



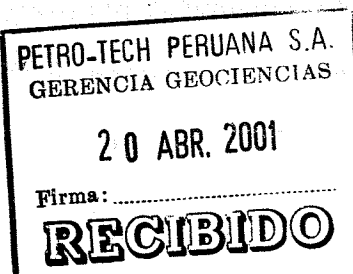
Gyrodata Incorporated
1682 W. Sam Houston Pkwy. N.
Houston, Texas 77043

713/461-3146
Fax: 713/461-0920

SURVEY REPORT
PETRO-TECH PERUANA
LO-6-09
PEPESA-48
CAMPO LOBITOS, PERU
HT0301GME256

MARCH 15, 2001

CENTRAL FILE
GEOSCIENCES



A Gyrodata Directional Survey

for

PETRO-TECH PERUANA S.A.

Well: LO-6-09, PRODUCTION PIPE 2 3/8"

Location: PEPESA-48/LO-06, CAMPO LOBITOS

Job Number: HT0301GME256

Run Date: 3/15/01

Surveyor: Angel Cordozo

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 4.450000 deg. S

Azimuth Correction:

Gyro: Bearings are Relative to True North

Proposed Well Direction: 240.900 deg

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

CENTRAL FILE
GEOSCIENCE

A Gyrodata Directional Survey

PETRO-TECH PERUANA S.A.
Well: LO-6-09, PRODUCTION PIPE 2 3/8"
Location: PEPESA-48/LO-06, CAMPO LOBITOS
Job Number: HT0301GME256

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.0	0.00	0.00	0.0	0.00	0.0	0.0 0.0	0.00 N 0.00 E
PROFUNDIDADES REFERIDAS A CABEZA DE POZO LO-6-09 GYRO MULTISHOT CORRIDO EN PRODUCTION PIPE DESDE 2500' HASTA SUPERFICIE							
100.0	11.91	251.85	10.2	11.91	99.3	10.4 251.8	3.23 S 9.84 W
200.0	12.13	244.62	30.8	1.52	197.1	31.1 249.4	10.95 S 29.14 W
300.0	11.90	246.35	51.5	0.42	294.9	51.9 247.8	19.59 S 48.08 W
400.0	12.59	243.26	72.7	0.95	392.6	73.1 246.9	28.63 S 67.26 W
500.0	16.03	242.27	97.4	3.45	489.5	97.8 245.9	39.96 S 89.23 W
600.0	19.62	242.88	128.0	3.59	584.7	128.3 245.1	54.05 S 116.41 W
700.0	23.34	244.23	164.6	3.75	677.7	164.9 244.8	70.33 S 149.20 W
800.0	26.67	245.46	206.7	3.37	768.3	207.2 244.8	88.26 S 187.47 W
900.0	28.84	237.76	253.2	4.19	856.9	253.6 244.2	110.46 S 228.30 W
1000.0	27.71	230.21	300.1	3.75	945.0	300.3 242.6	138.21 S 266.58 W
1100.0	27.92	223.91	345.4	2.95	1033.4	345.4 240.5	169.96 S 300.69 W
1200.0	28.62	218.11	389.9	2.83	1121.5	390.3 238.2	205.68 S 331.71 W
1300.0	31.08	220.87	436.2	2.81	1208.2	437.7 236.1	244.05 S 363.38 W
1400.0	34.15	229.06	488.0	5.37	1292.5	490.6 234.9	281.99 S 401.50 W
1500.0	37.66	232.14	545.6	3.95	1373.5	549.1 234.5	319.15 S 446.83 W
1600.0	41.13	233.39	608.5	3.56	1450.8	612.5 234.3	357.52 S 497.37 W
1700.0	39.83	225.76	672.0	5.12	1526.9	677.1 233.8	399.50 S 546.75 W
1800.0	37.88	218.49	731.4	4.96	1604.8	738.6 232.9	445.90 S 588.82 W
1900.0	36.59	210.83	785.6	4.81	1684.5	796.2 231.5	495.55 S 623.22 W
2000.0	37.07	211.95	837.7	0.83	1764.5	852.8 230.1	546.71 S 654.45 W

CENTRAL FILE
GEOSCIENCE

A Gyrodata Directional Survey

PETRO-TECH PERUANA S.A.

Well: LO-6-09, PRODUCTION PIPE 2 3/8"

Location: PEPESA-48/LO-06, CAMPO LOBITOS

Job Number: HT0301GME256

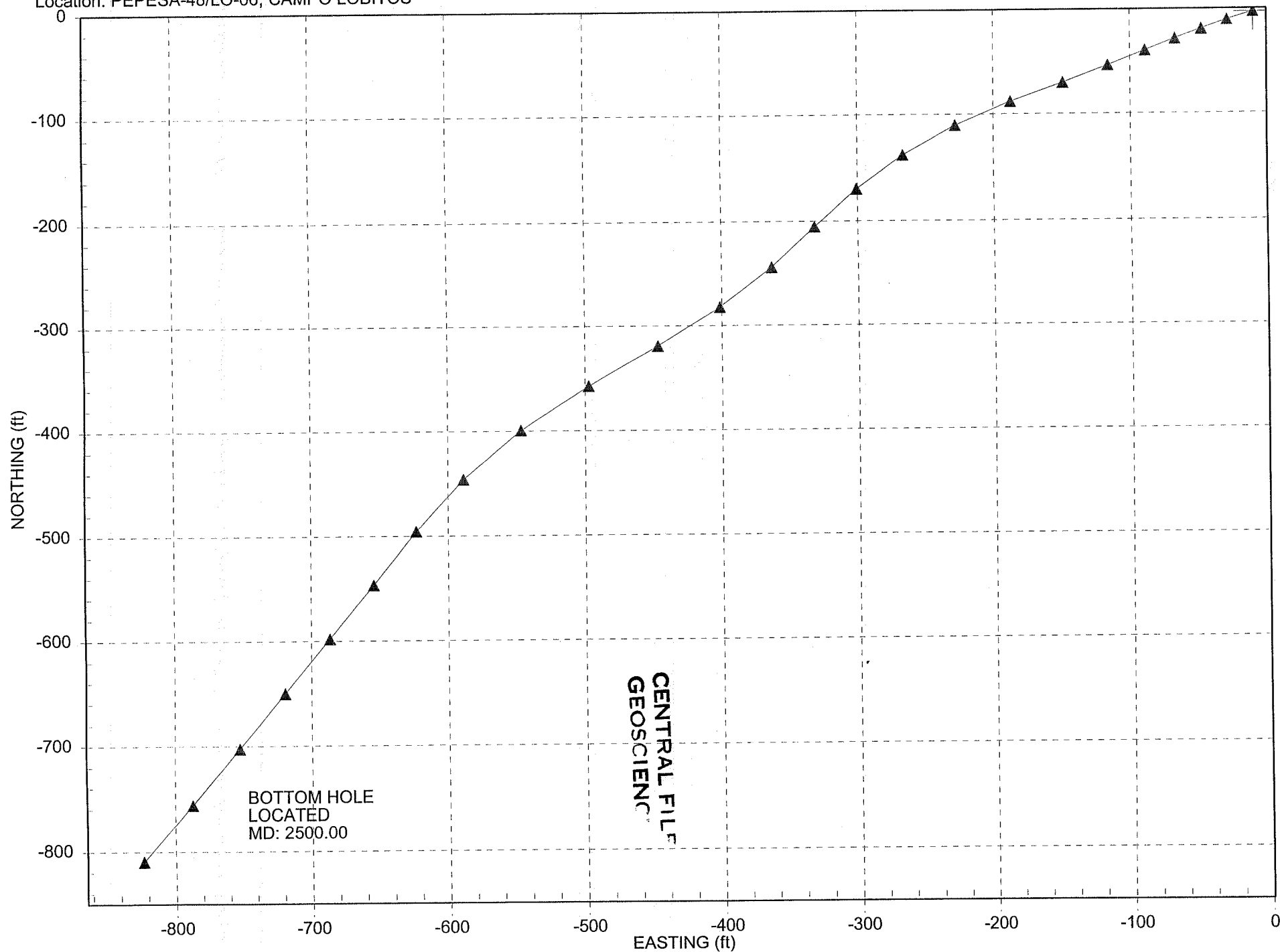
MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
2100.0	37.45	211.96	890.7	0.38	1844.1	910.5 228.9	598.08 S 686.49 W
2200.0	38.17	212.64	944.5	0.84	1923.1	969.4 227.9	649.89 S 719.25 W
2300.0	39.12	212.51	999.5	0.95	2001.2	1029.7 227.0	702.52 S 752.87 W
2400.0	39.93	213.00	1055.6	0.87	2078.3	1091.5 226.2	756.04 S 787.30 W
2500.0	40.34	214.95	1113.1	1.32	2154.8	1154.6 225.5	809.48 S 823.32 W

Final Station Closure: Distance: 1154.61 ft Az: 225.49 deg.

CENTRAL FILE
GEOSCIENCE

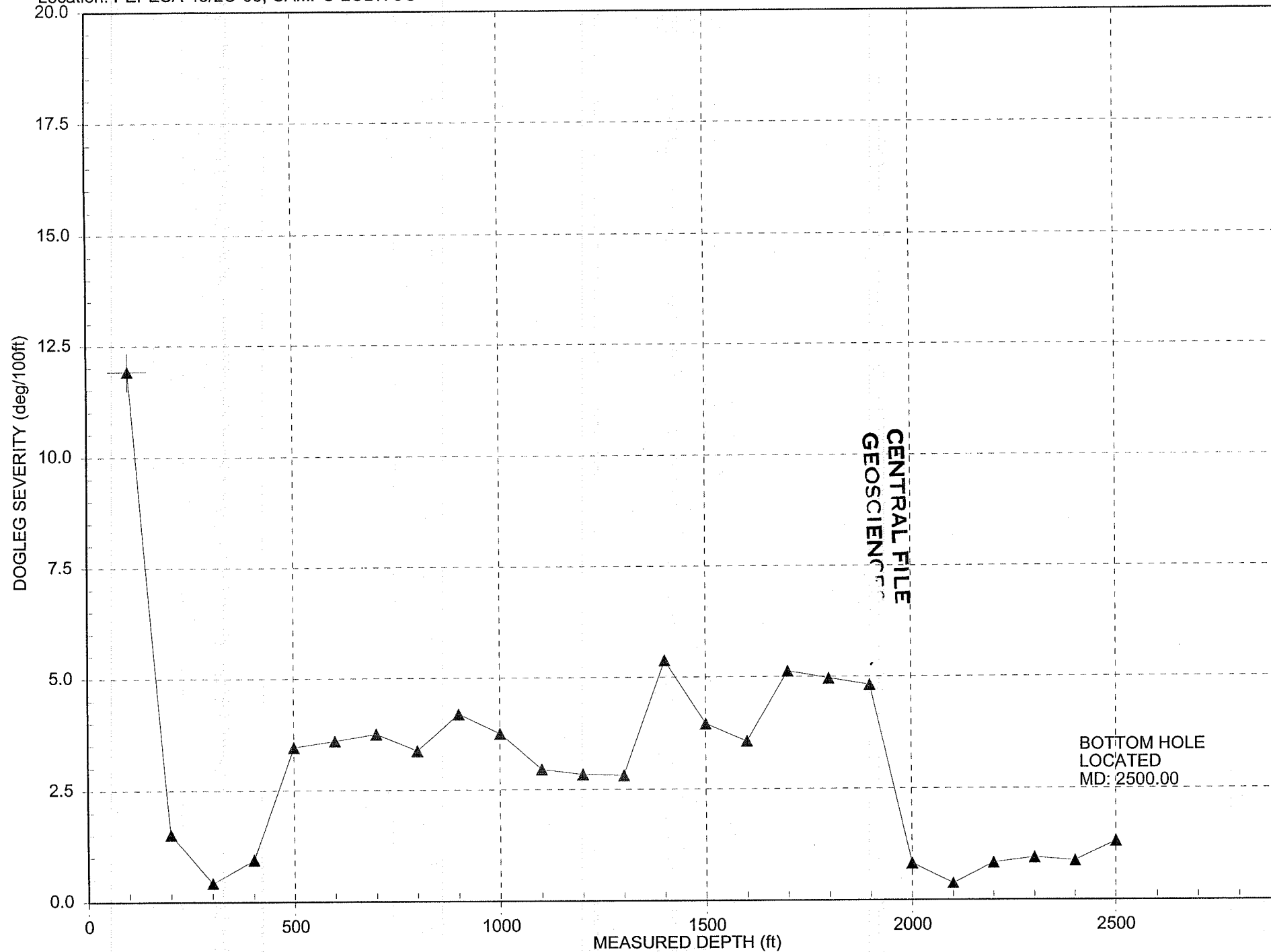
PETRO-TECH PERUANA S.A.
Well: LO-6-09 PRODUCTION PIPE 2 3/8"
Location: PEPESA-48/LO-06, CAMPO LOBITOS

Gyrodata, Inc.
HT0301GME256 DEFINITIVE



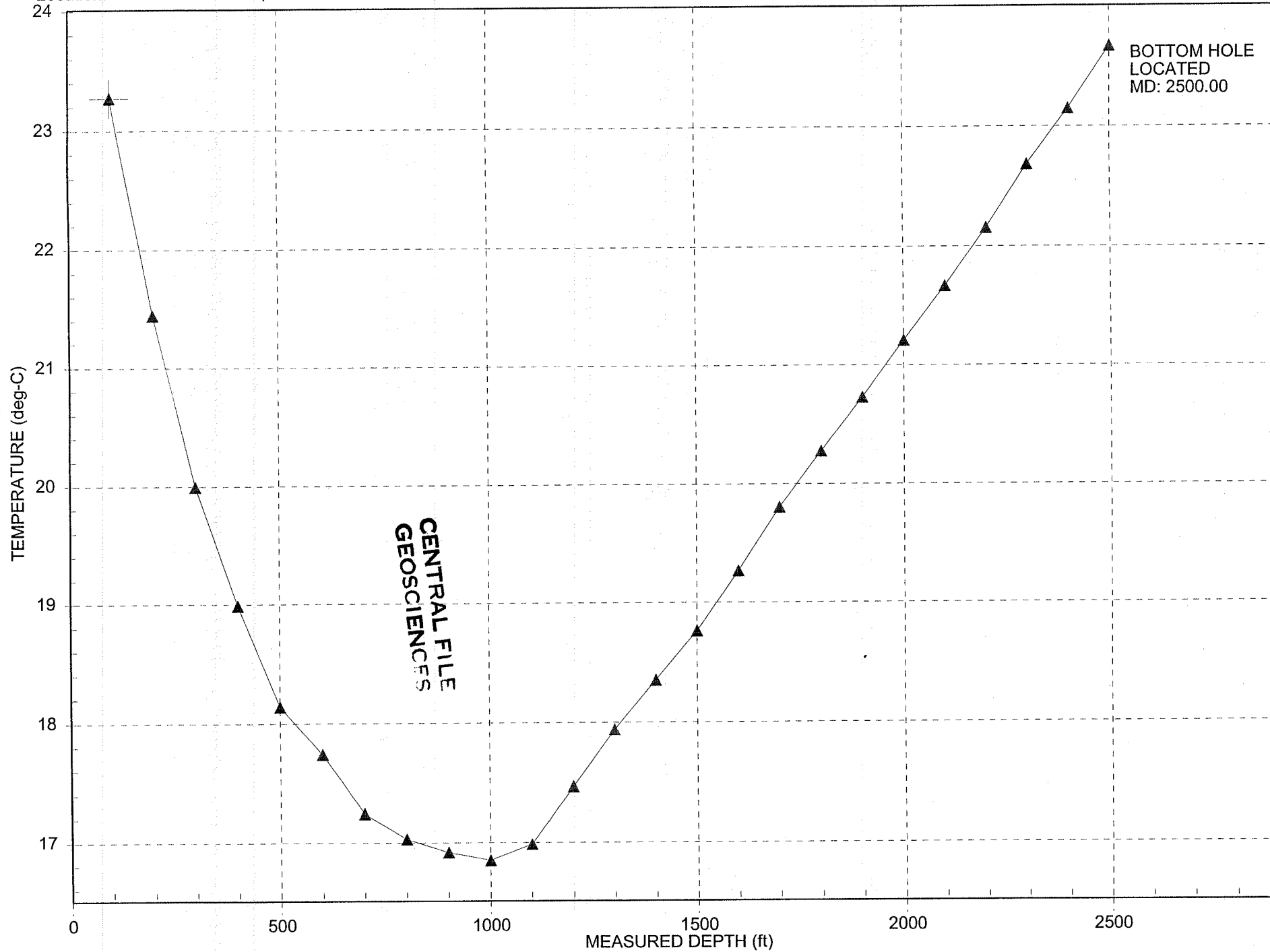
PETRO-TECH PERUANA S.A.
Well: LO-6-09 PRODUCTION PIPE 2 3/8"
Location: PEPESA-48/LO-06, CAMPO LOBITOS

Gyrodatta, Inc.
HT0301GME256 DEFINITIVE



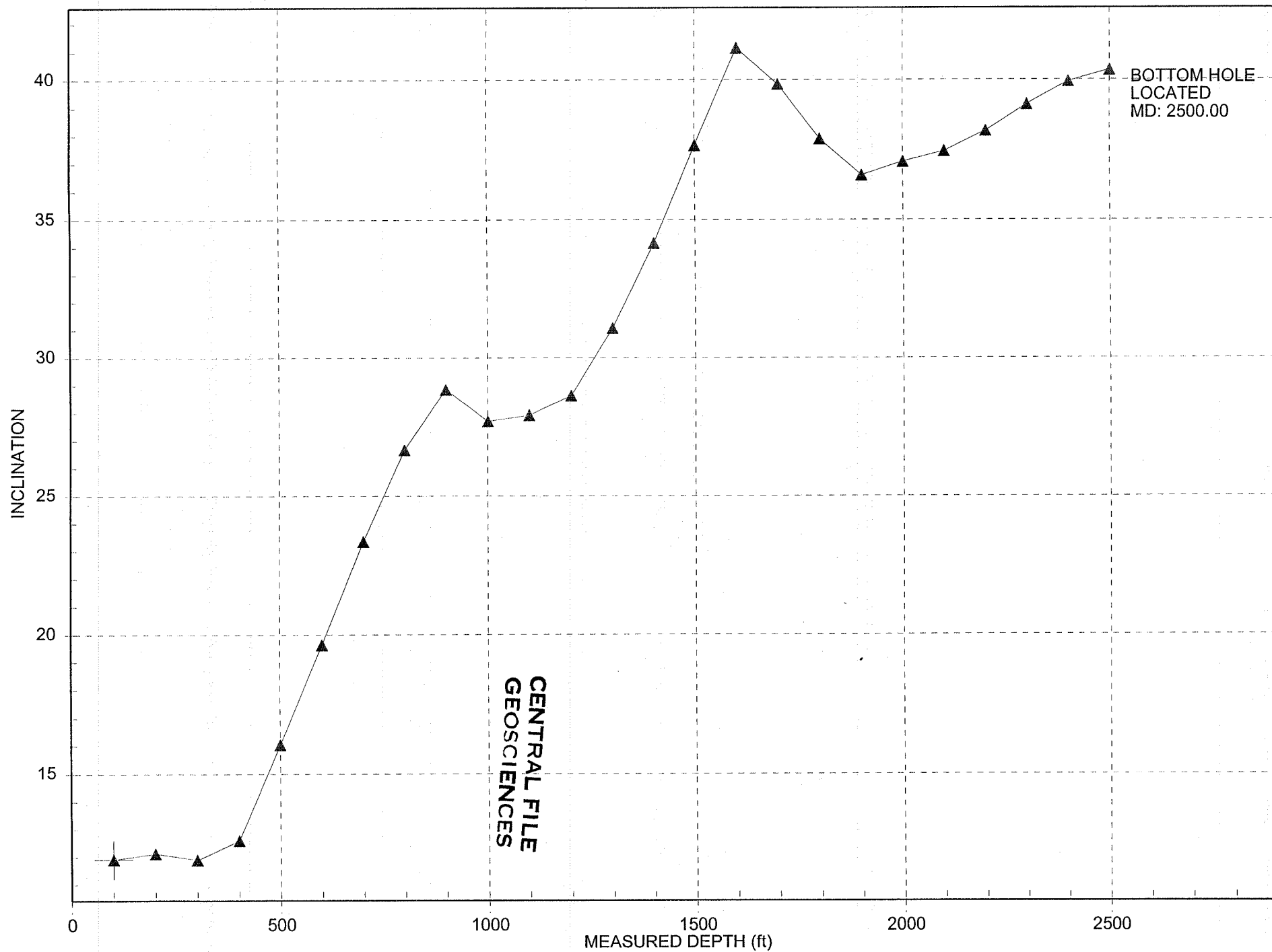
PETRO-TECH PERUANA S.A.
Well: LO-6-09 PRODUCTION PIPE 2 3/8"
Location: PEPESA-48/LO-06, CAMPO LOBITOS

Gyrodatta, Inc.
HT0301GME256 DEFINITIVE



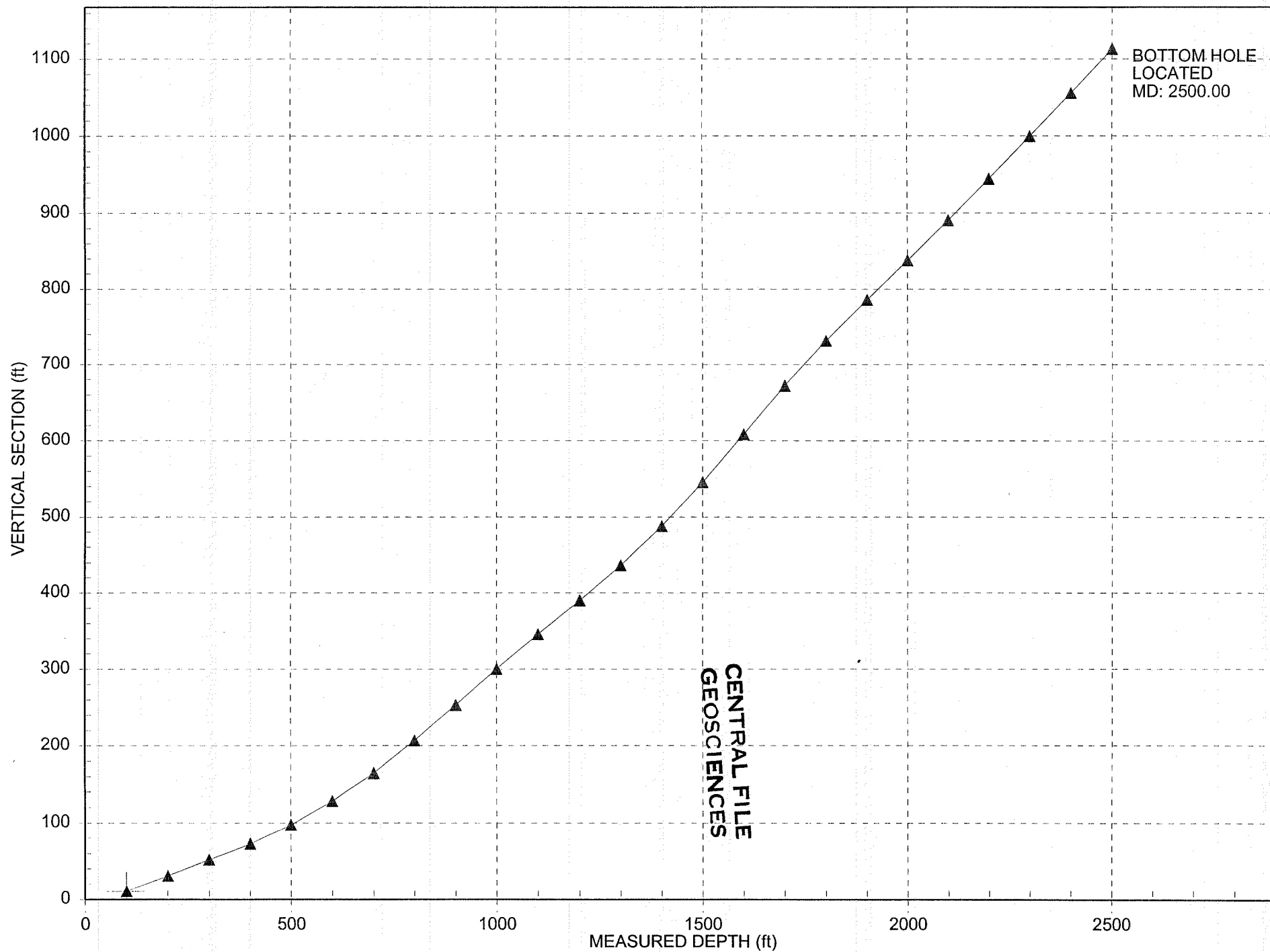
PETRO-TECH PERUANA S.A.
Well: LO-6-09 PRODUCTION PIPE 2 3/8"
Location: PEPESA-48/LO-06, CAMPO LOBITOS

Gyrodatta, Inc.
HT0301GME256 DEFINITIVE



PETRO-TECH PERUANA S.A.
Well: LO-6-09 PRODUCTION PIPE 2 3/8"
Location: PEPESA-48/LO-06, CAMPO LOBITOS

Gyrodatta, Inc.
HT0301GME256 DEFINITIVE



PETRO-TECH PERUANA S.A.
Well: LO-6-09 PRODUCTION PIPE 2 3/8"
Location: PEPESA-48/LO-06, CAMPO LOBITOS

Gyrodatta, Inc.
HT0301GME256 DEFINITIVE

