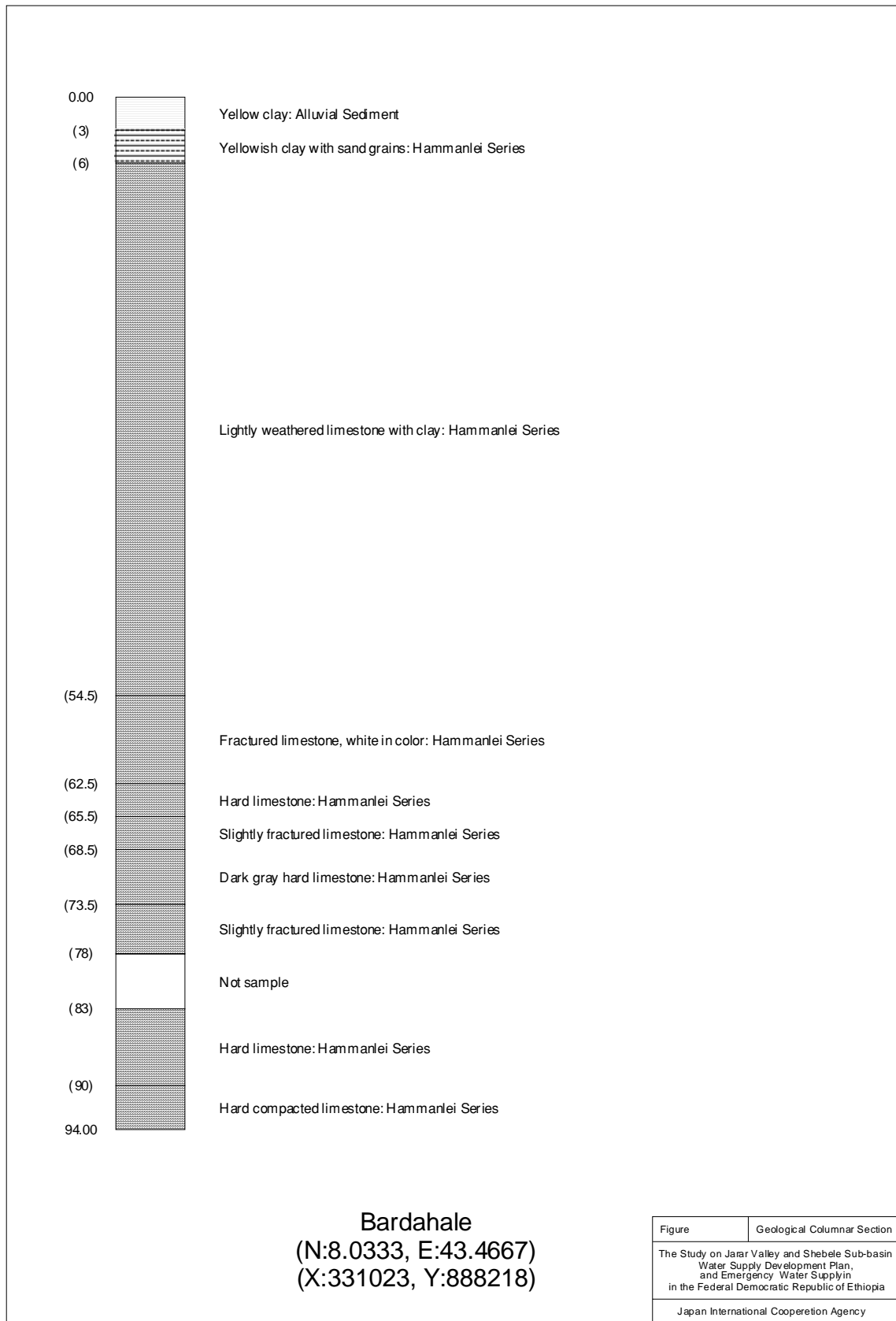
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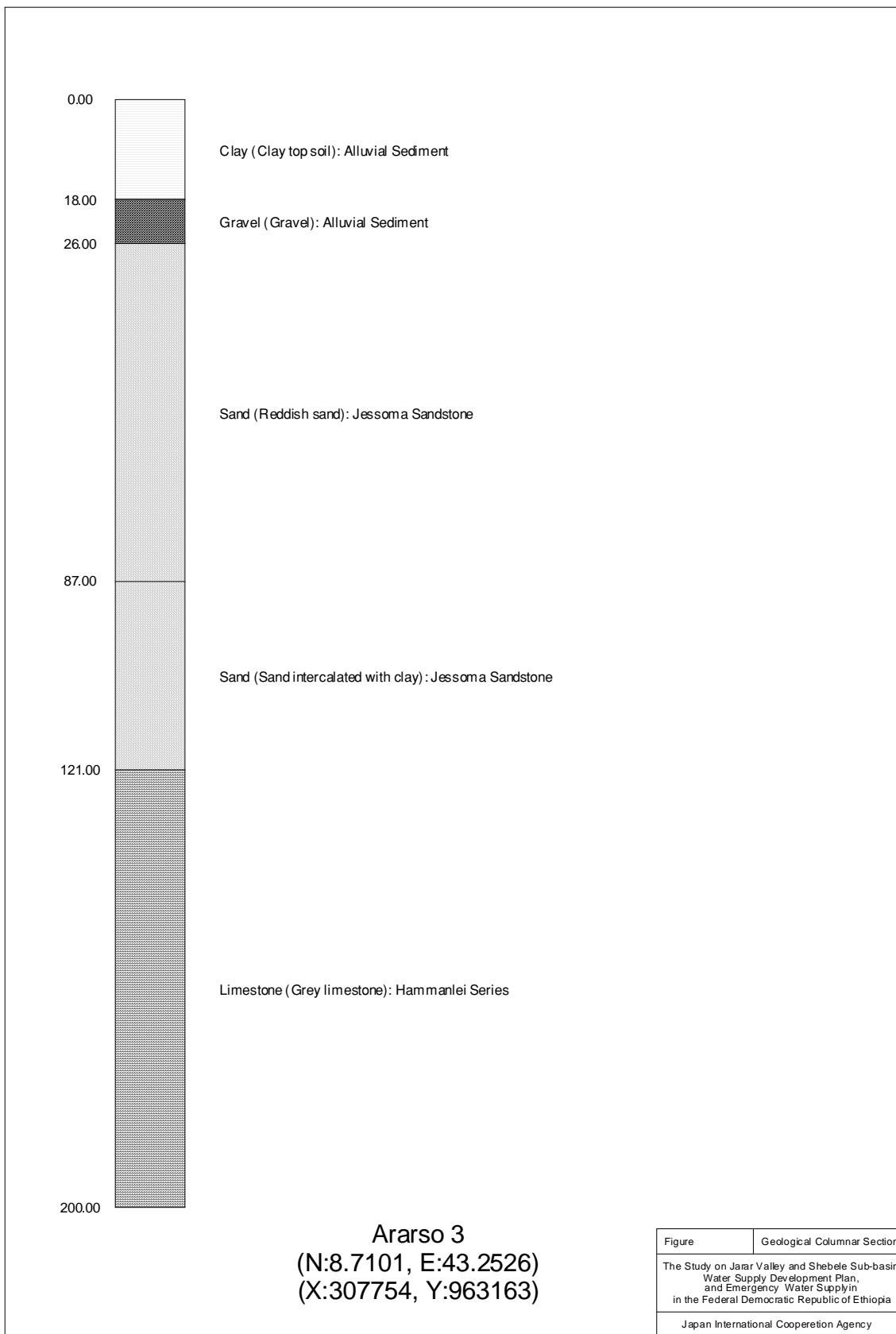
Data 1.2.4: ソマリ州の主な地質柱状図 (20/41)



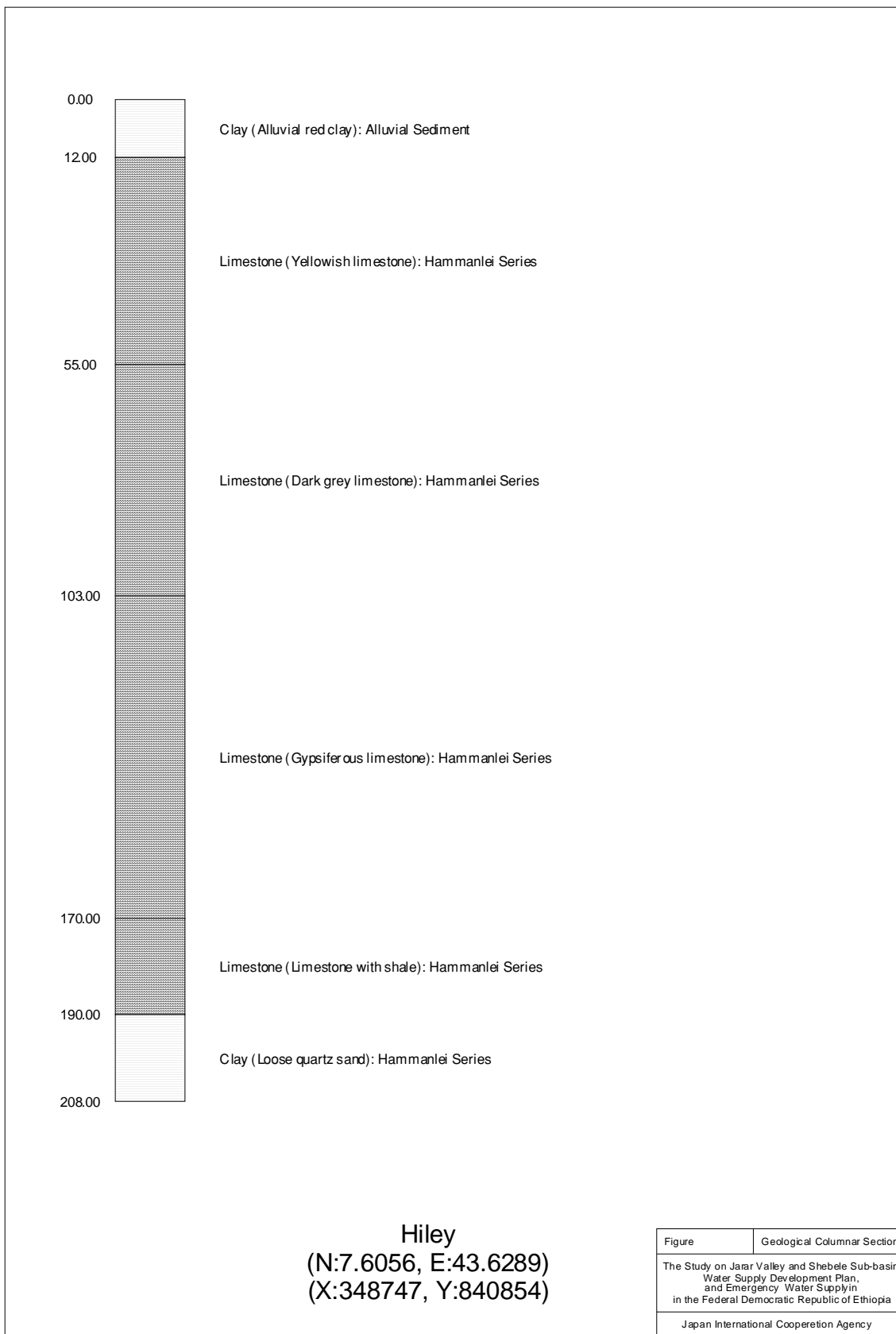
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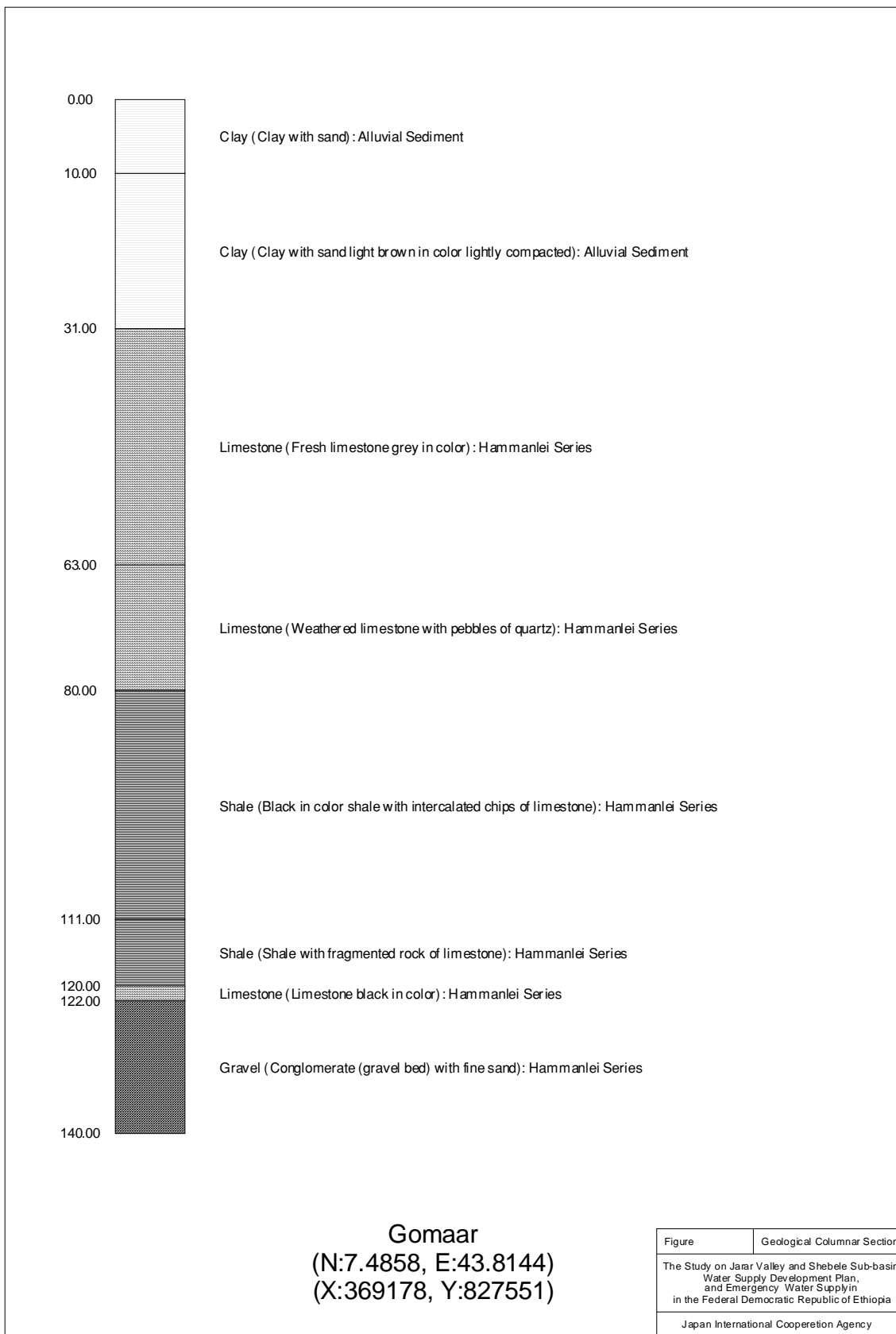
Data 1.2.4: ソマリ州の主な地質柱状図 (22/41)



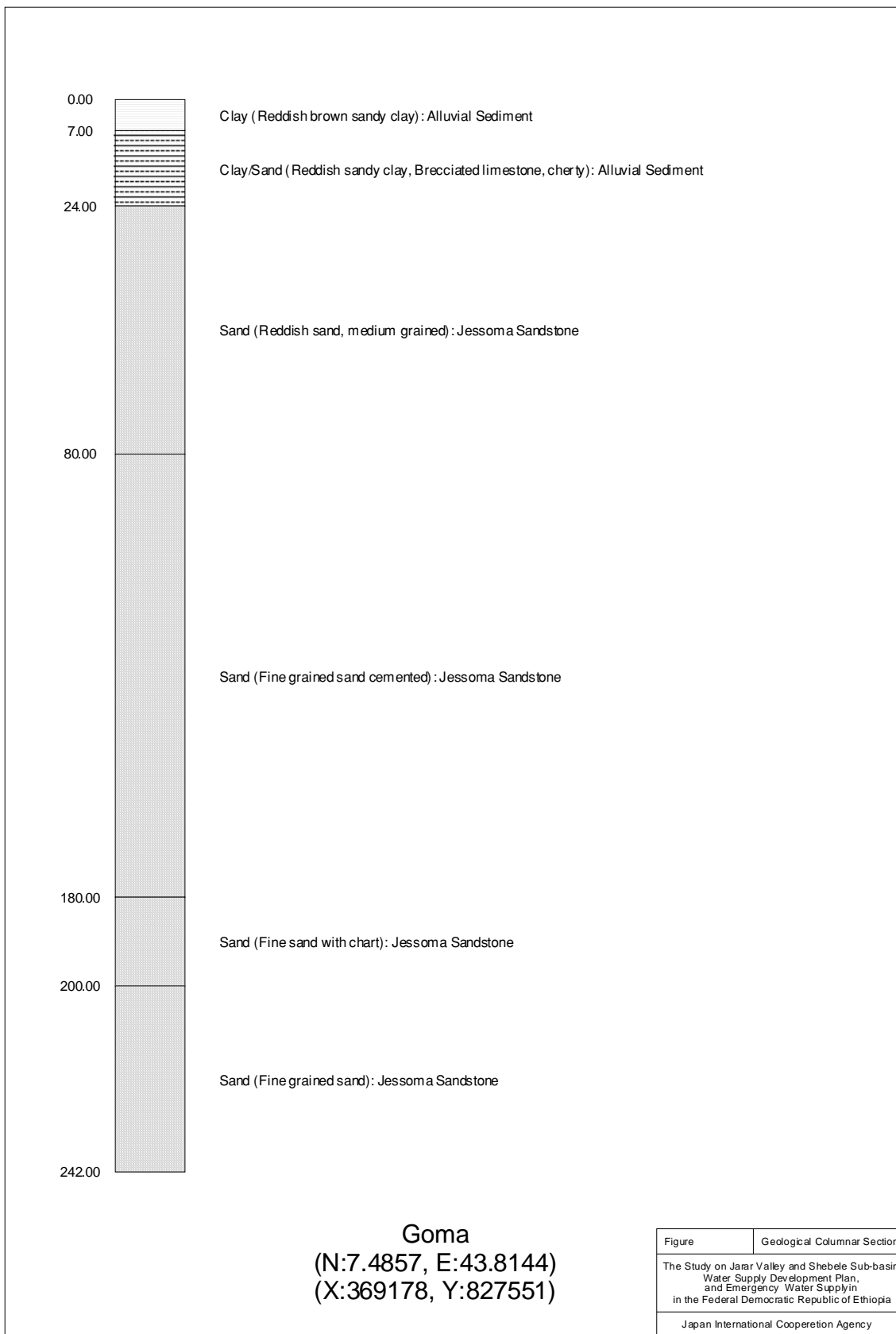
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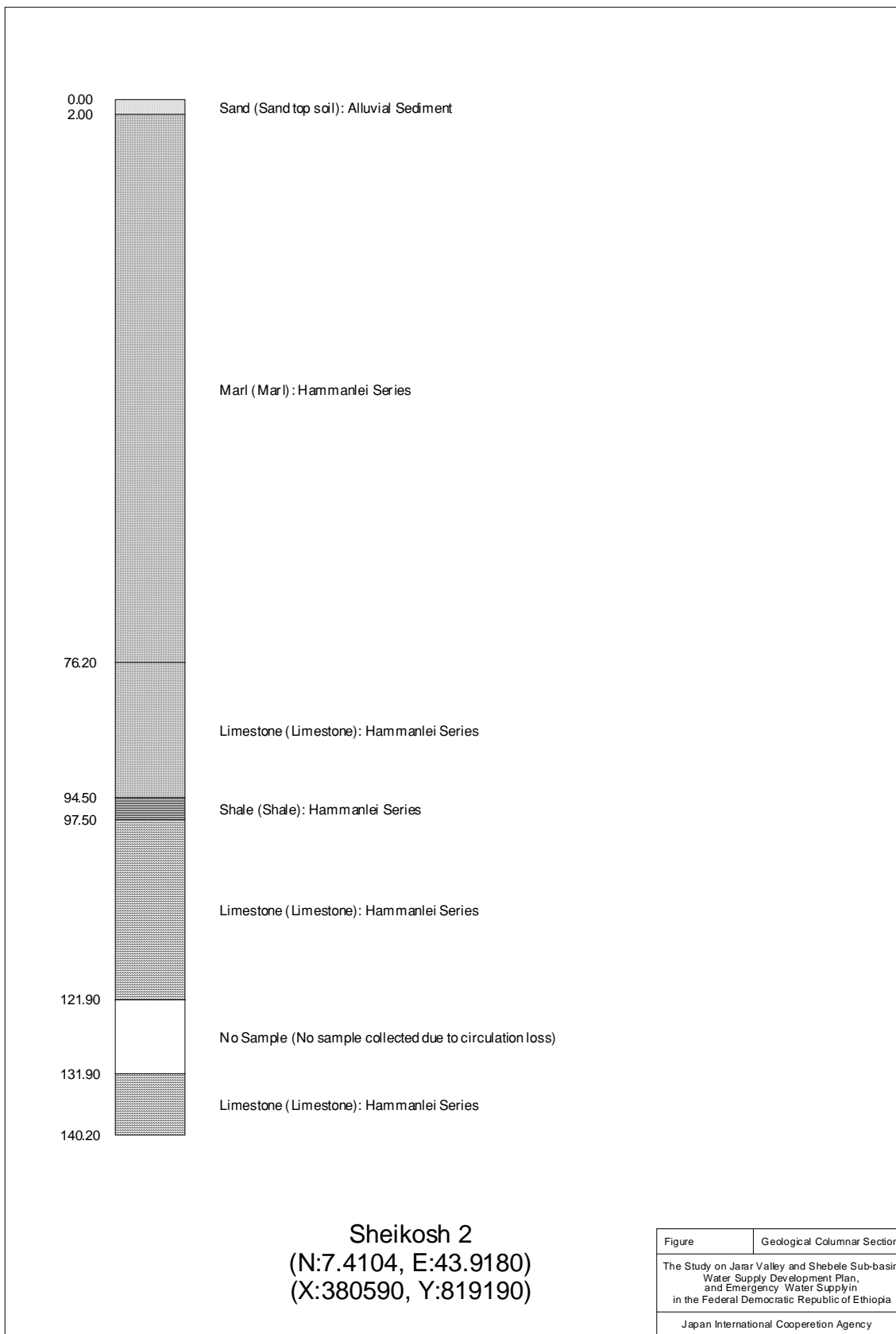
Data 1.2.4 : ソマリ州の主な地質柱状図 (24/41)



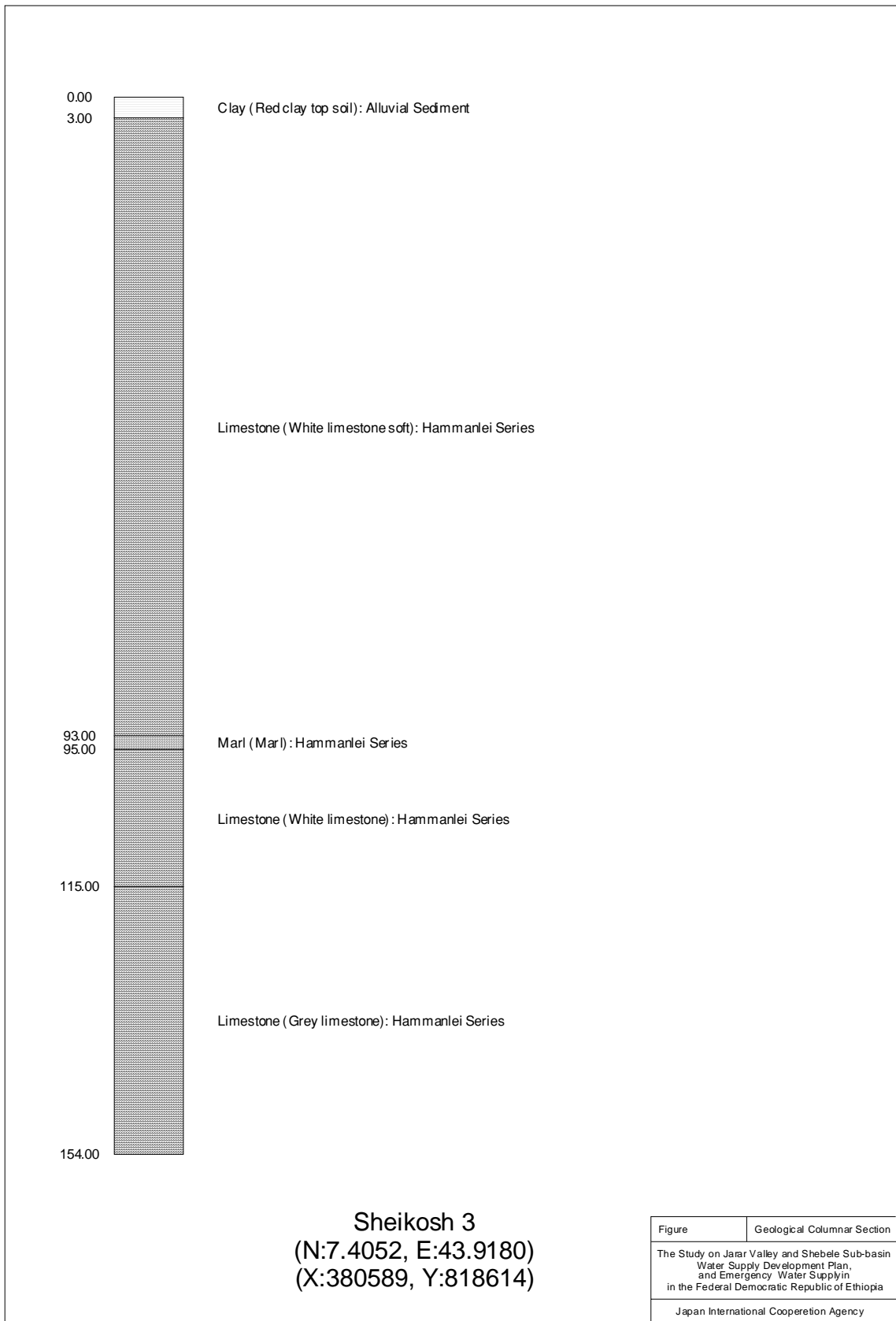
Data 1.2.4 : ソマリ州の主な地質柱状図 (25/41)



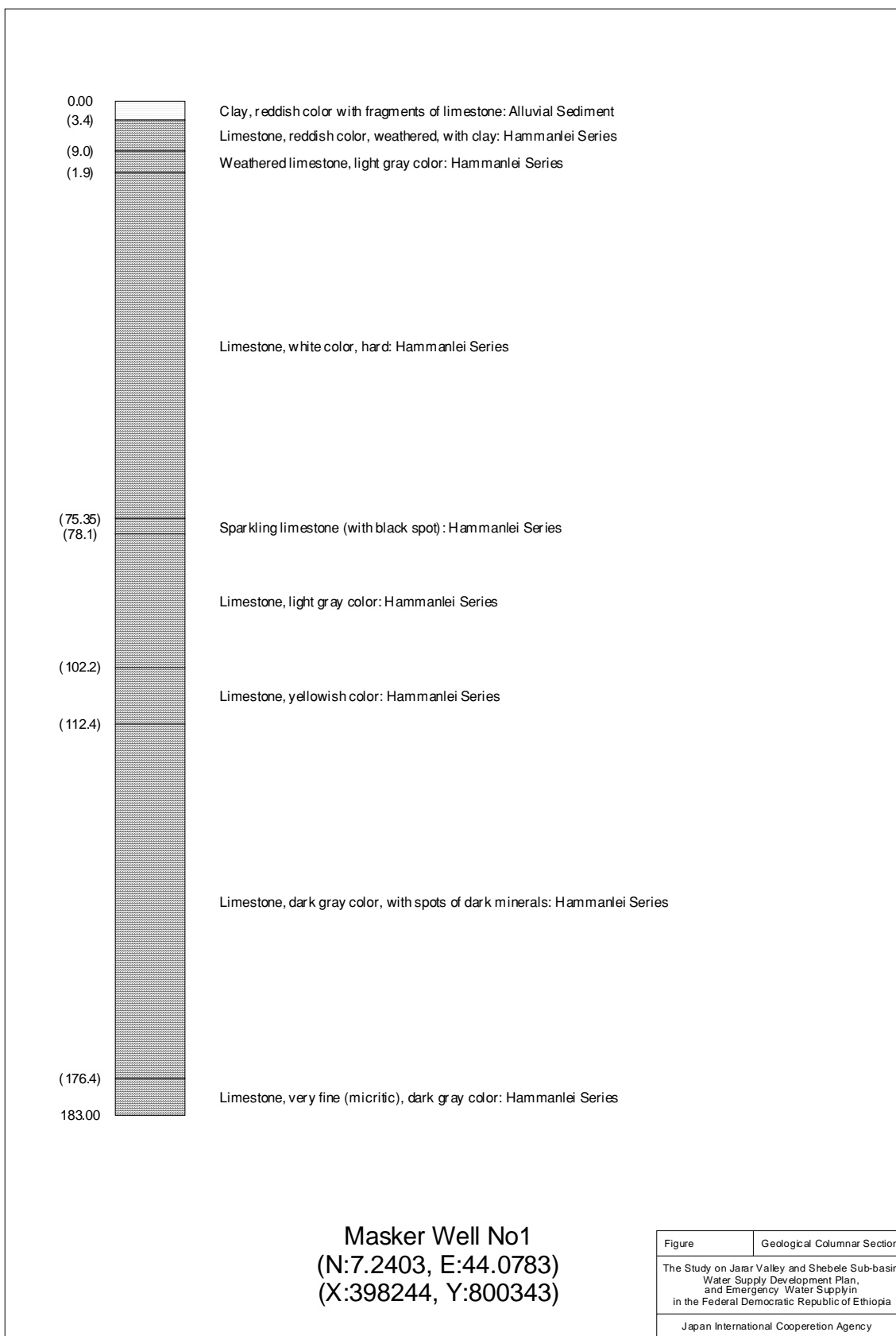
Data 1.2.4: ソマリ州の主な地質柱状図 (26/41)



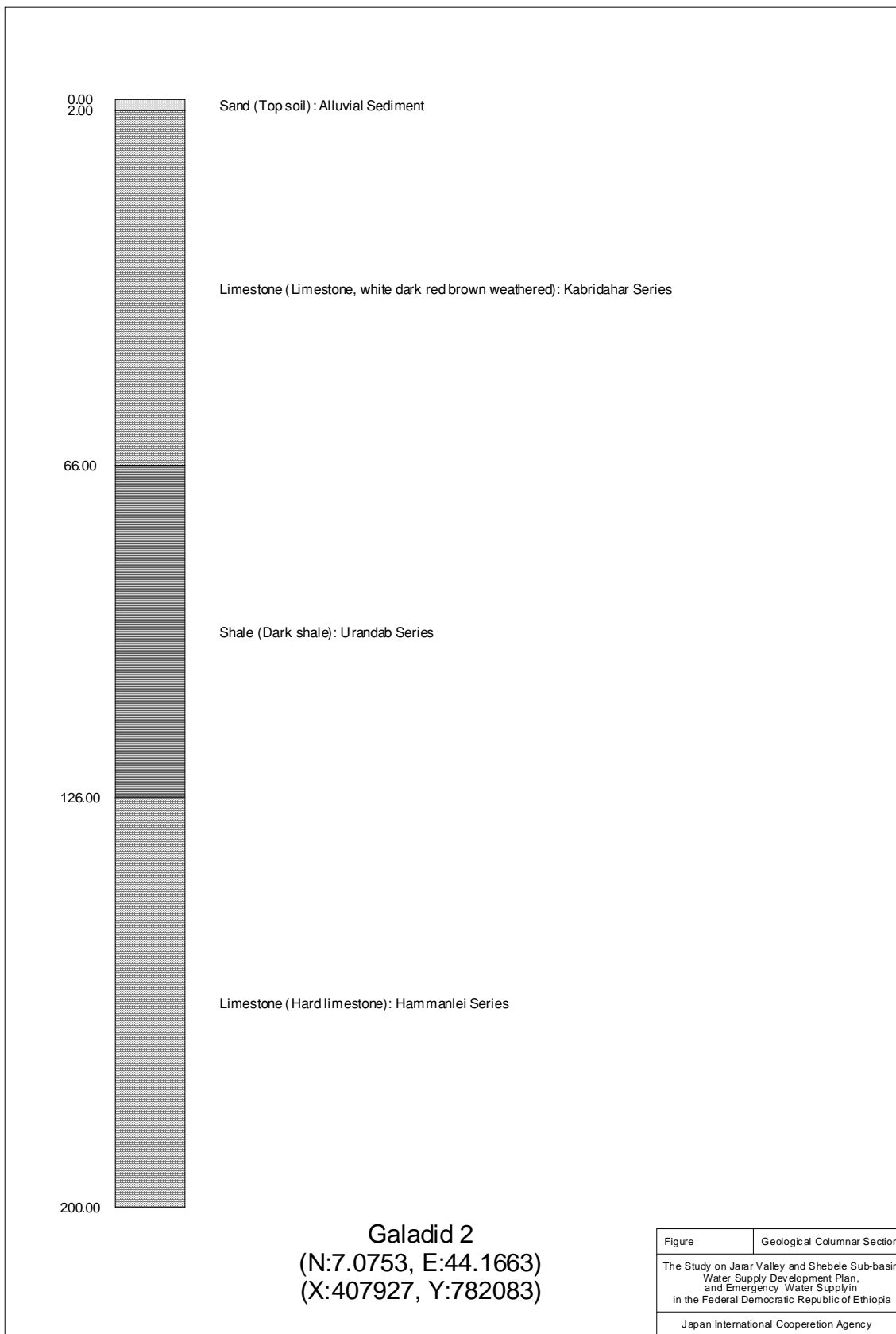
Data 1.2.4: ソマリ州の主な地質柱状図 (27/41)



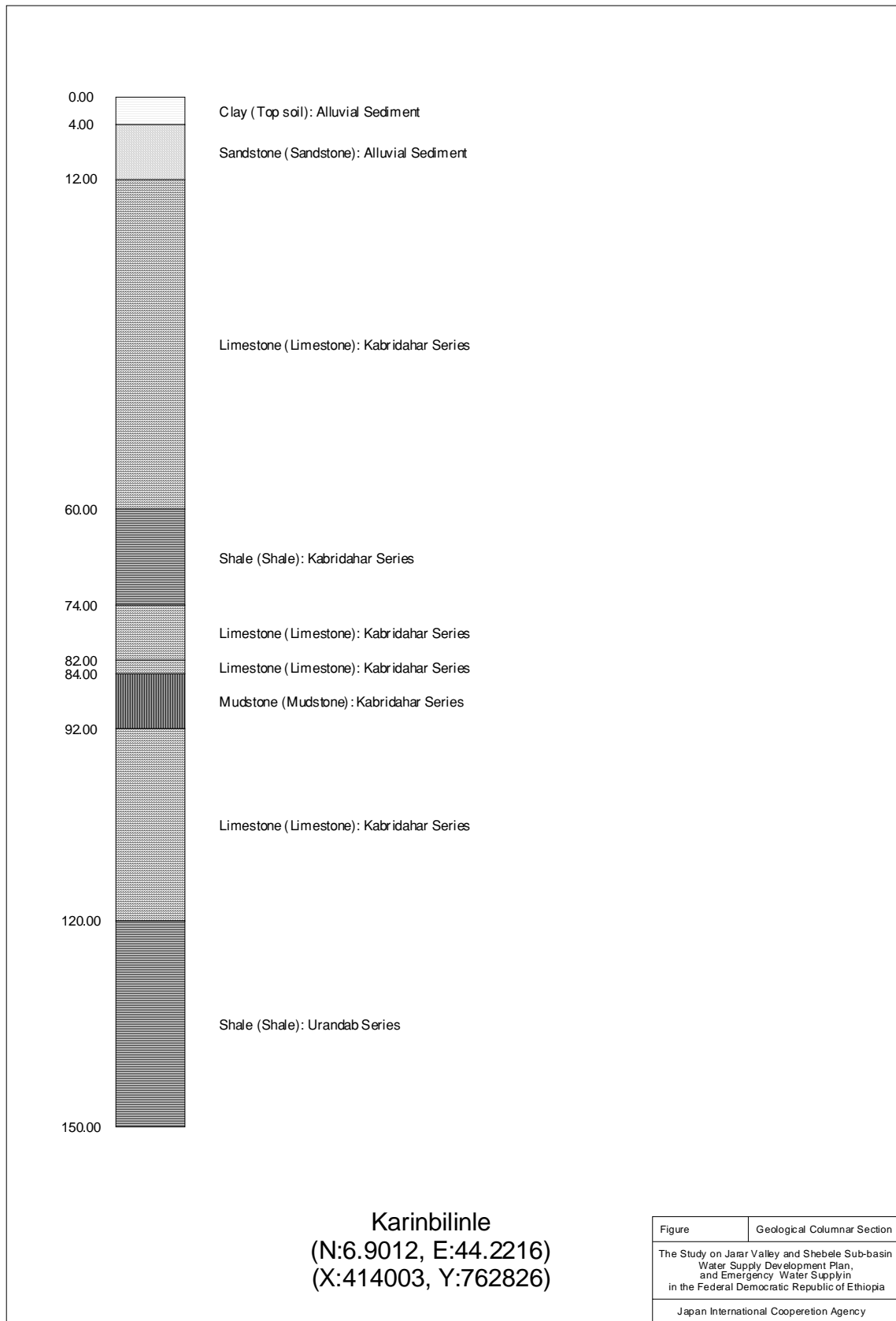
Data 1.2.4 : ソマリ州の主な地質柱状図 (28/41)



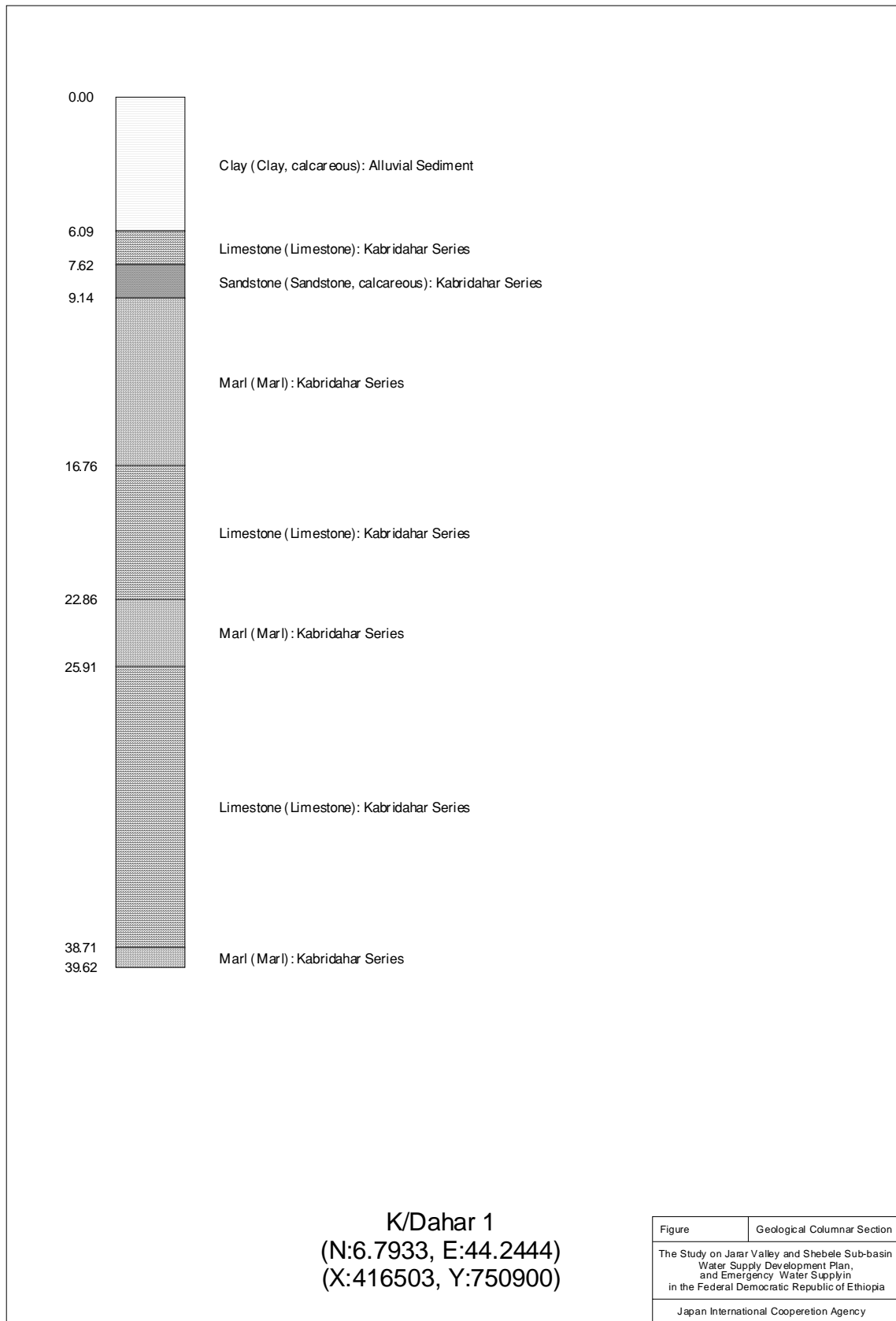
Data 1.2.4: ソマリ州の主な地質柱状図 (29/41)



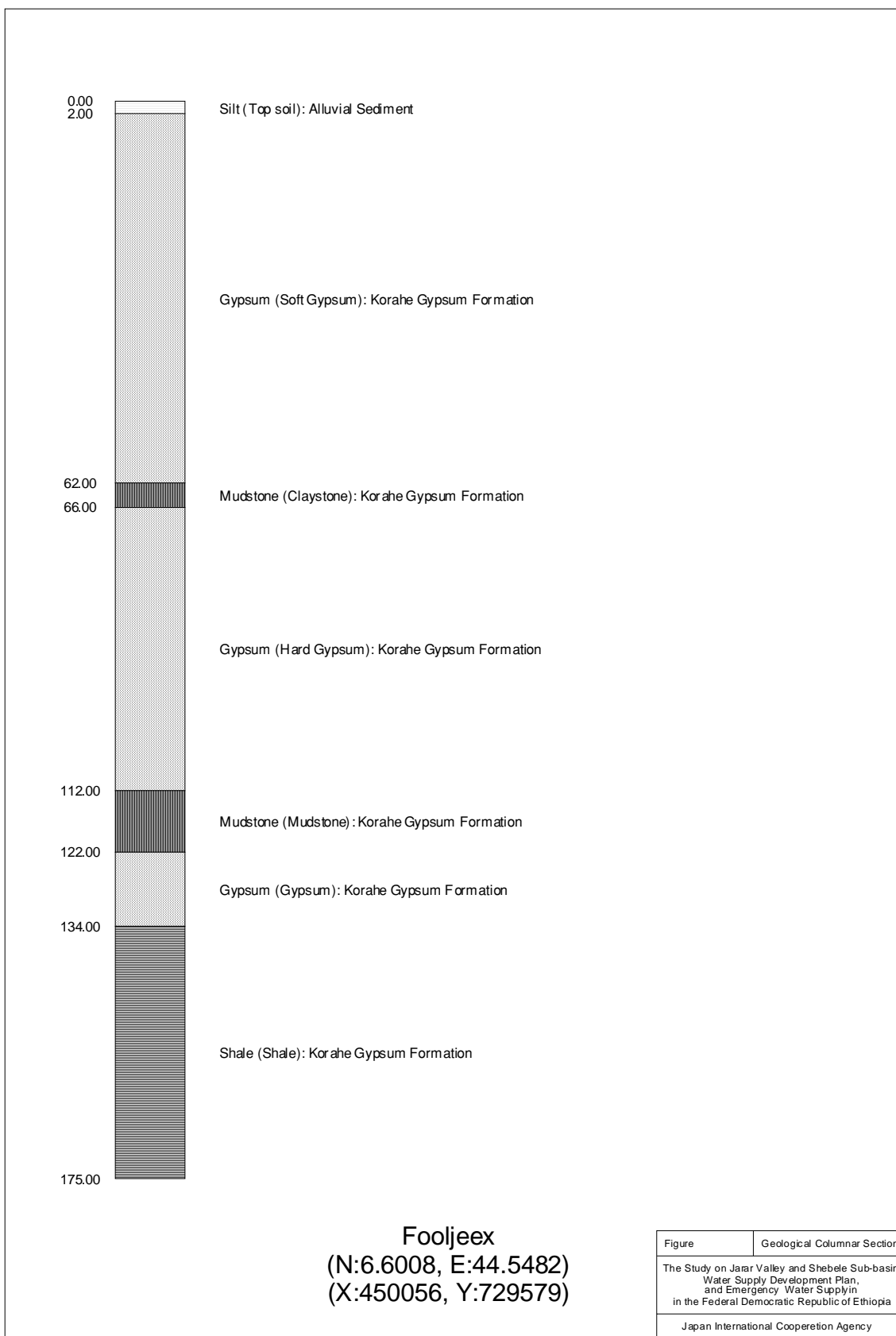
Data 1.2.4 : ソマリ州の主な地質柱状図 (30/41)



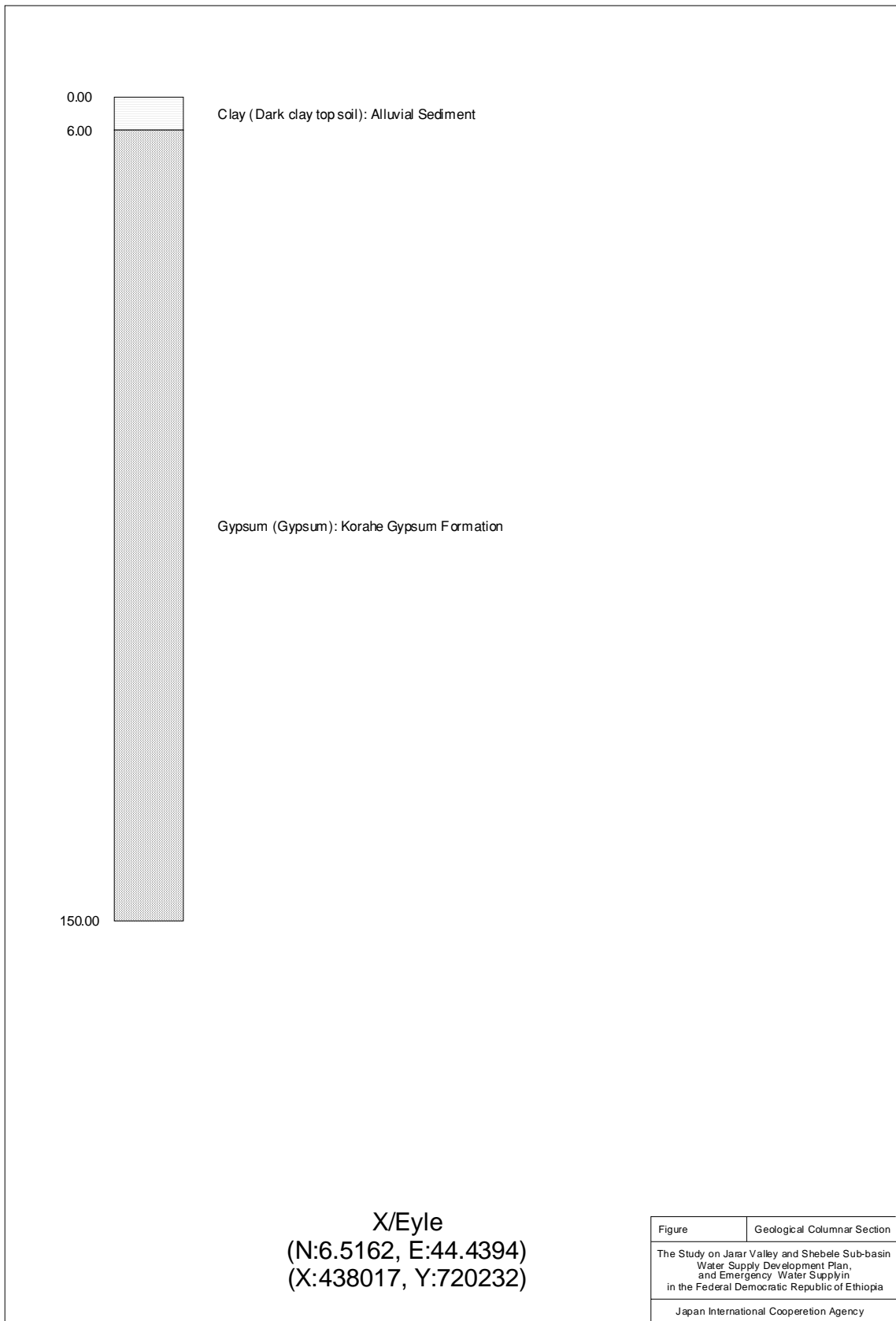
Data 1.2.4: ソマリ州の主な地質柱状図 (31/41)



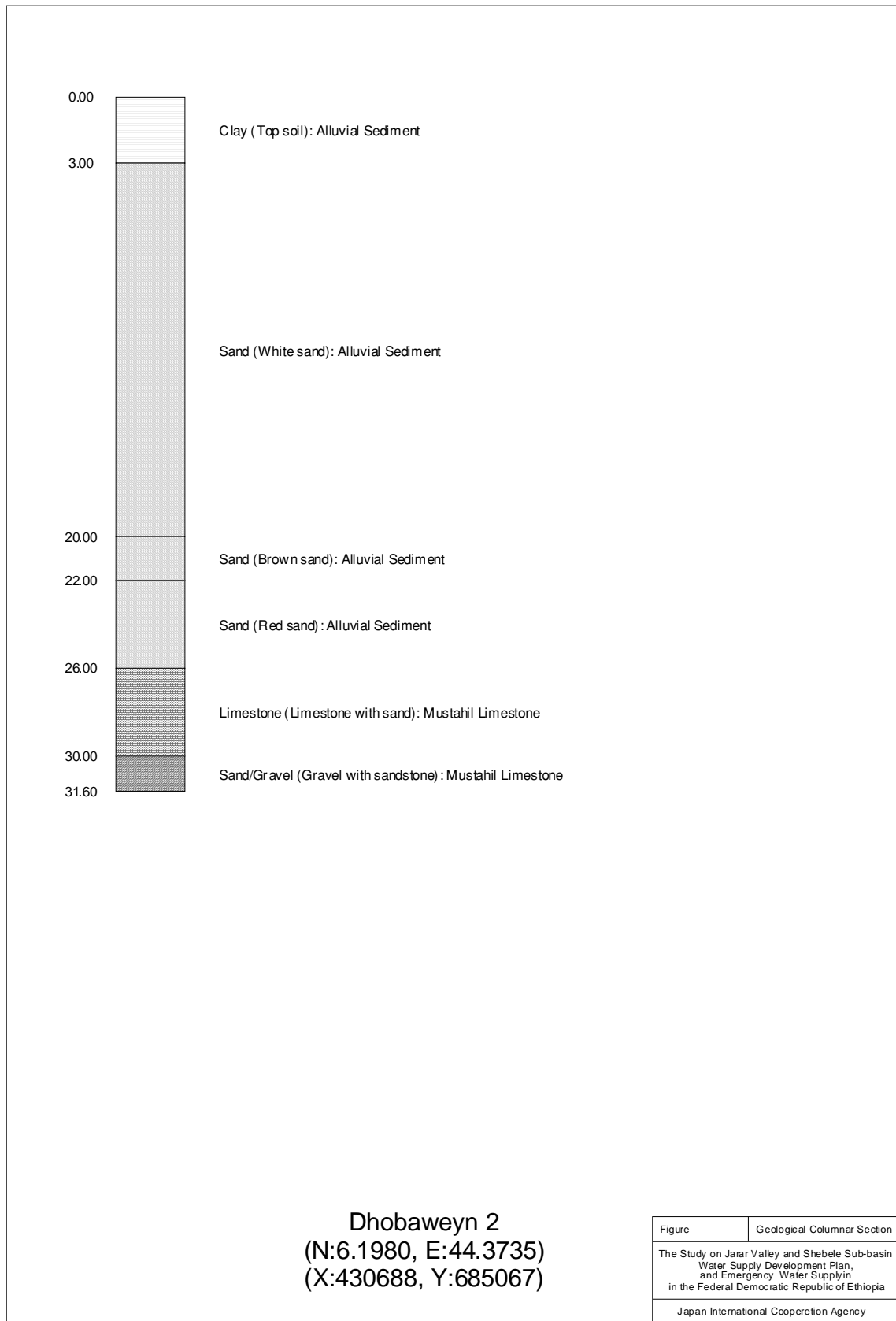
Data 1.2.4: ソマリ州の主な地質柱状図 (32/41)



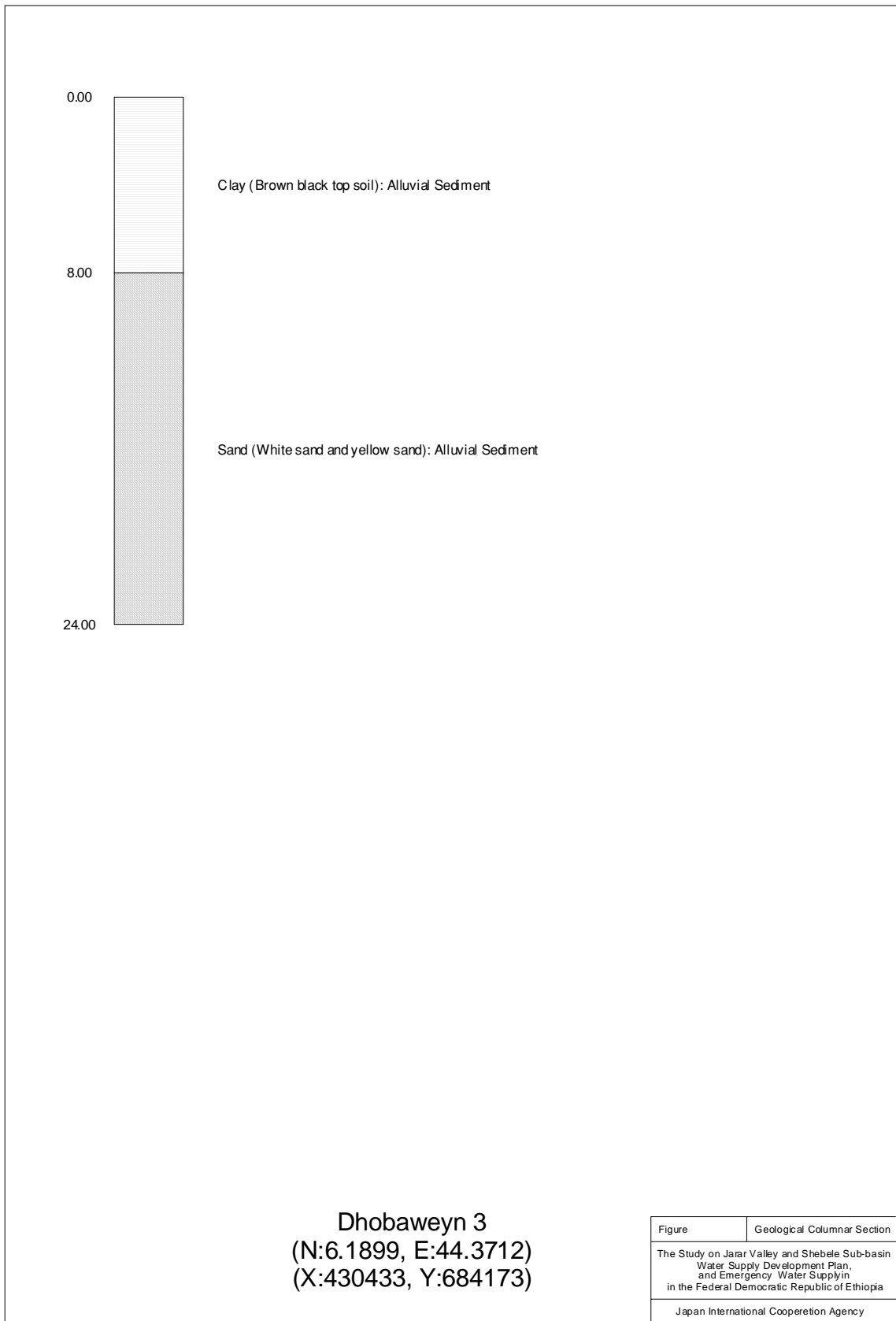
Data 1.2.4: ソマリ州の主な地質柱状図 (33/41)



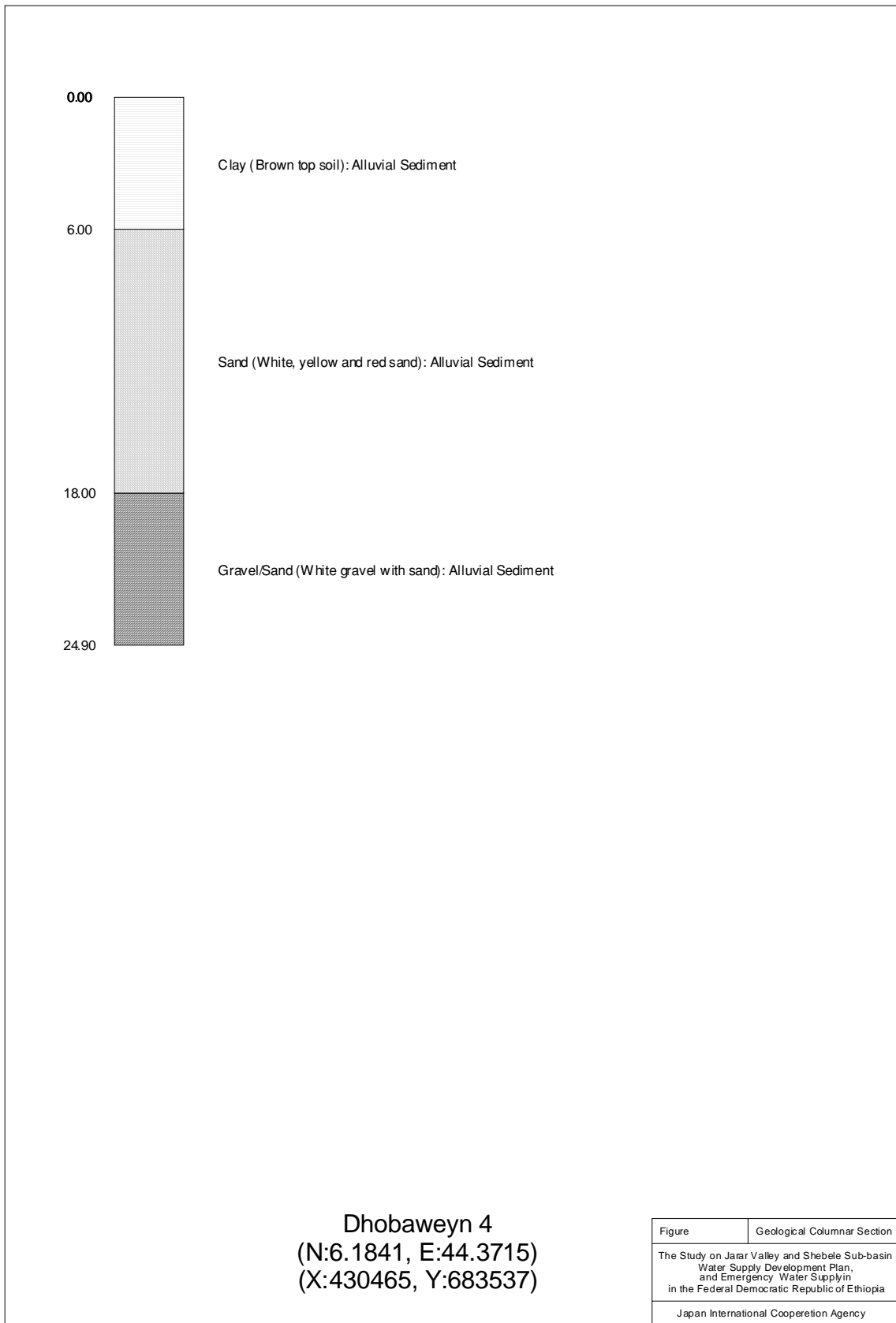
Data 1.2.4: ソマリ州の主な地質柱状図 (34/41)



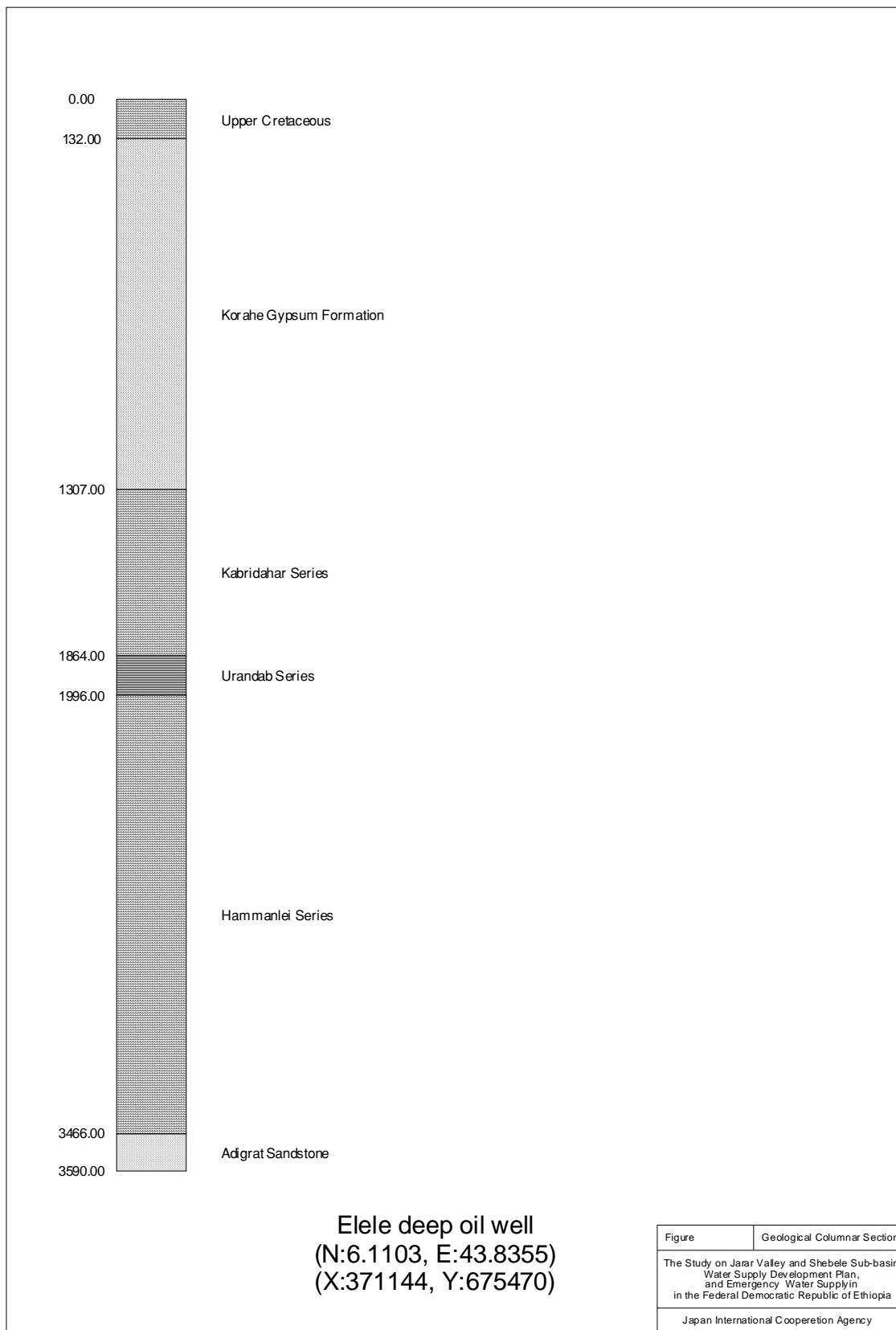
Data 1.2.4: ソマリ州の主な地質柱状図 (35/41)



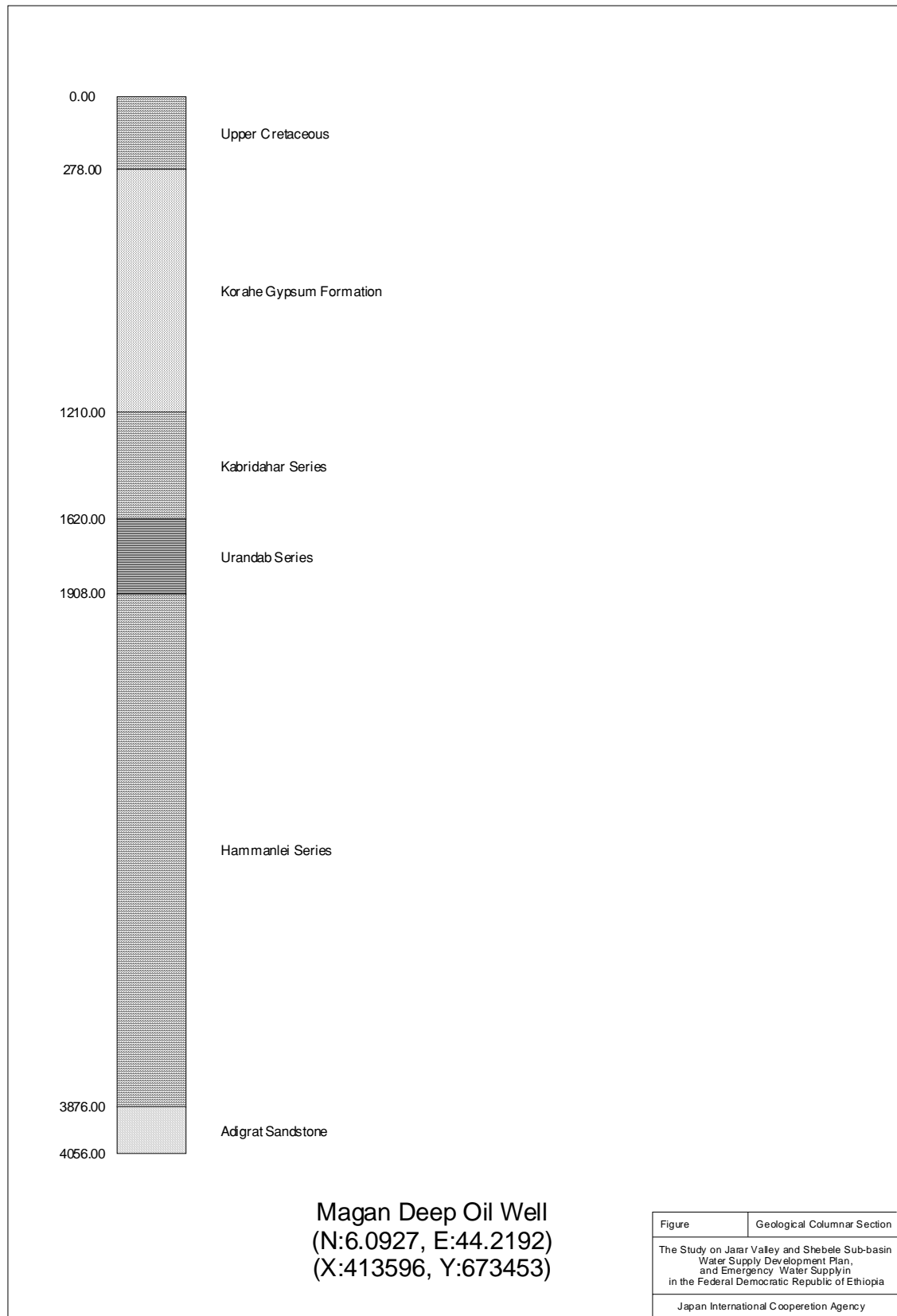
Data 1.2.4: ソマリ州の主な地質柱状図 (36/41)



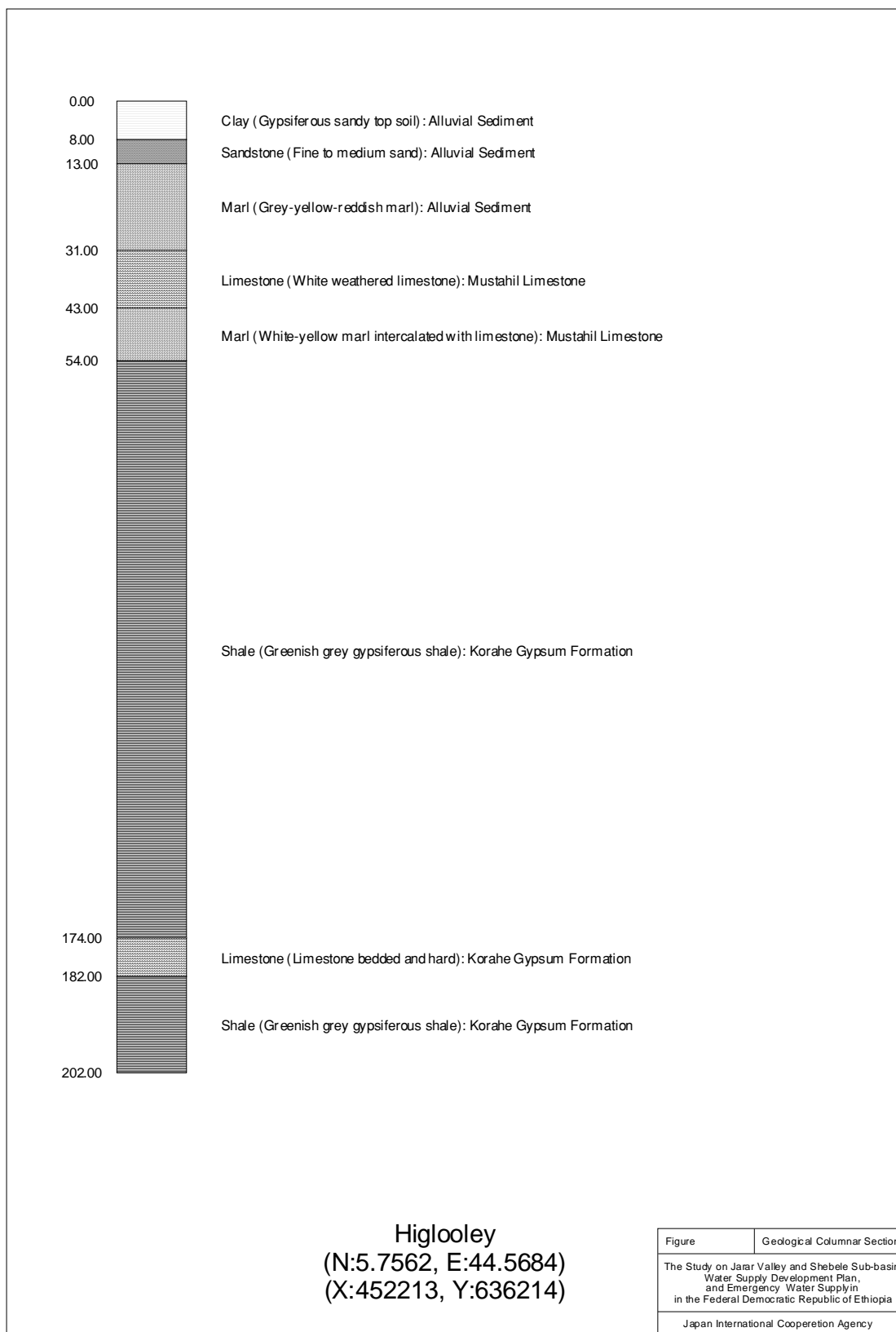
Data 1.2.4: ソマリ州の主な地質柱状図 (37/41)



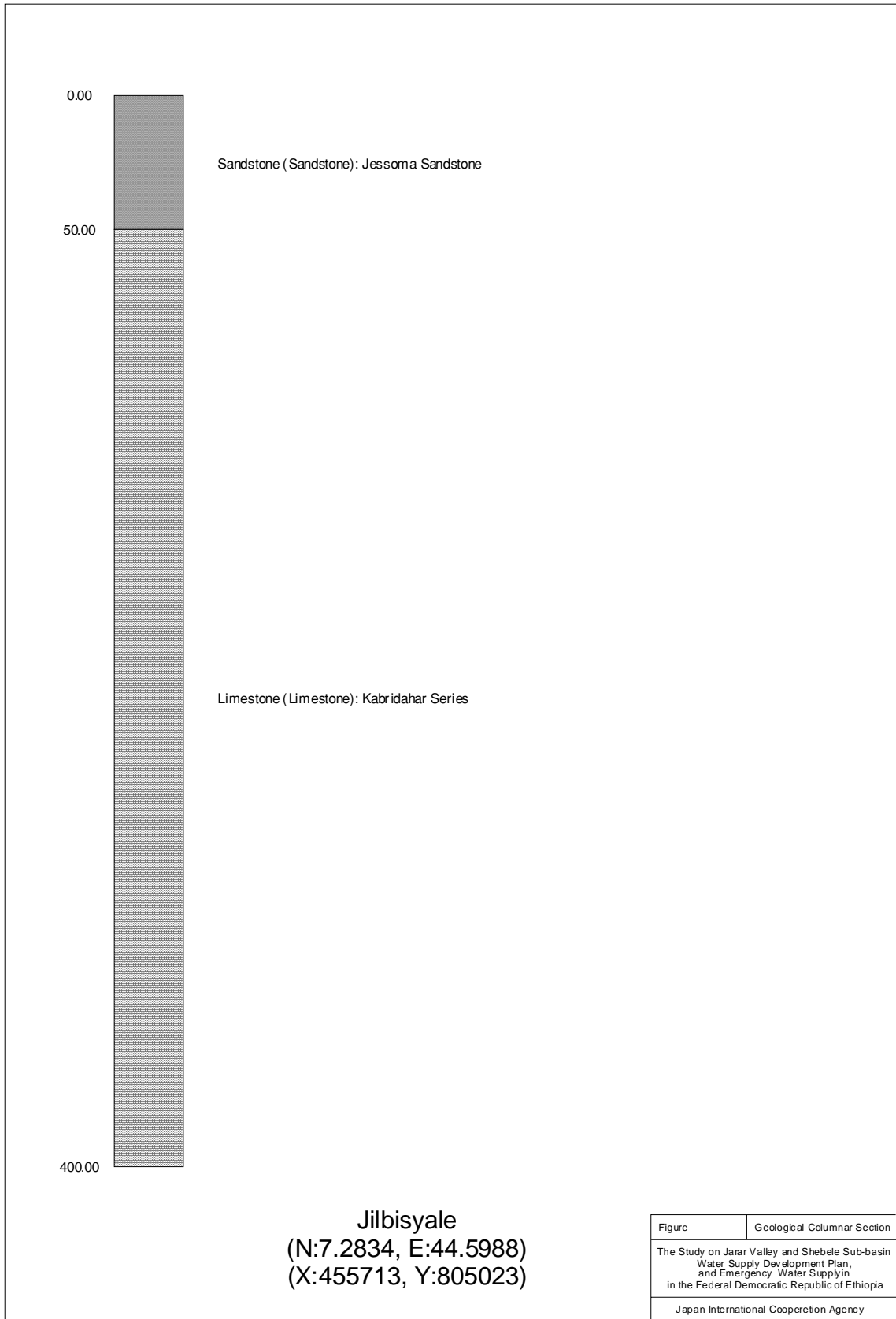
Data 1.2.4: ソマリ州の主な地質柱状図 (38/41)



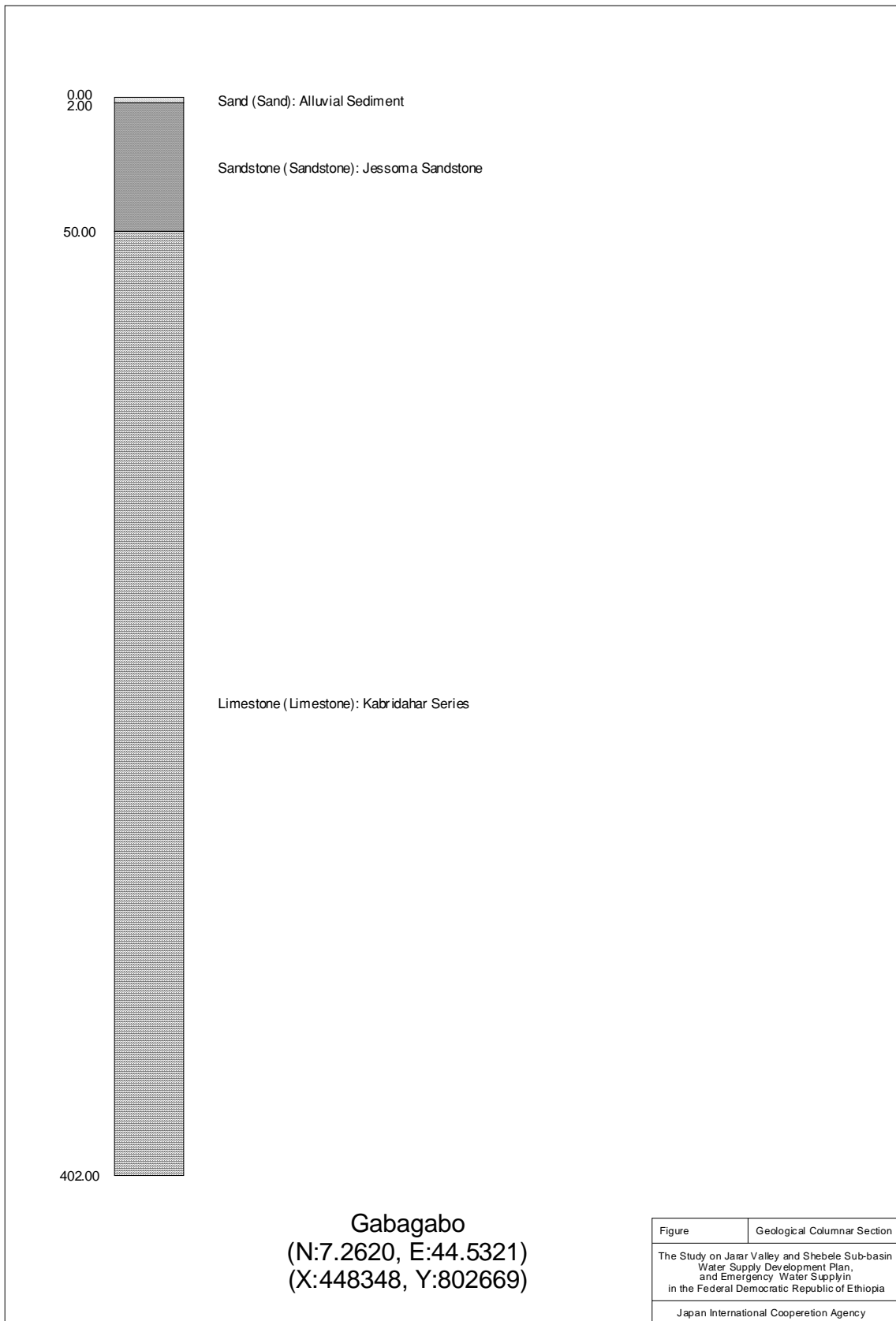
Data 1.2.4 : ソマリ州の主な地質柱状図 (39/41)



Data 1.2.4: ソマリ州の主な地質柱状図 (40/41)



Data 1.2.4: ソマリ州の主な地質柱状図 (41/41)



(第1卷)

3. 水質調査

3. 水質調査

Data 1.3.1 : 水質分析結果 (1/2)

Table with columns: S/No, Code, Site, Source Type, Kebele, Woreda, Date, Geology, W type, Longitude, Latitude, CO2 (meq/l), HCO3 (meq/l), T.P(ppm), NH4 (ppm), SO4 (ppm), NO3 (ppm), Turbidity(FTU), F (mg/l), TSS (mg/l), TDS(ppm), pH, EC(mS/cm), Cl (ppm), Ca(ppm), Mg(ppm), Na(ppm), K(ppm), Mn(ppm), Fe(ppm), Hardness (mg/l CaCO3). The table contains 59 rows of water quality analysis data for various locations in Ethiopia, including parameters like pH, turbidity, and various ions.

