



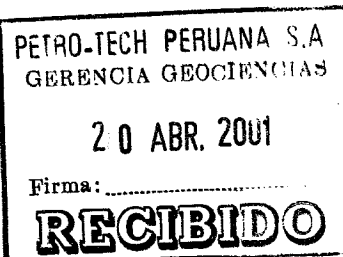
Gyrodata Incorporated
1682 W. Sam Houston Pkwy. N.
Houston, Texas 77043

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

SURVEY REPORT
PETRO-TECH PERUANA
LO-6-19
PEPESA-48
CAMPO LOBITOS, PERU
HT0301GME261

MARCH 17, 2001

**CENTRAL FILE
GEOSCIENCES**



A Gyrodata Directional Survey

for

PETRO-TECH PERUANA S.A.

Well: LO-6-19, PRODUCTION PIPE 2 3/8"

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

Job Number: HT0301GME261

Run Date: 3/17/01

Surveyor: Angel Cordozo

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 4.450000 deg. S

Azimuth Correction:

Gyro: Bearings are Relative to True North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

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MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
0.0	0.00	0.00	N 0 0 E	0.00	0.0	0.0	0.0	0.00 N 0.00 E

PROFUNDIDADES REFERIDAS A CABEZA DE POZO LO-19
GYRO MULTISHOT CORRIDO EN PRODUCTION PIPE 2 3/8" DESDE 2500' HASTA SUPERFICIE

100.0	0.47	187.19	S 7 12 W	0.47	100.0	0.4	187.2	0.41 S 0.05 W
200.0	1.10	349.22	N 10 47 W	1.55	200.0	0.3	294.7	0.13 N 0.28 W
300.0	0.83	80.04	N 80 2 E	1.39	300.0	1.2	11.8	1.20 N 0.25 E
400.0	0.87	100.32	S 79 41 E	0.30	400.0	2.1	55.1	1.19 N 1.71 E
500.0	2.33	104.76	S 75 14 E	1.47	499.9	4.4	83.1	0.53 N 4.42 E
600.0	3.77	111.18	S 68 49 E	1.47	599.8	9.5	97.1	1.17 S 9.45 E
700.0	5.00	124.20	S 55 48 E	1.58	699.5	16.8	106.6	4.81 S 16.12 E
800.0	8.09	130.39	S 49 37 E	3.16	798.8	27.7	115.2	11.82 S 25.08 E
900.0	11.81	126.22	S 53 47 E	3.79	897.3	44.7	120.1	22.42 S 38.70 E
1000.0	16.09	129.08	S 50 55 E	4.34	994.3	68.7	122.8	37.21 S 57.72 E
1100.0	20.05	130.41	S 49 35 E	3.98	1089.4	99.5	125.0	57.07 S 81.54 E
1200.0	22.26	131.86	S 48 9 E	2.27	1182.6	135.5	126.6	80.82 S 108.70 E
1300.0	23.07	130.26	S 49 44 E	1.02	1274.9	173.9	127.6	106.12 S 137.76 E
1400.0	23.66	130.62	S 49 23 E	0.60	1366.7	213.5	128.1	131.85 S 167.95 E
1500.0	24.03	130.09	S 49 54 E	0.42	1458.2	253.9	128.5	158.02 S 198.75 E
1600.0	24.16	131.22	S 48 47 E	0.48	1549.5	294.7	128.8	184.62 S 229.72 E
1700.0	25.75	132.73	S 47 16 E	1.71	1640.1	336.8	129.2	212.85 S 261.07 E
1800.0	29.00	137.72	S 42 17 E	3.97	1728.9	382.5	129.9	245.53 S 293.35 E
1900.0	32.73	140.58	S 39 25 E	4.01	1814.8	433.2	131.0	284.36 S 326.84 E
2000.0	36.74	143.77	S 36 14 E	4.40	1896.9	489.2	132.3	329.39 S 361.70 E

CENTRALE
GEOSCIENCES

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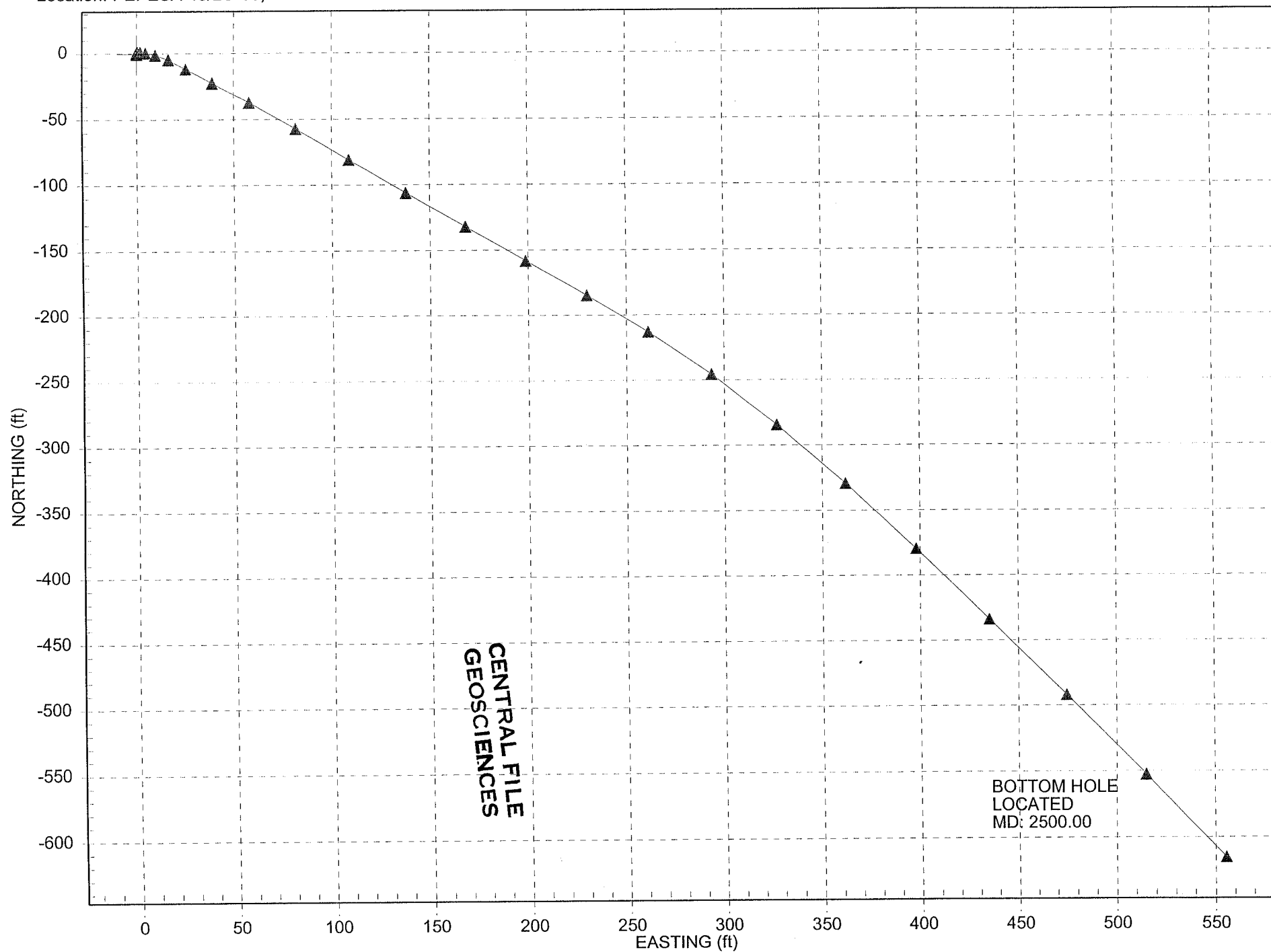
MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	BORE HOLE BEARING deg. min.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
2100.0	39.71	144.94	S 35 4 E	3.06	1975.5	549.9 133.7	379.69 S 397.74 E
2200.0	42.97	145.75	S 34 15 E	3.30	2050.6	614.7 134.9	434.02 S 435.28 E
2300.0	45.95	145.88	S 34 7 E	2.98	2121.9	683.6 136.0	491.96 S 474.64 E
2400.0	47.48	146.87	S 33 8 E	1.69	2190.5	755.3 137.0	552.57 S 514.94 E
2500.0	48.72	147.16	S 32 51 E	1.26	2257.3	828.7 137.9	615.01 S 555.46 E

Final Station Closure: Distance: 828.71 ft Az: 137.91 deg.

CENTRAL FILE
GEOSCIENCES

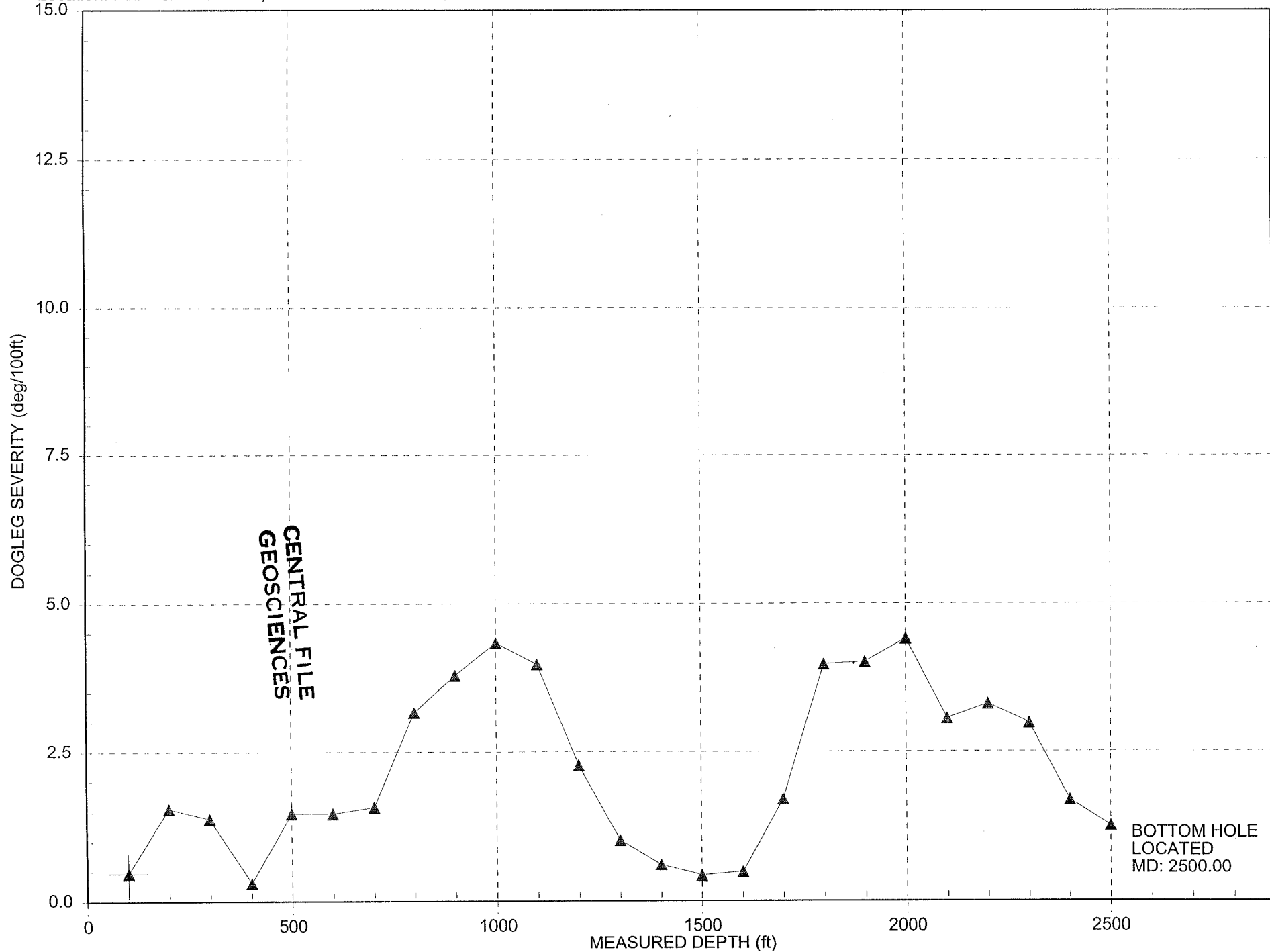
PETRO-TECH PERUANA S.A.
Well: LO-6-19 PRODUCTION PIPE 2 3/8"
Location: PEPESA-48/LO-06, CAMPO LOBITOS

Gyrodatta, Inc.
HT0301GME261 DEFINITIVE



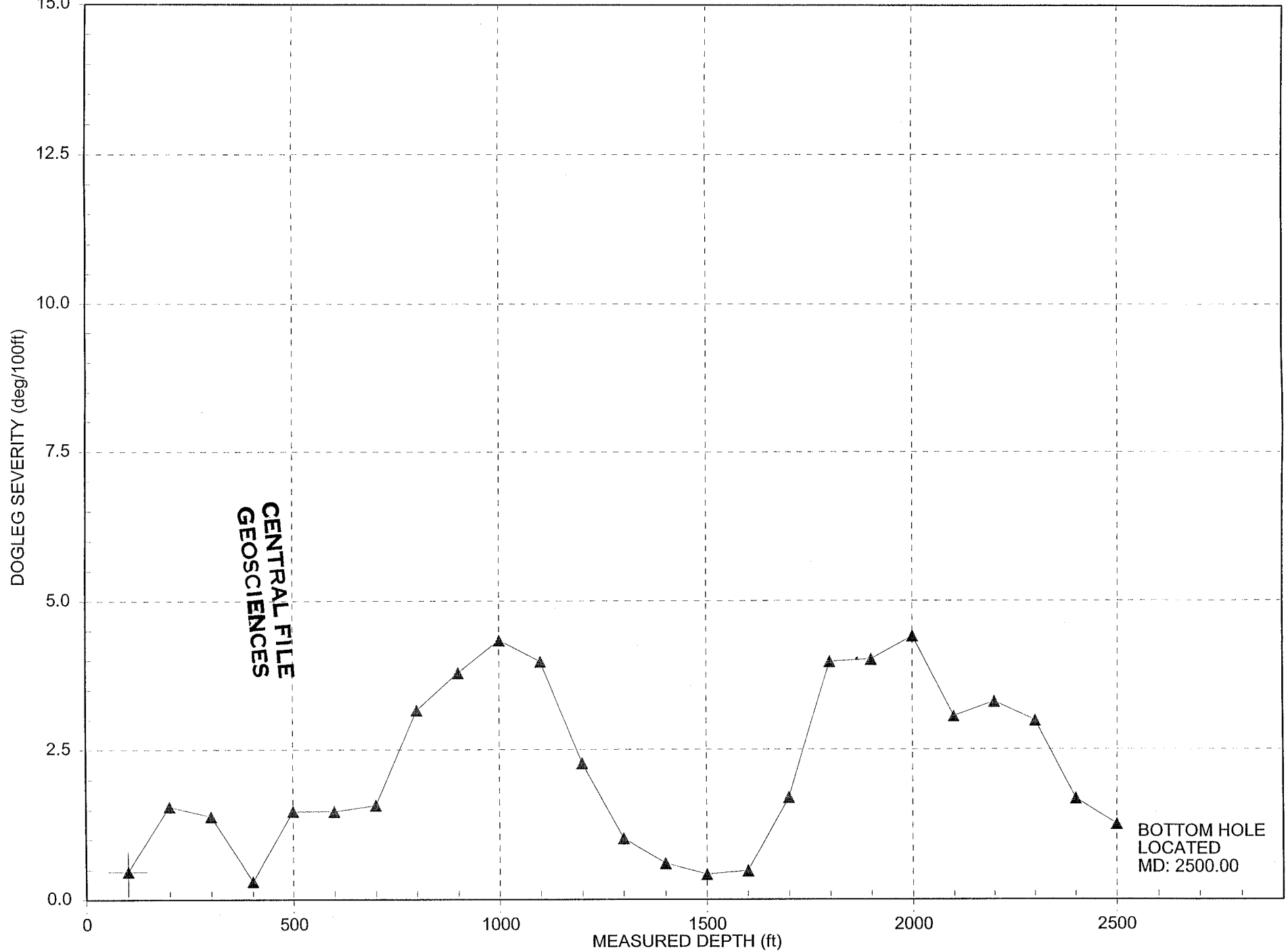
PETRO-TECH PERUANA S.A.
Well: LO-6-19 PRODUCTION PIPE 2 3/8"
Location: PEPESA-48/LO-06, CAMPO LOBITOS
15.0

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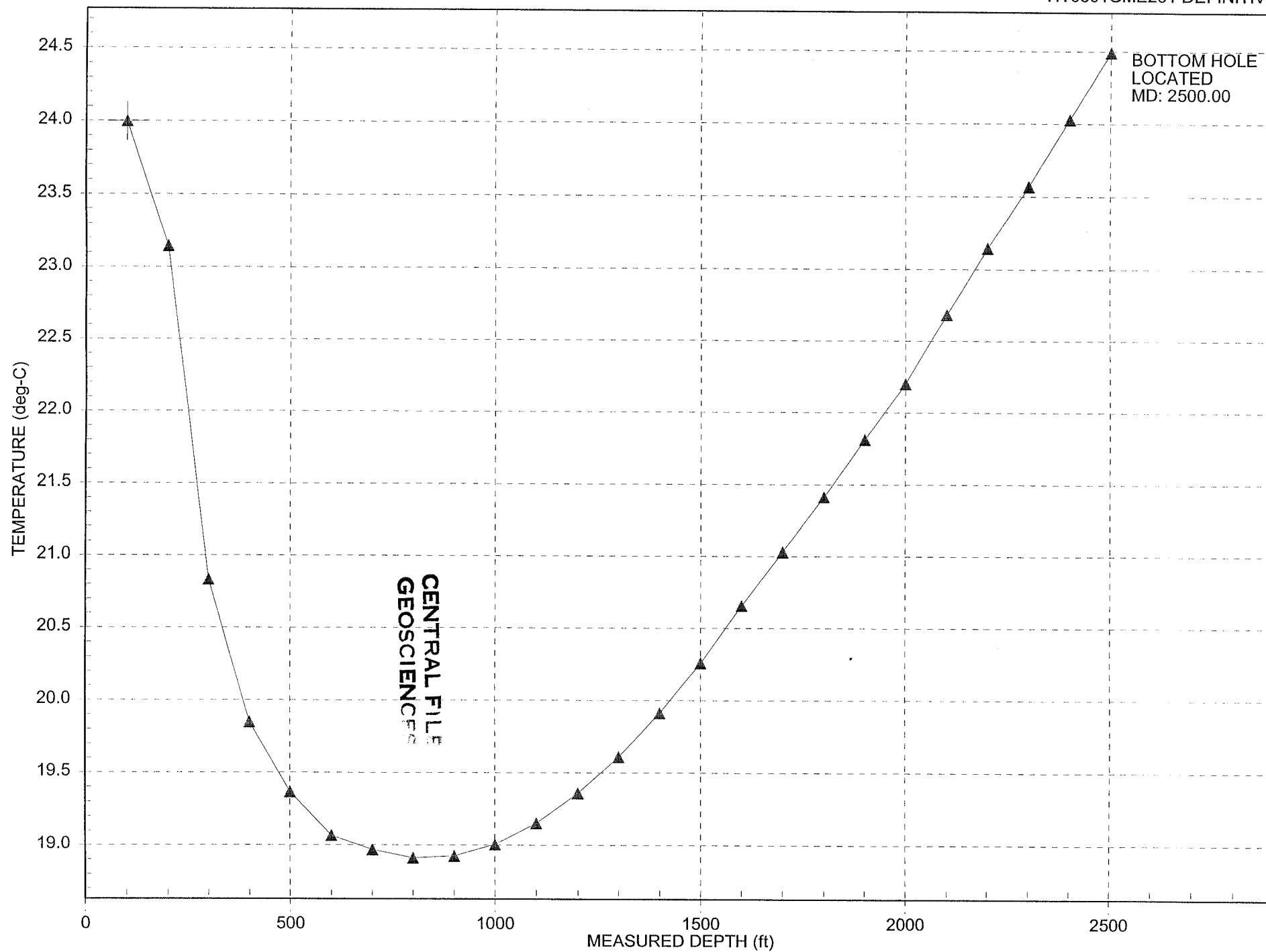
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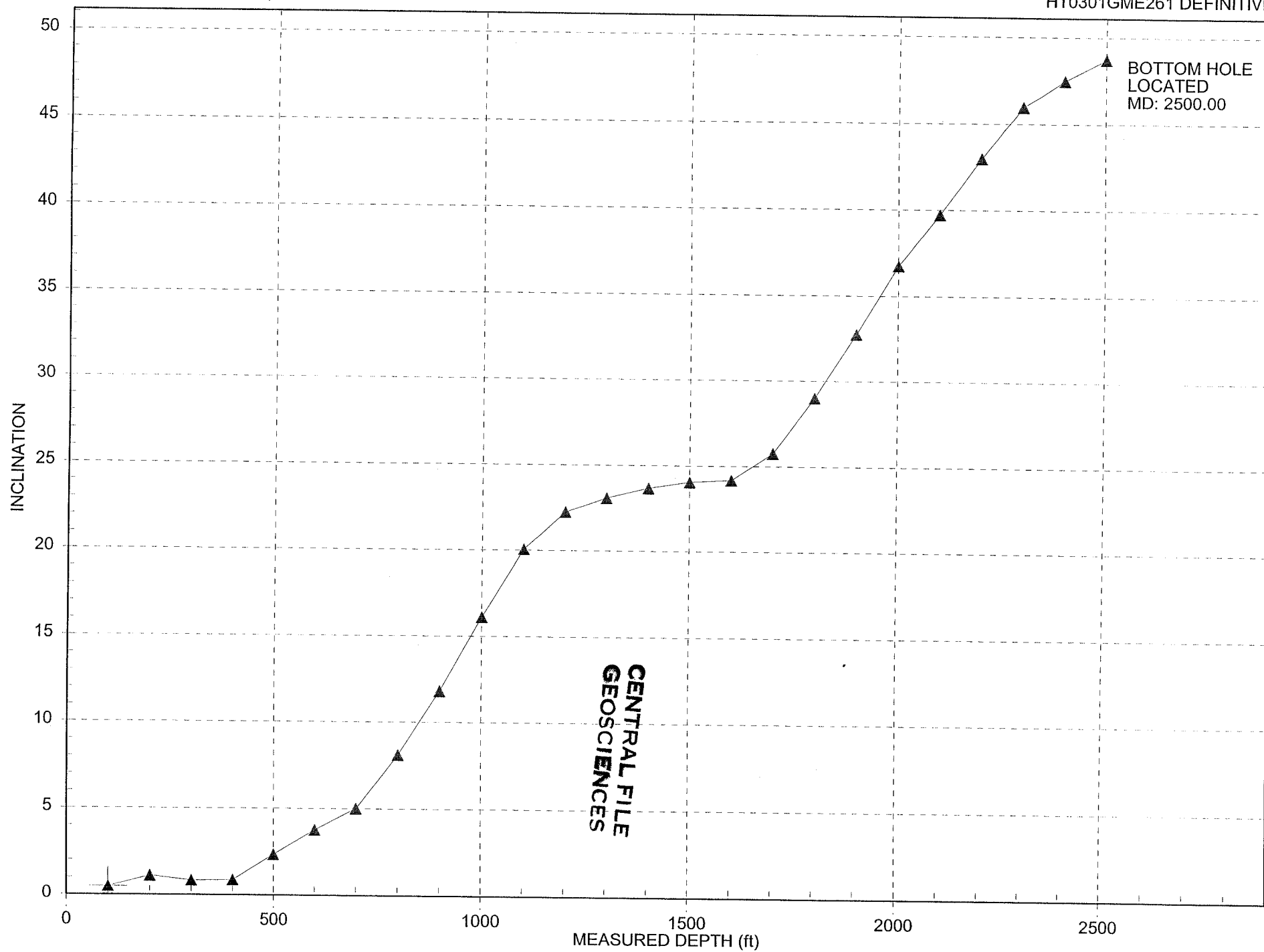
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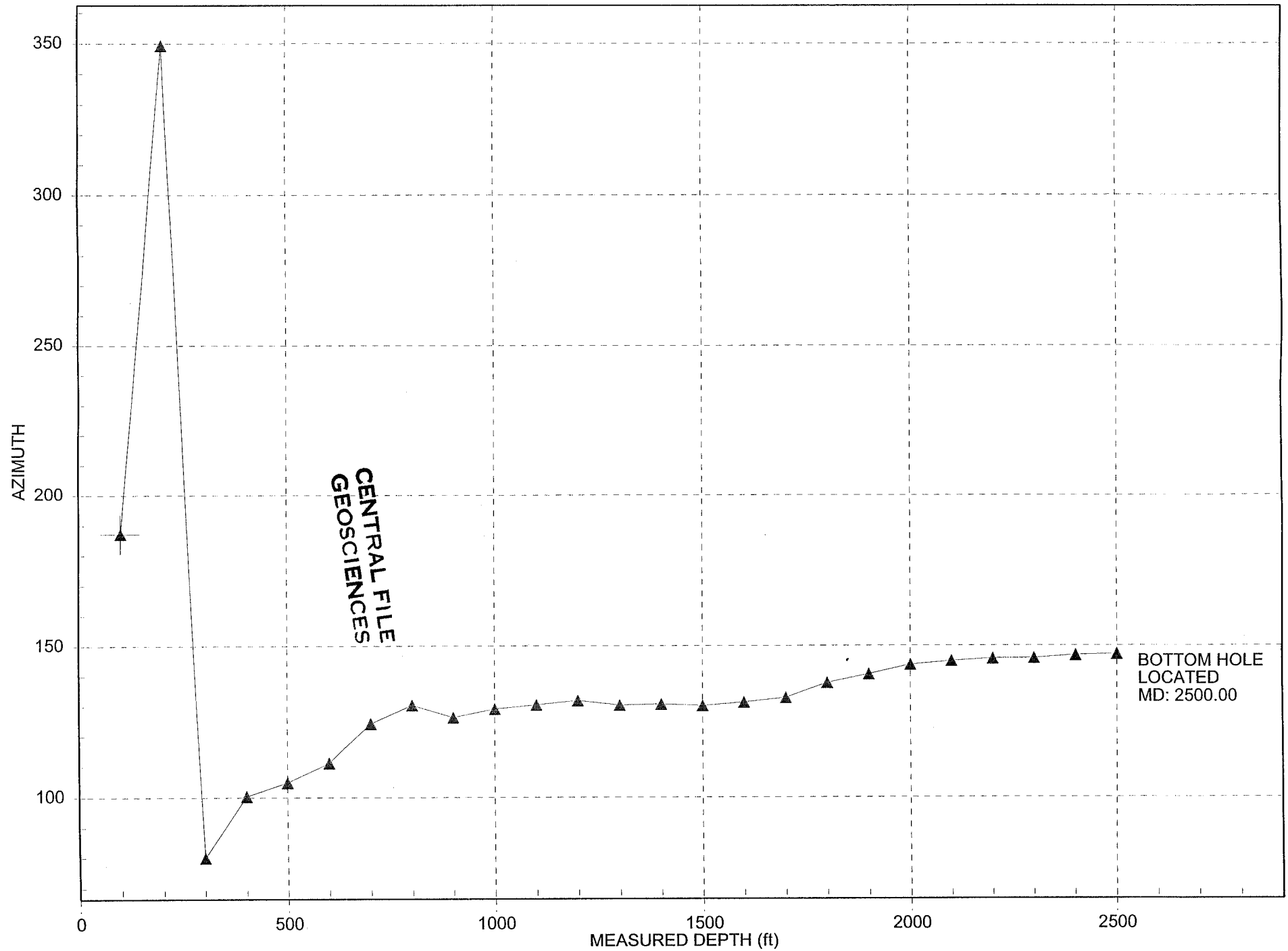
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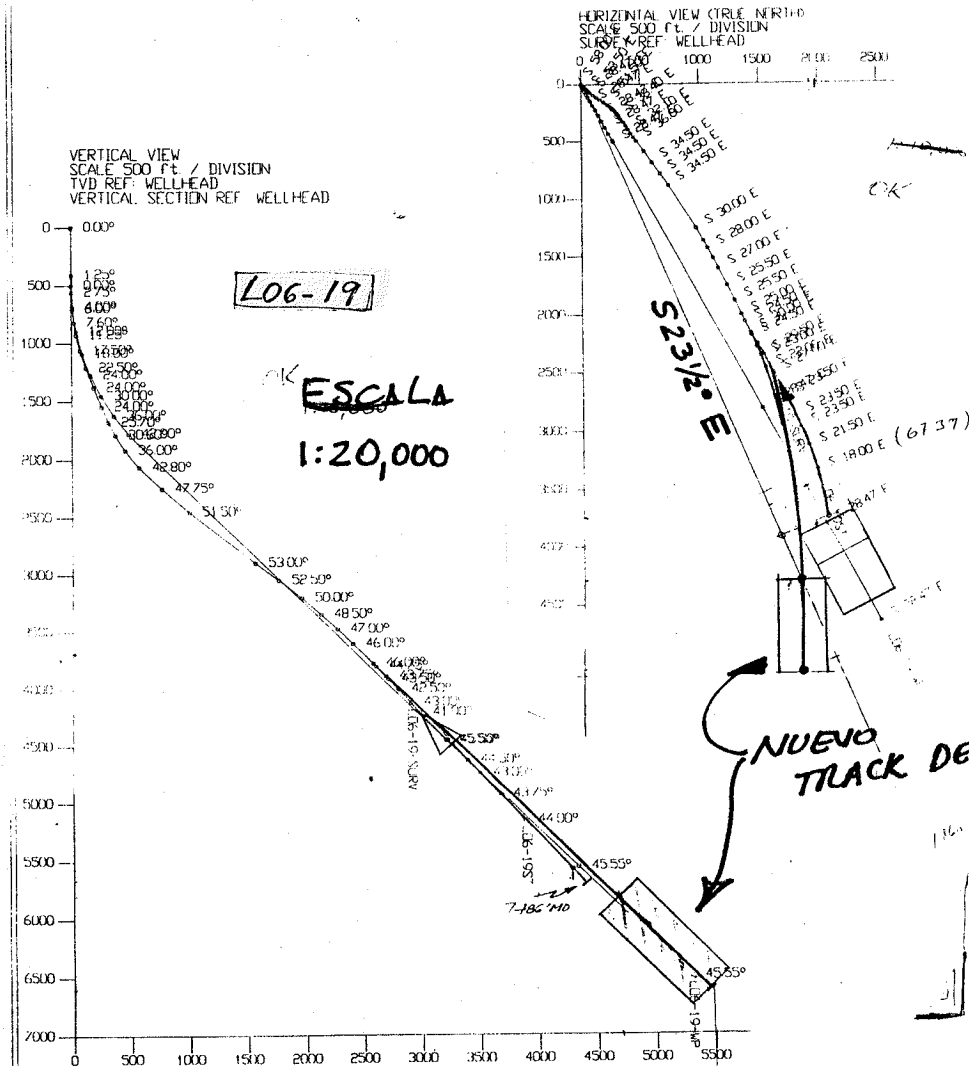


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PLOTEO DIRECCIONAL



Propuesta anulada

Post-it™ brand fax transmittal memo 7671		# of pages	3
To	Ing. Iván Corzano		
Co.	Co. Of. Control Geol.		
Dept.	Phone #		
Fax #	Fax #		
From	Ing. H. Cornejo		

PETRO-TECH

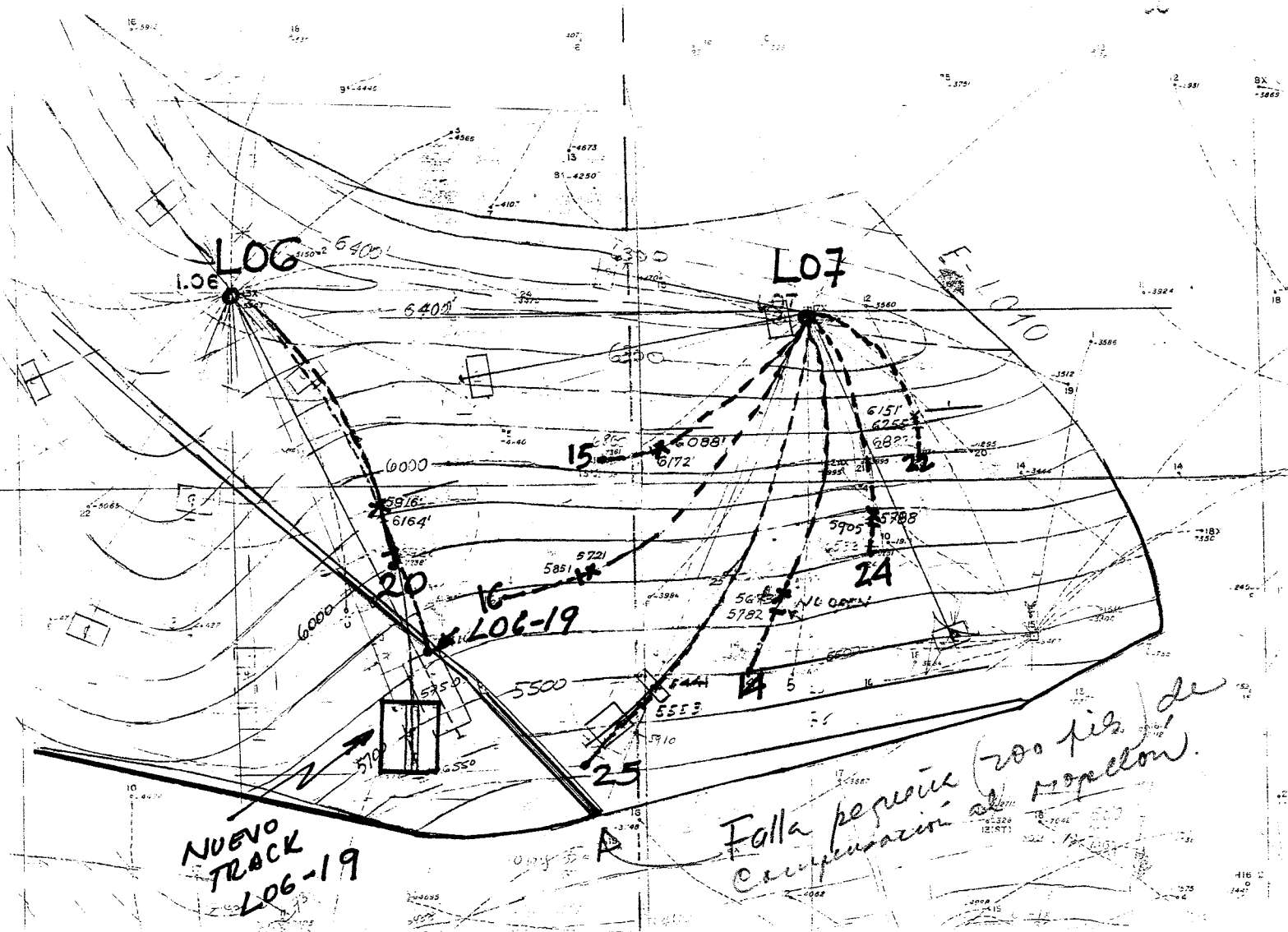
Gerencia de Planeamiento, Exploración y Producción

Fecha: 94-9-13

Hora: 11:55

Firma: [Signature]

ENVIADO

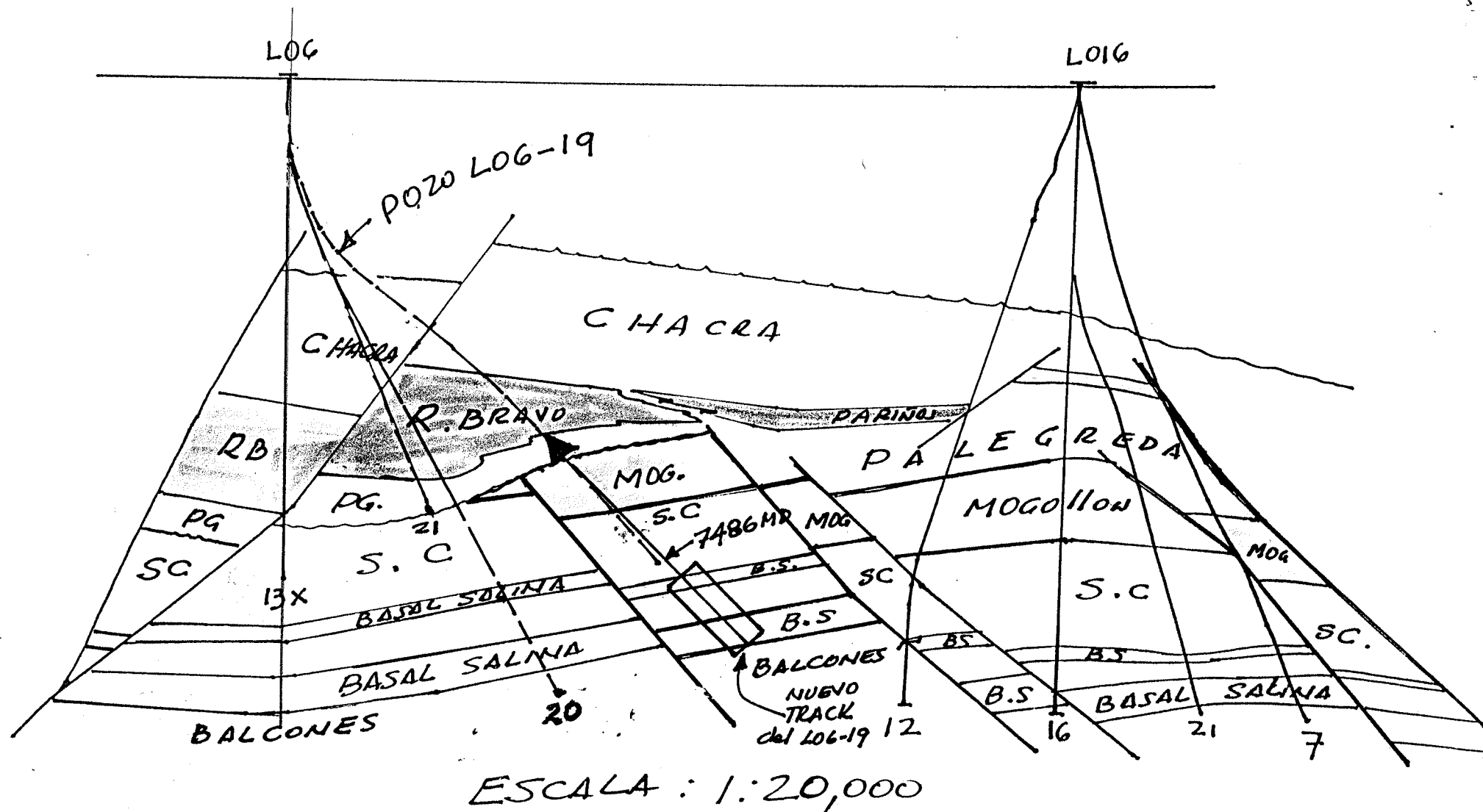


ESTRUCTURA EN EL TOPE
DE BASOL SOLINA (Oreña SUP.)

Escala: 1:20,000

H.C.

SEPT 94.



H.C.
SEPT. 94

Antiguo track del Pozo LOG-19
Nuevo track " " LOG-19

VERTICAL VIEW
SCALE 500 ft. / DIVISION
TVD REF: WELLHEAD
VERTICAL SECTION REF: WELLHEAD

