# GLOBAL Business Minds

## Applied Gravimetry

TRAIN

Course Overview:
Gravimetry, a geophysical exploration technique that measures variations in the Earth's gravity field, plays a crucial role in subsurface exploration and resource evaluation
This comprehensive 5-day professional training course will equip you with the essential knowledge and skills to effectively apply gravimetry in various geological settings

Course Objectives:
By the end of this course, you will be able to:
1
Understand the fundamental principles of gravity, gravity measurement, and gravity anomalies
2
Identify and classify different types of gravimeters and their applications
3
Apply gravimetry data processing techniques to improve data quality and interpretation
4
Interpret gravity anomalies to identify subsurface structures, map geological formations, and delineate potential mineral and hydrocarbon zones
5
Integrate gravimetry data with other geophysical and geological datasets for comprehensive subsurface evaluation
Course Agenda:
Day 1: Introduction to Gravimetry
• Delve into the history, principles, and importance of gravimetry in subsurface exploration
• Explore the physics of gravity and its relationship to subsurface geology
• Discuss the factors affecting gravity measurements and data quality
• Understand the concept of gravity anomalies and their significance
Day 2: Gravimeter Technology and Data Acquisition
• Identify and classify different types of gravimeters, including relative, absolute, and supercon-ducting gravimeters
• Understand the principles of operation and limitations of each gravimeter type
• Learn about gravimetry data acquisition techniques, including land, marine, and airborne surveys
• Discuss the challenges and considerations in conducting gravimetry surveys in different environments
Day 3: Gravimetry Data Processing and Correction
• Apply gravimetry data processing techniques, such as latitude correction, elevation correction, and terrain correction
• Understand the principles and application of Bouguer correction and free-air correction
• Discuss the importance of regional-residual separation and anomaly enhancement
• Learn about data filtering and noise reduction techniques for gravimetry data
Day 4: Interpretation of Gravity Anomalies
• Interpret gravity anomalies to identify subsurface structures, such as salt domes, anticlines, and faults
• Understand the relationship between gravity anomalies and subsurface density variations
• Apply gravity interpretation techniques to map geological formations and delineate potential mineral and hydrocarbon zones
• Discuss the limitations and challenges of gravity interpretation in complex geological settings
Day 5: Integrating Gravimetry with Other Datasets
• Integrate gravimetry data with seismic data to enhance subsurface mapping and reservoir characterization
• Utilize geological information, such as well data and outcrop observations, to refine gravity interpretations
• Combine gravimetry data with other geophysical datasets, such as magnetic and electromagnetic data, for

comprehensive subsurface evaluation
• Discuss the future trends and advancements in gravimetry technology, data processing, and interpretation
Who Should Attend:
• Geoscientists and engineers involved in subsurface exploration, mineral exploration, and hydrocarbon exploration
• Project managers and decision-makers responsible for subsurface evaluation and resource development strategies
• Geophysical contractors seeking to enhance their gravimetry data acquisition, processing, and interpretation services
• Students and professionals interested in pursuing a career in geophysics and resource exploration
Course Benefits:
• Develop a comprehensive understanding of gravimetry principles, techniques, and applications in subsurface exploration and mineral exploration
• Gain hands-on experience in processing, interpreting, and integrating gravimetry data using industry-standard software tools
• Enhance your ability to identify subsurface structures, map geological formations, and evaluate potential mineral and hydrocarbon zones using gravimetry data
• Effectively utilize gravimetry data to optimize subsurface exploration strategies, guide well placement, and inform mineral resource assessment
• Stay updated on the latest advancements and techniques in gravimetry technology and interpretation, preparing for future trends in subsurface exploration and resource management