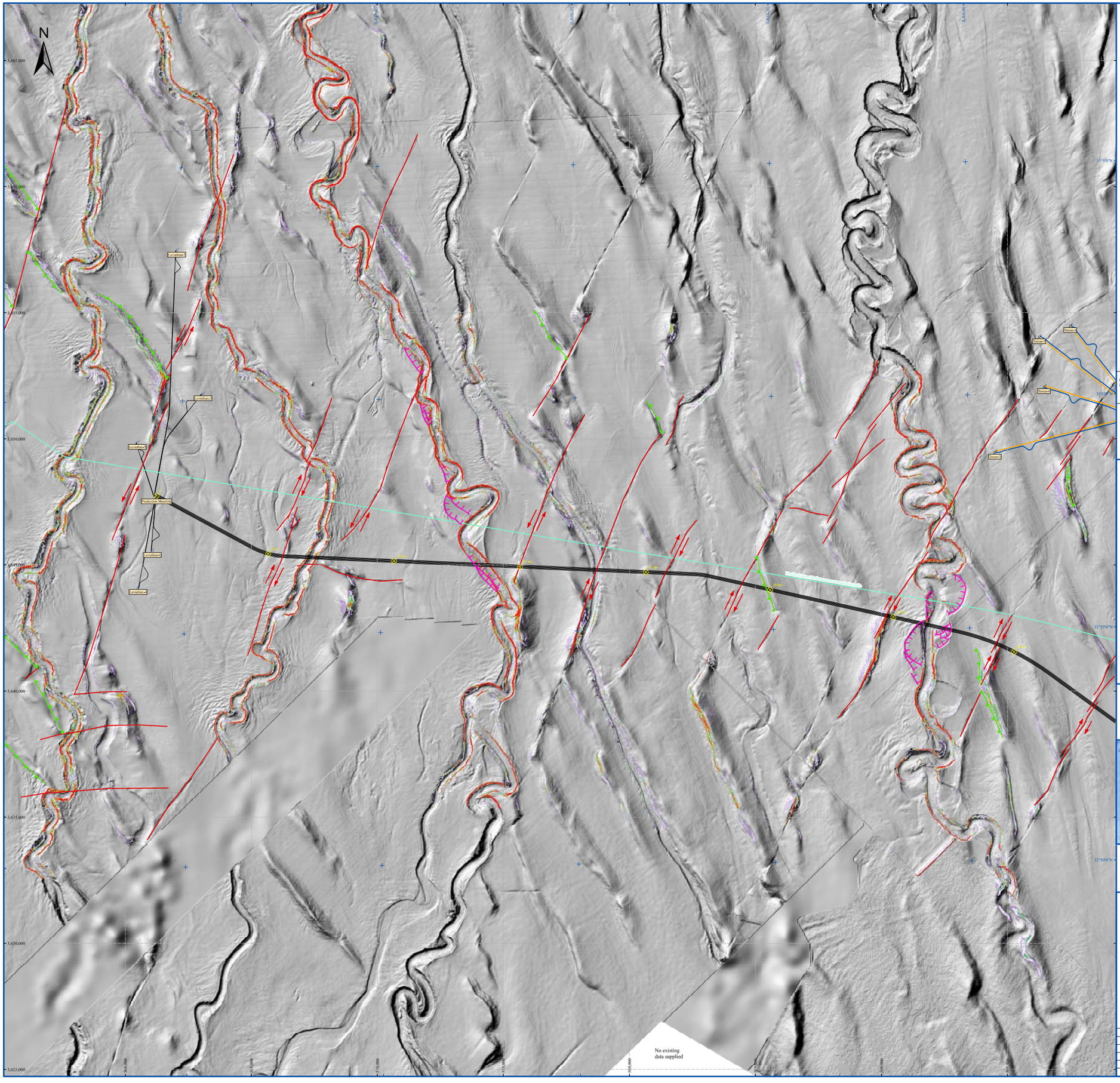
APPENDIX A.10

Environmental Baseline Supporting Documentation and Maps

Pipeline Alignment with Summary Risk Map

Confidential–Do Not Disclose Without Authorization © Copyright Genesis North America - All Rights Reserved



LEGEND

- Production Manifold (561,240m E / 3,647,745m N)
- Existing Wells
- KP points
- Tamar existing flowlines
- Tamar existing umbilicals
- Proposed Leviathan Field to Leviathan Production Platform flowlines, umbilicals and pipelines
- Subsea communications cable
- Strike/slip faults
- Slump scars
- Reverse faults

Notes

Data sourced from a combination of existing 3D seismic, AUV multibeam and surface multibeam echo sounder
Illuminated from northwest at 45° above horizontal

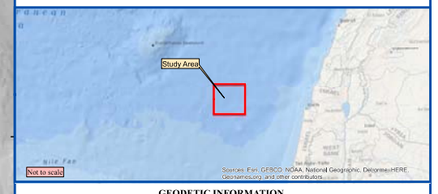
7 8 9 10 11 12 13 14 15 16 17 18 19 >20

Seabed Gradient in Degrees from Horizontal only illustrating Gradients over 7°

Chart Scale 1:50,000

0 3,000 6,000 12,000 18,000 Feet

0 1,000 2,000 4,000 6,000 Meters



GEODETIC INFORMATION

Coordinate System: WGS 1984 UTM Zone 36N
Projection: Transverse Mercator
Datum: WGS 1984
Units: Meter

False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 33.0000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000

Gardline

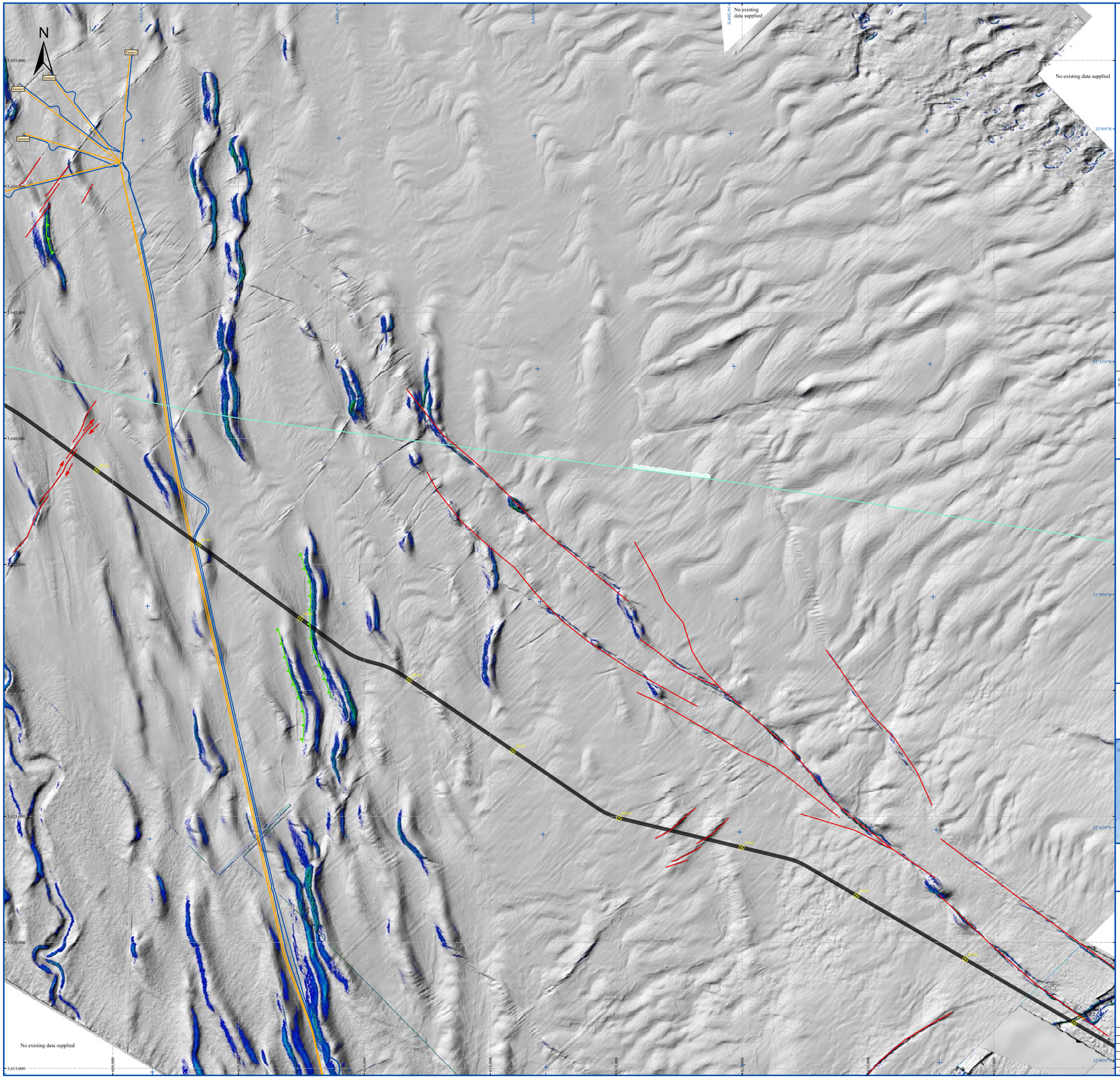
noble energy

GEOLOGICAL CONDITIONS
OFFSHORE ISRAEL
LEVIATHAN AREA
LEVIATHAN FIELD TO LEVIATHAN PRODUCTION PLATFORM
GEOLOGICAL SETTING

CHART 1

Prepared by: Gardline Surveys, Inc. 1500 Bingle Road, Houston, Texas, 77055. Telephone: 713.461.4630

REV	DATE	REMARKS	AUTHOR	DRAWN	CHECKED
0	MAY 11, 2016	DRAFT	JE	KB	ARH
1	MAY 16, 2016	2ND DRAFT	JE	KB	ARH
SURVEY DATE	N/A	REPORT REF	10773	REFF NO	10773.01



LEGEND

- Existing Wells
- KP points
- Tamar existing flowlines
- Tamar existing umbilicals
- Proposed Leviathan Field to Leviathan Production Platform flowlines, umbilicals and pipelines
- Subsea communications cable
- Strike/slip faults
- Seabed faults ticks denotes downthrown side
- Reverse faults

Notes

Data sourced from a combination of existing 3D seismic, AUV multibeam and surface multibeam echo sounder
Illuminated from northwest at 45° above horizontal

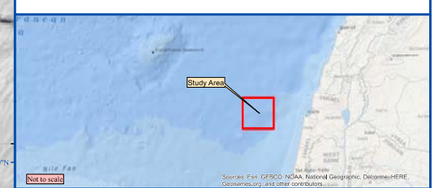
7 12 17 23 28 33 38 >40

Seabed Gradient in Degrees from Horizontal only illustrating Gradients over 7°

Chart Scale 1:50,000

0 3,000 6,000 12,000 18,000 Feet

0 1,000 2,000 4,000 6,000 Meters



Sources: Esri, GEBCO, NOAA, National Geographic, Delorme, HERE, Geonames.org, and other contributors

GEODETIC INFORMATION

Coordinate System: WGS 1984 UTM Zone 36N
Projection: Transverse Mercator
Datum: WGS 1984
Units: Meter

False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 33.0000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000

Gardline

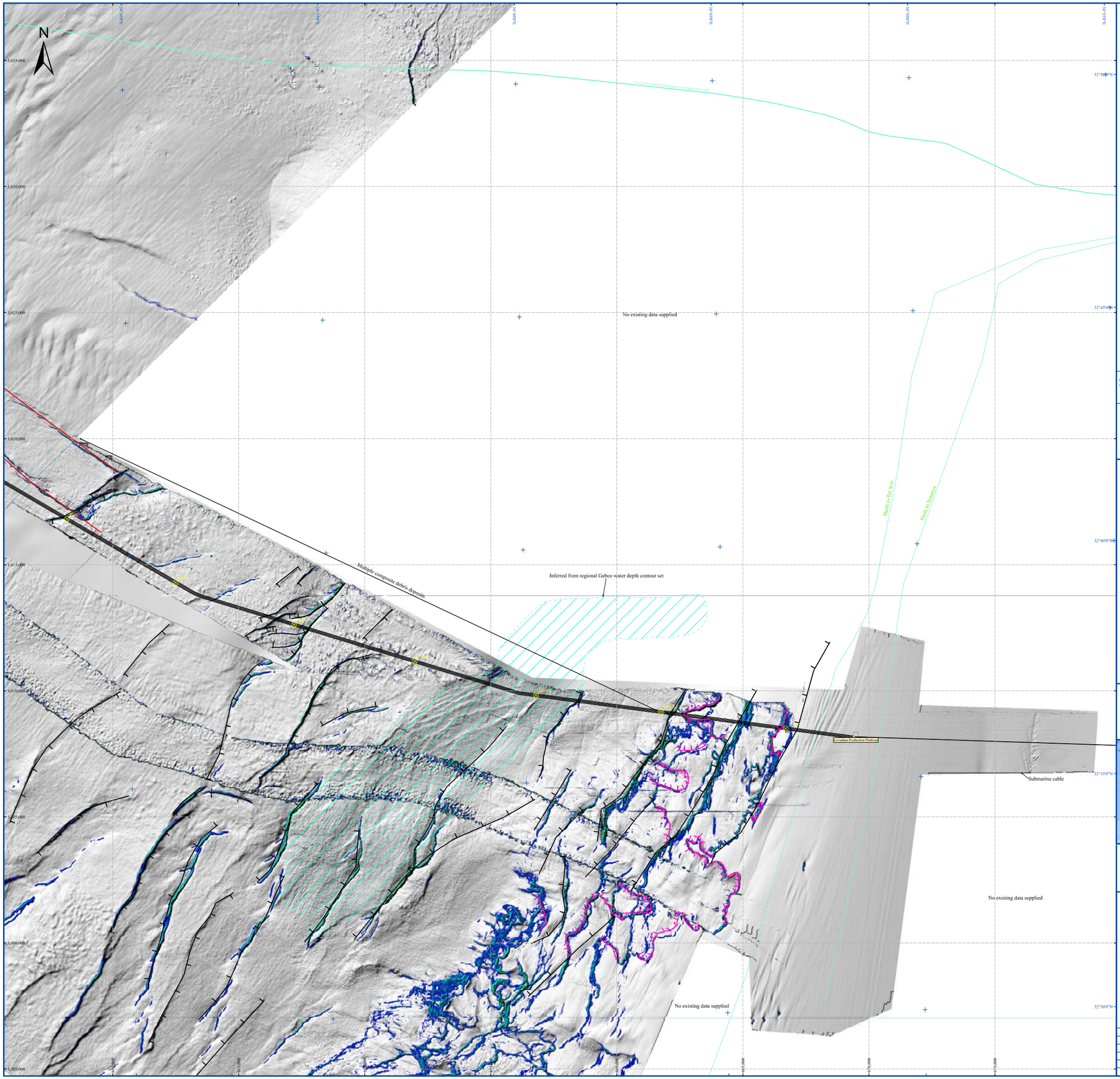
noble energy

GEOLOGICAL CONDITIONS
OFFSHORE ISRAEL
LEVIATHAN AREA
LEVIATHAN FIELD TO LEVIATHAN PRODUCTION PLATFORM
GEOLOGICAL SETTING

CHART 2

Prepared by: Gardline Surveys, Inc. 1500 Bingle Road, Houston, Texas, 77055. Telephone: 713.481.4630

REV	DATE	REMARKS	AUTHOR	DRAWN	CHECKED
1	MAY 16, 2016	2nd DRAFT	JE	KB	ARH
2	July 6, 2016	3rd DRAFT	JE	MM	ARH
SURVEY DATE	N/A	REPORT REF	10773	REFF NO	10773.02



LEGEND

- Leviathan Production Platform (669,479m E / 3,608,253m N)
- KP points
- Proposed Leviathan Field to Leviathan Production Platform flowlines, umbilicals and pipelines
- Subsea communications cable
- Strike/slip faults
- Seabed faults, ticks denotes downthrown side
- Slump scars
- Regional landslide pathway debris deposits, normal faults

Notes

Data sourced from a combination of existing 3D seismic, AUV multibeam and surface multibeam echo sounder
Illuminated from northwest at 45° above horizontal

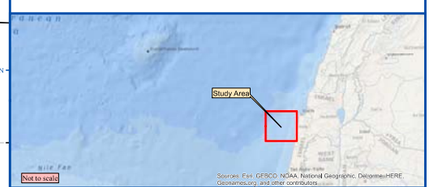
7 12 17 23 28 33 38 >40

Seabed Gradient in Degrees from Horizontal only illustrating Gradients over 7°

Chart Scale 1:50,000

0 3,000 6,000 12,000 18,000 Feet

0 1,000 2,000 4,000 6,000 Meters



GEODETIC INFORMATION

Coordinate System: WGS 1984 UTM Zone 36N
Projection: Transverse Mercator
Datum: WGS 1984
Units: Meter

False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 33.0000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000

Gardline

noble energy

GEOLOGICAL CONDITIONS
OFFSHORE ISRAEL
LEVIATHAN AREA
LEVIATHAN FIELD TO LEVIATHAN PRODUCTION PLATFORM
GEOLOGICAL SETTING

CHART 3

Prepared by: Gardline Surveys, Inc. 1500 Bingle Road, Houston, Texas, 77055. Telephone: 713.481.4630

REV	DATE	REMARKS	AUTHOR	DRAWN	CHECKED
1	MAY 16, 2016	2ND DRAFT	JE	KB	ARH
2	July 6, 2016	3RD DRAFT	JE	MM	ARH
SURVEY DATE	N/A	REPORT REF	10773	REF NO	10773.03