

datetime	created_at		Creation timestamp
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contains

DISTRICTS			
int	id	PK	Unique identifier
int	division_id	FK	Parent division
string	name		District name
decimal	area_km2		Area in square kilometers
decimal	population_density		People per km²

contains

STATIONS			
int	id	PK	Unique identifier
int	district_id	FK	Parent district
string	name		Station name
string	code		Unique station code
decimal	latitude		Geographic coordinate
decimal	longitude		Geographic coordinate
decimal	elevation		Meters above sea level
year	establishment_year		Year commissioned
enum	status		Operational status
date	last_calibration		Last calibration date

assigns

USERS			
int	id	PK	Unique identifier
string	username		Login ID
string	password		Hashed
string	email		Contact email
string	full_name		User's full name
int	role_id	FK	Access level
datetime	last_login		Recent access
datetime	created_at		Account creation
enum	status		Active/Inactive

MAINTENANCE_TYPES

int	id	PK	Unique identifier
string	name		Maintenance type
text	description		Procedure details
int	recommended_frequency_days		Days between service

records

analyzes

generates

defines

has

defines

AIR_QUALITY_READINGS

bigint	id	PK	Unique identifier
int	station_id	FK	Source station
decimal	pm25		Particulate matter 2.5
decimal	pm10		Particulate matter 10
decimal	co		Carbon monoxide
decimal	no2		Nitrogen dioxide
decimal	so2		Sulfur dioxide
decimal	o3		Ozone
decimal	temperature		°C
decimal	humidity		%

ENTROPY_ANALYSIS

int	id	PK	Unique identifier
int	station_id	FK	Analyzed station
decimal	entropy_value		Calculated entropy
decimal	temperature		Avg temperature
decimal	humidity		Avg humidity
decimal	wind_speed		Avg wind speed

ALERTS

int	id	PK	Unique identifier
int	station_id	FK	Source station
int	alert_type_id	FK	Alert category
bigint	reading_id	FK	Triggering reading
decimal	value		Measured value
decimal	threshold		Trigger threshold
string	message		Human-readable alert

MAINTENANCE_LOGS

int	id	PK	Unique identifier
int	station_id	FK	Serviced station
int	maintenance_type_id	FK	Service type
int	technician_id		Responsible technician
text	description		Work performed
datetime	performed_at		Service timestamp